Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Army

Date: March 2014

Appropriation/Budget Activity

R-1 Program Element (Number/Name)

2040: Research, Development, Test & Evaluation, Army I BA 4: Advanced

PE 0603790A I NATO Research and Development

Component Development & Prototypes (ACD&P)

COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	4.393	3.872	2.954	-	2.954	6.593	6.011	5.169	5.276	Continuing	Continuing
691: NATO Rsch & Devel	-	4.393	3.872	2.954	-	2.954	6.593	6.011	5.169	5.276	Continuing	Continuing

<sup>&</sup>lt;sup>#</sup> The FY 2015 OCO Request will be submitted at a later date.

#### Note

FY13 adjustments attributed to Congressional General Reductions (-7 thousand); SBIR/STTR transfers (-31 thousand); Sequestration reductions (-430 thousand). FY15 reduction attributed to realignment to other higher priority Army programs.

## 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. contractor facilities.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	<b>FY 2015 Base</b>	FY 2015 OCO	FY 2015 Total
Previous President's Budget	4.961	3.874	6.069	-	6.069
Current President's Budget	4.393	3.872	2.954	-	2.954
Total Adjustments	-0.568	-0.002	-3.115	-	-3.115
Congressional General Reductions	-0.007	-0.002			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-0.131	-			
<ul> <li>Adjustments to Budget Years</li> </ul>	-	-	-3.115	-	-3.115
Other Adjustments	-0.430	-	-	-	-

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Exhibit R-2A, RDT&E Project Ju	stification	: PB 2015 A	rmy							Date: Marc	ch 2014	
Appropriation/Budget Activity 2040 / 4					R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development  Project (Number/Name) 691 I NATO Rsch & Devel							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO <sup>#</sup>	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
691: NATO Rsch & Devel	-	4.393	3.872	2.954	-	2.954	6.593	6.011	5.169	5.276	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

<sup>\*</sup> The FY 2015 OCO Request will be submitted at a later date.

#### Note

Army

Projects formerly titled Multi-National Network Enabled Capabilities, Low Level Air Defense Interoperability, JTRS, Combat Identification, and Multilateral Interoperability Program will be included under Communications, Interoperability, and Electronics Technologies.

New bullets for FY 2015 will include: Missile and Rocket Technologies, Aviation Systems Technologies, Soldier Technologies, Chemical and Biological Defense Technologies, Ground Systems Technologies, Weapons and Munitions Technologies and Armaments Cooperation Enterprise Support.

### 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. contractor facilities.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
Title: Scientific and Technology Enterprise Management	0.774	0.699	-
Articles:	-	-	-
<b>Description:</b> 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)			
FY 2013 Accomplishments:  The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program funds the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate in			

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R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development		ct (Number/N	larch 2014	
PE 0603790A I NATO Research and			lame)	
zereiepinent	Project (Number/Name) 691 / NATO Rsch & Devel			
antities in Each)		FY 2013	FY 2014	FY 2015
of costs of the NATO Civil Budget, Chapter IX, which f Cooperative Planning (U. S. Army is Executive Agent	unds for this			
nd especially in support of the U.S. Army. This programment interpretation, equipment, etc.) required to participate (O) Army Armaments Group (NAAG), Defense Against eternational cooperative agreements such as memoral mare of costs of the NATO Civil Budget, Chapter IX, which for Cooperative Planning (U.S. Army is Executive peresentatives, Army [SNR (A)], the Technical Cooperative Planning (U.S. Army is Executive peresentatives, Army [SNR (A)], the Technical Cooperative Planning (U.S. Army is Executive peresentatives, Army [SNR (A)], the Technical Cooperative Planning (U.S. Army is Executive peresentatives, Army [SNR (A)], the Technical Cooperative Planning (U.S. Army is Executive peresentatives).	n t nda nich Agent rative			
		-	-	1.176
ral Online (IOL) Development and Implementation NAron (AR 70-1, rea entitled Scientific and Technology Enterprise	ΓΟ/			
nd especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate Army Armaments Group (NAAG), Defense Against international cooperative agreements such as memoral	m e nda			
no Cities in the	International cooperative agreements such as memorary of costs of the NATO Civil Budget, Chapter IX, which of Cooperative Planning (U. S. Army is Executive Agent tives, Army [SNR (A)], the Technical Cooperative Programments and interoperability through cooperative research and despecially in support of the U.S. Army. This programments interpretation, equipment, etc.) required to participate (O) Army Armaments Group (NAAG), Defense Against international cooperative agreements such as memoral mare of costs of the NATO Civil Budget, Chapter IX, which for Cooperative Planning (U. S. Army is Executive Depresentatives, Army [SNR (A)], the Technical Coopers of the many nations. Effective FY15, efforts in this area with all Online (IOL) Development and Implementation NATO (AR 70-1, real entitled Scientific and Technology Enterprise and interoperability through cooperative research and especially in support of the U.S. Army. This programment interpretation, equipment, etc.) required to participate Army Armaments Group (NAAG), Defense Against International cooperative agreements such as memoral international cooperative agreements agreement international cooperative agreement international cooperative agreement international cooperative agre	International cooperative agreements such as memoranda of of costs of the NATO Civil Budget, Chapter IX, which funds Cooperative Planning (U. S. Army is Executive Agent for this tives, Army [SNR (A)], the Technical Cooperative Program, actions.  In and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate O) Army Armaments Group (NAAG), Defense Against international cooperative agreements such as memoranda that of costs of the NATO Civil Budget, Chapter IX, which and for Cooperative Planning (U. S. Army is Executive Agent epresentatives, Army [SNR (A)], the Technical Cooperative th many nations. Effective FY15, efforts in this area will be all Online (IOL) Development and Implementation NATO/on (AR 70-1, real entitled Scientific and Technology Enterprise and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate	International cooperative agreements such as memoranda of of costs of the NATO Civil Budget, Chapter IX, which funds Cooperative Planning (U. S. Army is Executive Agent for this tives, Army [SNR (A)], the Technical Cooperative Program, actions.  In and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate O) Army Armaments Group (NAAG), Defense Against international cooperative agreements such as memoranda hare of costs of the NATO Civil Budget, Chapter IX, which and for Cooperative Planning (U. S. Army is Executive Agent epresentatives, Army [SNR (A)], the Technical Cooperative th many nations. Effective FY15, efforts in this area will be all Online (IOL) Development and Implementation NATO/ on (AR 70-1, ea entitled Scientific and Technology Enterprise  In and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate Army Armaments Group (NAAG), Defense Against international cooperative agreements such as memoranda	International cooperative agreements such as memoranda of of costs of the NATO Civil Budget, Chapter IX, which funds Cooperative Planning (U. S. Army is Executive Agent for this tives, Army [SNR (A)], the Technical Cooperative Program, actions.  In and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate  O) Army Armaments Group (NAAG), Defense Against atternational cooperative agreements such as memoranda anare of costs of the NATO Civil Budget, Chapter IX, which and for Cooperative Planning (U. S. Army is Executive Agent epresentatives, Army [SNR (A)], the Technical Cooperative the many nations. Effective FY15, efforts in this area will be  all Online (IOL) Development and Implementation NATO/ on (AR 70-1, rea entitled Scientific and Technology Enterprise  and interoperability through cooperative research and and especially in support of the U.S. Army. This program interpretation, equipment, etc.) required to participate  Army Armaments Group (NAAG), Defense Against atternational cooperative agreements such as memoranda

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: M	larch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development	Project (Number/Name) 691 / NATO Rsch & Devel			
B. Accomplishments/Planned Programs (\$ in Millions, Article	Quantities in Each)		FY 2013	FY 2014	FY 2015
funds the NATO Industrial Advisory Group (NIAG) and the Specia for this NATO bill); the Technical Cooperation Program, and Army	· · · · · · · · · · · · · · · · · · ·	-			
Title: Multilateral Interoperability Program	Aı	ticles:	0.605	0.538	-
<b>Description:</b> Multilateral Interoperability Program (MIP) (Partners integration work from the Command and Control Systems Interoperation (ACTD) to achieve NATO levels four (the effort into a sustainable program to incorporate lessons learners)	erability Program (C2SIP) into an Advanced Concept messaging) and five (database) interoperability and also e				
FY 2013 Accomplishments: Continued integration work from the Command and Control System Technology Demonstration (ACTD) to achieve NATO levels four (In the effort into a sustainable program to incorporate lessons learned	messaging) and five (database) interoperability and also e	xtend			
FY 2014 Plans: Continue integration work from the Command and Control System Technology Demonstration (ACTD) to achieve NATO levels four (extend the effort into a sustainable program to incorporate lessons Effective FY15, MIP efforts will be under Communications, interop	messaging) and five (database) interoperability and will als s learned into national systems (e.g. AFATDS, FADC2).	60			
Title: Multi-National Network Enabled Capabilities (MNNEC)	Ai	ticles:	0.607	0.449	,
<b>Description:</b> Multi-National Network Enabled Capabilities (MNNE Intelligence Surveillance and Reconnaissance (C4ISR) (Potential NATO Allies) MNNEC would focus on developing a single solution and leverage existing interoperability standards developed by NATO Power Net Centrick PA. A single solution standard will include conbetter use of existing information, shared data, leverage national conteroperability of data, databases, applications, security domains interoperability of information systems; it is the complete networking on building Net-Centric interoperability among coalition tactical lart the Brigade and Below level, but not excluding using the services focus, endeavoring to define migration strategies for Net-Centric of to determine the time-phased implementations of a Multi-National	Partners: United Kingdom, France, Italy, Germany and mans standard avoiding development of multiple unique solution TO as well as other international forums such as the Fivenmon doctrine, technical and procedural specifications to reperating picture capabilities and enable the development and national networks architectures. The MNNEC is moreing of information systems with sensors and shooters focus and components operating in a Joint Environment, focused a provided at higher echelons. The MNNEC has a future for expabilities in the 2010-2025 timeframe with part of the works	nake of than sing at ce			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		Date: March 2014							
Appropriation/Budget Activity 2040 / 4	iation/Budget Activity  R-1 Program Element (Number/Name) PE 0603790A / NATO Research and Development  Project (Number/Name) 691 / NATO Rsch &								
B. Accomplishments/Planned Programs (\$ in Millions, Article Q	•	FY 2013	FY 2014	FY 2015					
integration of national C2/C4ISR systems into an NCES environmer and the 5 Powers Net Centric Project Agreement.	nt to include the NATO Network Enabled Capabilities (NNEC)								
FY 2013 Accomplishments:  Multi-National Network Enabled Capabilities (MNNEC) related Com Surveillance and Reconnaissance (C4ISR)(Potential Partners: Unite MNNEC would focus on developing a single solutions standard avoi existing interoperability standards developed by NATO as well as ot PA. A single solution standard includes common doctrine, technical information, shared data, leverage national operating picture capabi databases, applications, security domains and national networks are information systems; it is the complete networking of information syst Centric interoperability among coalition tactical land components op Below level, but not excluding using the services provided at higher to define migration strategies for Net-Centric capabilities in the 2010 phased implementations of a Multi-National Network Enabled Capal C4ISR systems into an NCES environment to include the NATO Ne	ed Kingdom, France, Italy, Germany and major NATO Allies) iding development of multiple unique solutions and leverage ther international forums such as the Five Power Net Centrick and procedural specifications to make better use of existing lities and enable the development of interoperability of data, chitectures. The MNNEC is more than interoperability of stems with sensors and shooters focusing on building Netwerating in a Joint Environment, focused at the Brigade and echelons. The MNNEC has a future force focus, endeavoring 0-2025 timeframe with part of the work to determine the timebility. The end results would be an integration of national C2/								
FY 2014 Plans: Multi-National Network Enabled Capabilities (MNNEC) related Com Surveillance and Reconnaissance (C4ISR)(Potential Partners: Unite MNNEC would focus on developing a single solutions standard avoi existing interoperability standards developed by NATO as well as ot	ed Kingdom, France, Italy, Germany and major NATO Allies)								

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army		,	Date: M	larch 2014		
Appropriation/Budget Activity 2040 / 4				ect (Number/Name) I NATO Rsch & Devel		
B. Accomplishments/Planned Programs (\$ in Millions, Article Qu	uantities in Each)		FY 2013	FY 2014	FY 2015	
<b>Description:</b> The goal of this project is to develop technologies that control, communications, sensors, and information systems. Efforts standard avoiding development of multiple unique solutions and leve Such standards include common doctrine, technical and procedural shared data, leverage national operating picture capabilities and ena applications, security domains and national networks architectures. Network Enabled Capabilities, Low Level Air Defense Interoperability Program.	under this project include development of a single solu grage existing interoperability standards developed by N specifications to make better use of existing information ble the development of interoperability of data, database Includes efforts from areas formerly titled Multi-National	ation IATO. n, ses,				
FY 2015 Plans: The goal of this project is to develop technologies that enable interopt communications, sensors, and information systems. Efforts under the avoiding development of multiple unique solutions and leverage exist Such standards include common doctrine, technical and procedural shared data, leverage national operating picture capabilities and enal applications, security domains and national networks architectures. Enabled Capabilities, Low Level Air Defense Interoperability, JTRS, CProgram.	his project include development of a single solution starting interoperability standards developed by NATO. specifications to make better use of existing informationable the development of interoperability of data, database Includes projects formerly titled Multi-National Network	n, ses,				
Title: Combat Identification	Δ	rtiologi	0.060	0.043	-	
<b>Description:</b> Combat Identification (Partners: UK, Germany, France required for implementing the associated NATO Standardization Agre Combat ID Advanced Concept Technology Demonstrator (ACTD), w Dismounted Soldier ID.	and Italy): Combat ID will pursue the extension of task eement (STANAG 4579), allied participation in Coalitio	n	-	-	-	
FY 2013 Accomplishments: Combat ID pursues the extension of tasks required for implementing 4579), allied participation in Coalition Combat ID Advanced Concept Requirement and a STANAG for the Dismounted Soldier ID.						
FY 2014 Plans: Combat ID will pursue the extension of tasks required for implementi (STANAG 4579), allied participation in Coalition Combat ID Advance		ue				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: M	arch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development		ect (Number/Name) NATO Rsch & Devel		
B. Accomplishments/Planned Programs (\$ in Millions, Article C	Quantities in Each)		FY 2013	FY 2014	FY 2015
the NATO Staff Requirement and a STANAG for the Dismounted Sommunications, Interoperability, and Electronics Technologies.	oldier ID. Effective FY15, Combat ID efforts will be unde	r			
Title: Technology Research and Development Projects	A	rticles:	0.675 -	0.617	-
<b>Description:</b> Technology Research and Development Projects (TR Australia, Netherlands, Korea, Norway): The scope of this MOU encadvanced Land Warfare Concepts and Technologies that are focus maturation of which may lead to the development of technologically	compasses R&D collaboration on basic, exploratory and ed on Future Combat System enabling technologies, the				
FY 2013 Accomplishments: The scope of this MOU encompasses R&D collaboration on basic, or Technologies that are focused on Future Combat System enabling development of technologically superior conventional weapon system.	technologies, the maturation of which may lead to the				
FY 2014 Plans: The scope of this MOU will encompass R&D collaboration on basic. Technologies that will be focused on Future Combat System enablidevelopment of technologically superior conventional weapon system other programs such as: Aviations Systems Technologies, Soldiers Technologies, and Weapons and Munitions Technologies.	ng technologies, the maturation of which may lead to the ems. Effective FY15, TRDP efforts will be moved under s	several			
Title: Senior National Representatives (Army) (SNR-(A))	A	rticles:	0.568	0.597	0.06
<b>Description:</b> Senior National Representatives (Army) (SNR-(A)) Pr Italy): Supports harmonization of programs at various levels: exchar feasibility studies to further promote cooperative development; standistributing the workload among the different nations. Technology DNATO Army Armaments Group (NAAG), will provide an opportunity of participating NATO nations with a view to assisting future operations, analysis and technology demonstrations.	ojects (Partners: France, Germany, United Kingdom and nging information, identifying knowledge gaps and condu dardizing, fielding and roadmapping various processes; Demonstrations hosted by the U.S. reps to Land Group 6 to observe and demonstrate the current and future capa	ucting			
FY 2013 Accomplishments: Senior National Representatives (Army) (SNR-(A)) Projects with integrated at various levels: exchanging information, identifying knowledge gap		i			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: N	arch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A / NATO Research and Development	Project (Number/Name) 691 / NATO Rsch & Devel			
B. Accomplishments/Planned Programs (\$ in Millions, Article	Quantities in Each)	F	FY 2013	FY 2014	FY 2015
cooperative development; standardizing, fielding and roadmapping different nations. Technology Demonstrations hosted by the U.S. r provides an opportunity to observe and demonstrate the current ar assisting future operational and materiel interoperability. Army sup	eps to Land Group, NATO Army Armaments Group (NAAnd future capability of participating NATO nations with a v	iew to			
FY 2014 Plans: Senior National Representatives (Army) (SNR-(A)) Projects (Partn harmonization of programs at various levels: exchanging informatic studies to further promote cooperative development; standardizing the workload among the different nations. Technology Demonstrat Armaments Group (NAAG), will provide an opportunity to observe participating NATO nations with a view to assisting future operation analysis and technology demonstrations.	on, identifying knowledge gaps and conducting feasibility g, fielding and roadmapping various processes; distributing tions hosted by the U.S. reps to Land Group, NATO Army and demonstrate the current and future capability of	g			
FY 2015 Plans: Senior National Representatives (Army) (SNR-(A)) Projects with in at various levels: exchanging information, identifying knowledge ga cooperative development; standardizing, fielding and road mapping different nations. Technology Demonstrations hosted by the U.S. r provides an opportunity to observe and demonstrate the current are assisting future operational and materiel interoperability. Army sup	aps and conducting feasibility studies to further promote g various processes; distributing the workload among the eps to Land Group, NATO Army Armaments Group (NAAnd future capability of participating NATO nations with a v	.G), iew to			
Title: Joint Tactical Radio System	A	rticles:	0.263	0.202	
<b>Description:</b> Joint Tactical Radio System (JTRS) (Partners: Japan develop and implement Software-enabled radios as replacements maintaining interoperability as the countries pursue their own sepa will include a joint development of software radio specifications, se joint interoperability testing using the system assets developed as	to current radio systems. The projects shall be focused or grate software radio programs. The project agreements (P eparate development and testing of software waveforms, a	As)			
FY 2013 Accomplishments: The participants in these programs developes and implements Soft The projects focuses on maintaining interoperability as the countries.	•				

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: M	arch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development		ct (Number/N NATO Rsch &		
B. Accomplishments/Planned Programs (\$ in Millions, Article Q	Quantities in Each)		FY 2013	FY 2014	FY 2015
project agreements (PAs) includes a joint development of software software waveforms, and joint interoperability testing using the systematical systems.		f			
FY 2014 Plans: The participants in these programs will develop and implement Soft systems. The projects shall be focused on maintaining interoperable programs. The project agreements (PAs) will include a joint develop and testing of software waveforms, and joint interoperability testing Effective FY15, efforts in this area will be under Communications, Ir	ility as the countries pursue their own separate software oment of software radio specifications, separate develope using the system assets developed as part of the agreer	ment			
Title: Artillery Command and Control Interoperability	Ai	rticles:	0.370	0.300	-
<b>Description:</b> Artillery Command and Control Interoperability (ASCA this program will develop an automated software interface between nations will be able to receive and provide mutual fire support (i.e. of and with minimal errors.	their national field artillery command and control system	s. The			
FY 2013 Accomplishments: The Participants in this program develops an automated software in control systems. The nations are able to receive and provide mutual operations more rapidly and with minimal errors.		d			
FY 2014 Plans: The Participants in this program will develop an automated software control systems. The nations will be able to receive and provide multiple operations more rapidly and with minimal errors. Effective FY15, effective Technologies.	utual fire support (i.e. cannon and rocket fire) in combine	d			
Title: Weapons and Munitions Technologies			-	-	0.58
<b>Description:</b> Weapons and munitions technologies (Partners: Frandevelop an automated software interface between their national field able to receive and provide mutual fire support (i.e. cannon and rocerrors.	d artillery command and control systems. The nations w	ill be			
FY 2015 Plans:					

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: M	arch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development		ct (Number/Name) NATO Rsch & Devel		
B. Accomplishments/Planned Programs (\$ in Millions, Article Qua	antities in Each)		FY 2013	FY 2014	FY 2015
The goal of this project is to cooperate with partner countries to increatimprove range, payloads, speed, survivability and lethality to maintain weapons systems and associated munitions. Areas of cooperation in counter improvised explosive device neutralization, directed energy, at will be done under the auspices of international agreements established improving defense capabilities of the U.S. and partner countries.	U.S. technical superiority and combat overmatch for A clude fuzing and warhead systems, guidance systems nd fire control systems. Such cooperative developme	s, nt			
Title: Low Level Air Defense Interoperability			0.204	0.170	
	Ai	rticles:	-	-	-
<b>Description:</b> Low Level Air Defense Interoperability (LLAPI) (Partners successfully demonstrate Command and Control (C2) interoperability (shared) assets for automated air picture exchange. <b>FY 2013 Accomplishments:</b> The objective of this program is to successfully demonstrate Commandations' Short Range Air Defense (shared) assets for automated air picture.	among the participant nations' Short Range Air Defendance d and Control (C2) interoperability among the participa	se			
FY 2014 Plans: The objective of this program is to successfully demonstrate Commandations' Short Range Air Defense (shared) assets for automated air pic Effective FY15, efforts in this program will be part of Communications,	d and Control (C2) interoperability among the participa	ant			
Title: Force Protection Projects	Ai	rticles:	0.267	0.257	-
<b>Description:</b> Force Protection Projects (FPP) (Partners: United Kingdon Protection Projects will include R&D collaboration on technologies suc Improvised Explosive Devices (C-IED). Programs include Military Ope Against Terrorism (DAT) initiatives such as Defense Against Mortar At (JPADS).	ch as Counter Rocket and Mortar (C-RAM) and Counterrations in Urban Terrain (MOUT) and a variety of Defe	er			
FY 2013 Accomplishments:	such as Counter Rocket and Mortar (C-RAM) and Co	unter			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: N	larch 2014			
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A / NATO Research and Development	Project (Number/Name) 691 / NATO Rsch & Devel					
B. Accomplishments/Planned Programs (\$ in Millions, Article C	Quantities in Each)		FY 2013	FY 2014	FY 2015		
Against Terrorism (DAT) initiatives such as Defense Against Mortar (JPADS).	Attacks (DAMA) and Joint Precision Air Drop System						
FY 2014 Plans: Force Protection Projects will include R&D collaboration on technological Counter Improvised Explosive Devices (C-IED). Programs will include the Defense Against Terrorism (DAT) initiatives such as Defense Agasystem (JPADS). Effective FY15 efforts in this program will be under	de Military Operations in Urban Terrain (MOUT) and a valainst Mortar Attacks (DAMA) and Joint Precision Air Dro						
Title: Soldier technologies	<u> </u>		-	-	0.020		
<b>Description:</b> Soldier Technologies (Partners: United Kingdom, Frankill include R&D collaboration on technologies such as Counter Roc Devices (C-IED). Programs include Military Operations in Urban Te (DAT) initiatives such as Defense Against Mortar Attacks (DAMA) as	cket and Mortar (C-RAM) and Counter Improvised Explo rrain (MOUT) and a variety of Defense Against Terrorisn	sive					
FY 2015 Plans: The goal of this project is to cooperate with partner countries to increase the effectiveness, health, and reliability of the individual sustainability, mobility, combat effectiveness, and field quality of life and standardization among partner country systems that support the done under the auspices of international agreements established and defense capabilities of the U.S. and partner countries.	soldier. Such technologies will maximize soldier surviva E. Efforts under this project will also enable interoperabili e individual soldier. Such cooperative development will	ibility, ty be					
Title: Ground Systems Technologies			-	-	0.200		
<b>Description:</b> The goal of this project is to cooperate with partner contechnologies to improve survivability, weapons, ground platforms (not to provide soldiers with unmatched offensive and defensive capabilities include ground systems design, propulsion, structures, robotics, alternating and power management. Such cooperative development will be do among the participating countries for the purposes of improving defensive.	nanned and unmanned), and mobility and counter-mobilities in weapons and military vehicles. Areas of coopera ernative fuels and lubricants, systems integration, electrone under the auspices of international agreements estable.	ation onics,					
FY 2015 Plans: The goal of this project is to cooperate with partner countries to incrimprove survivability, weapons, ground platforms (manned and unm with unmatched offensive and defensive capabilities in weapons an	nanned), and mobility and counter-mobility to provide sol						

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: N	larch 2014	
Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A I NATO Research and Development	Project (Number/Name) 691 / NATO Rsch & Devel			
B. Accomplishments/Planned Programs (\$ in Millions, Article (	Quantities in Each)		FY 2013	FY 2014	FY 2015
systems design, propulsion, structures, robotics, alternative fuels a management. Such cooperative development will be done under the participating countries for the purposes of improving defense capal	he auspices of international agreements established amo				
Title: Aviation Systems Technologies			-	-	0.180
<b>Description:</b> The goal of this project is to cooperate with partner or improved aerodynamics, aeromechanics, avionics, weapons and s technologies that improve range, payloads, speed, survivability and overmatch for vertical lift aviation systems. Such cooperative developments established among the participating countries for the partner countries.	ensor integration, propulsion, and aviation autonomy dilethality to maintain U.S. technical superiority and combe lopment will be done under the auspices of international				
FY 2015 Plans: The goal of this project is to cooperate with partner countries to include aerodynamics, aeromechanics, avionics, weapons and sensor intellimprove range, payloads, speed, survivability and lethality to maint lift aviation systems. Such cooperative development will be done used among the participating countries for the purposes of improving development.	gration, propulsion, and aviation autonomy technologies tain U.S. technical superiority and combat overmatch for vunder the auspices of international agreements established	ertical			
Title: Chemical and Biological Defense Technologies			-	-	0.030
<b>Description:</b> The goal of this project is to cooperate with partner of chemical, biological, and radiological defense materiel and to deve of mass destruction. Areas of cooperation include aerosol physics and monitoring, handling, and demilitarization. Such cooperative dagreements established among the participating countries for the partner countries.	elop jointly improved technologies to defend against weap , toxicology, vaccinations, filtration science, agent detection development will be done under the auspices of internation	ons on nal			
FY 2015 Plans: The goal of this project is to cooperate with partner countries to include biological, and radiological defense materiel and to develop jointly destruction. Areas of cooperation include aerosol physics, toxicolomonitoring, handling, and demilitarization. Such cooperative devel	improved technologies to defend against weapons of masogy, vaccinations, filtration science, agent detection and	SS			

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Army			Date: March 2014
Appropriation/Budget Activity	R-1 Program Element (Number/Name)	Project (N	umber/Name)
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	Development		

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)	FY 2013	FY 2014	FY 2015
agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.			
Accomplishments/Planned Programs Subtotals	4.393	3.872	2.954

### C. Other Program Funding Summary (\$ in Millions)

N/A

#### Remarks

None

Army

### 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.

Below is the list of the programs that were changed, combined or renamed.

## Communications, Interoperability, and Electronics Technologies

The goal of this project is to develop technologies that enable interoperability among partner countries' command, control, communications, sensors, and information systems. Efforts under this project include development of a single solution standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO. Such standards include common doctrine, technical and procedural specifications to make better use of existing information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. Includes projects formerly titled Multi-National Network Enabled Capabilities, Low Level Air Defense Interoperability, JTRS, Combat Identification, and Multilateral Interoperability Program.

## Missile and Rocket Technologies

The goal of this project is to cooperate with partner countries to increase interoperability and develop jointly improved missile and rocket technologies, such as propulsion, energetic materials, payloads, flight control systems, sensors, and seekers. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

## Aviation Systems Technologies

The goal of this project is to cooperate with partner countries to increase interoperability and develop jointly improved aerodynamics, aeromechanics, avionics, weapons and sensor integration, propulsion, and aviation autonomy technologies that improve range, payloads, speed, survivability and lethality to maintain U.S. technical superiority and combat overmatch for vertical lift aviation systems. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

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### Soldier Technologies

The goal of this project is to cooperate with partner countries to increase interoperability and develop jointly improved technologies to increase the effectiveness, health, and reliability of the individual soldier. Such technologies will maximize soldier survivability, sustainability, mobility, combat effectiveness, and field quality of life. Efforts under this project will also enable interoperability and standardization among partner country systems that support the individual soldier. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

#### Chemical and Biological Defense Technologies

The goal of this project is to cooperate with partner countries to increase interoperability and standardization of chemical, biological, and radiological defense materiel and to develop jointly improved technologies to defend against weapons of mass destruction. Areas of cooperation include aerosol physics, toxicology, vaccinations, filtration science, agent detection and monitoring, handling, and demilitarization. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

#### **Ground Systems Technologies**

The goal of this project is to cooperate with partner countries to increase interoperability and develop jointly technologies to improve survivability, weapons, ground platforms (manned and unmanned), and mobility and counter-mobility to provide soldiers with unmatched offensive and defensive capabilities in weapons and military vehicles. Areas of cooperation include ground systems design, propulsion, structures, robotics, alternative fuels and lubricants, systems integration, electronics, and power management. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

## Weapons and Munitions Technologies

The goal of this project is to cooperate with partner countries to increase interoperability and develop jointly technologies to improve range, payloads, speed, survivability and lethality to maintain U.S. technical superiority and combat overmatch for Army weapons systems and associated munitions. Areas of cooperation include fuzing and warhead systems, guidance systems, counter improvised explosive device neutralization, directed energy, and fire control systems. Such cooperative development will be done under the auspices of international agreements established among the participating countries for the purposes of improving defense capabilities of the U.S. and partner countries.

## Senior National Representative (Army) program

Senior National Representatives (Army) (SNR-(A)) Projects with international partners: Supports harmonization of programs at various levels: exchanging information, identifying knowledge gaps and conducting feasibility studies to further promote cooperative development; standardizing, fielding and road mapping various processes; distributing the workload among the different nations. Technology Demonstrations hosted by the U.S. reps to Land Group, NATO Army Armaments Group (NAAG), provides an opportunity to observe and demonstrate the current and future capability of participating NATO nations with a view to assisting future operational and material interoperability. Army support of NAAG studies, analysis and technology demonstrations.

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**Armaments Cooperation Enterprise Support** 

The goal of this program is to expand worldwide allied standardization and interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the U.S. Army. This program will fund the travel costs and administrative support (studies, analysis, interpretation, equipment, etc.) required to participate internationally, such as the North Atlantic Treaty Organization (NATO) Army Armaments Group (NAAG), Defense Against Terrorism (DAT) and to pursue new cooperative R&D initiatives and international cooperative agreements such as memoranda of understanding. This program will also include: the United States' share of costs of the NATO Civil Budget, Chapter IX, which funds the NATO Industrial Advisory Group (NIAG) and the Special Fund for Cooperative Planning (U. S. Army is Executive Agent for this NATO bill); the Technical Cooperation Program, and Army armaments cooperation working groups with many nations.

#### **E. Performance Metrics**

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2015 Army Date: March 2014

Appropriation/Budget Activity R-1 Program Element (Number/Name) 2040 / 4

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Project (Number/Name) 691 I NATO Rsch & Devel

Management Service	es (\$ in M	lillions)		FY 2	2013	FY 2	014	FY 2 Ba	2015 ise		2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
STEM/IOL	TBD	RDECOM, : Ft. Belvoir, VA	0.451	0.087		0.067		-		-		-	Continuing	Continuing	-
ArmamentsCooperation Enterprise Support	TBD	RDECOM : Ft Belvoir, VA	0.000	-		-		0.006		-		0.006	-	0.006	-
Low Level Air Defense Interoperability (LLAPI)	TBD	AMCOM, : Redstone Arsenal, AL	0.407	-		-		-		-		-	Continuing	Continuing	-
MIP	Various	PEO C3S, : Aberdeen Proving Ground, MD	1.219	-		-		-		-		-	Continuing	Continuing	-
Combat Identification	TBD	CECOM, : Aberdeen Proving Ground, MD	0.571	-		-		-		-		-	Continuing	Continuing	-
SNR(A)	TBD	ARL, : APG, MD	0.642	-		-		-		-		-	Continuing	Continuing	-
TRDP	TBD	REDCOM, : Ft. Belvoir, VA	2.676	0.220		0.228		-		-		-	Continuing	Continuing	-
Artillery Command and Control Interoperability (ASCA)	TBD	CECOM, : Aberdeen Proving Ground, MD	0.139	-		-		-		-		-	Continuing	Continuing	-
Force Protection Projects (FPP)	TBD	RDECOM, : Ft. Belvoir, VA	0.099	0.035		0.028		-		-		-	-	0.162	-
Weapons and Munitions	TBD	CECOM : Aberdeen Proving Ground, MD	0.000	-		-		0.008		-		0.008	-	0.008	-
		Subtotal	6.204	0.342		0.323		0.014		-		0.014	-	-	-

Product Developmen	ıt (\$ in Mi	illions)		FY 2	2013	FY 2	2014	FY 2 Ba		FY 2	2015 CO	FY 2015 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract	
Multilateral Interoperability Program (MIP)	TBD	Various : Various	2.226	0.150		0.151		-		-		-	Continuing	Continuing	Continuing	
STEM-IOL	TBD	LSS/GDIT, : Fairfax, VA	6.242	0.514		0.466		-		-		-	Continuing	Continuing	Continuing	

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Product Developmer	nt (\$ in Mi	illions)		FY 2	2013	FY 2	014	FY 2 Ba			2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contrac
Combat Identification	TBD	CECOM, : Aberdeen Proving Ground, MD	1.017	0.025		0.018		-		-		-	Continuing	Continuing	Continuir
Multi-National Network Enabled Capabilities (MNNEC)	TBD	CECOM, : Aberdeen Proving Ground, MD	3.935	0.500		0.366		-		-		-	Continuing	Continuing	Continuin
Communications, Interoperability, and Electronics Technologies	TBD	CECOM : Aberdeen Proving Ground, MD	0.000	-		-		0.400		-		0.400	-	0.400	-
Artillery Command and Control Interoperability (ASCA)	Various	CECOM, : Aberdeen Proving Ground, MD	2.201	0.180		0.154		-		-		-	Continuing	Continuing	Continuin
Weapons and Munitions	Various	CECOM : Aberdeen Proving Ground, MD	0.000	-		-		0.450		-		0.450	-	0.450	-
TRDP	Various	Battelle/LMI, : McLean, VA	2.567	0.205		0.159		-		-		-	Continuing	Continuing	Continuin
Aviation Systems Technologies	Various	Various : Various	0.000	-		-		0.100		-		0.100	-	0.100	-
Senior National Representatives (Army) (SNR[A])	Various	ARDEC, : Arlington, VA	8.644	0.368		0.440		-		-		-	Continuing	Continuing	Continuin
Ground Systems Technology	FFRDC	Various : Various	0.000	-		-		0.100		-		0.100	-	0.100	-
Joint Tactical Radio System (JTRS)- Interoperability Communications and Electronic Technologies	Various	PM JTRS, : San Diego, CA	1.125	0.163		0.127		-		-		-	Continuing	Continuing	Continuin
Force Protection Projects (FPP)	Various	RDECOM, : Ft Belvoir, VA	0.435	0.117		0.111		-		-		-	-	0.663	Continuin
Low Level Air Defense Interoperability (LLAPI)	TBD	AMCOM, : Redstone Arsenal, AL	1.413	0.100		0.093		-		-		-	Continuing	Continuing	Continuin
	_	Subtotal	29.805	2.322		2.085		1.050		-		1.050	-	-	_

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Support (\$ in Millions	support (\$ in Millions)			FY 2	013	FY 2	FY 2014		2015 se		2015 CO	FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contrac
MIP	Various	CECOM : Aberdeen Proving Ground, MD	1.634	0.225		0.172		-		-		-	Continuing	Continuing	Continuir
Low Level Air Defense Interoperability (LLAPI)	Various	AMCOM, : Redstone Arsenal, AL	0.707	0.104		0.077		-		-		-	Continuing	Continuing	Continuir
STEM/IOL	Various	GDIT : Fairfax, VA	1.422	0.110		0.116		-		-		-	Continuing	Continuing	Continuir
MNNEC	Various	CECOM : Aberdeen Proving Ground, MD	1.007	0.107		0.083		-		-		-	Continuing	Continuing	Continuin
Armaments Cooperation Enterprise Support	Various	LSS/GDIT : Fairfax, VA	0.000	-		-		1.170		-		1.170	-	1.170	-
Communications, Interoperability, and Electronics Technologies	TBD	CECOM : Aberdeen Proving Ground, MD	0.000	-		-		0.200		-		0.200	-	0.200	-
Combat Identification	Various	CECOM : Aberdeen Proving Ground, MD	0.638	0.035		0.025		-		-		-	Continuing	Continuing	Continuin
TRDP	Various	RDECOM, : Ft. Belvoir, VA	2.727	0.250		0.230		-		-		-	Continuing	Continuing	Continuin
Aviation Systems Technologies	Various	ARDECOM : Ft Belvoir, VA	0.000	-		-		0.050		-		0.050	-	0.050	-
SNR(A)	Various	ARL, : Aberdeen, MD	1.949	0.100		0.078		0.060		-		0.060	Continuing	Continuing	Continuin
Ground Systems Technology	MIPR	Various : Various	0.000			-		0.050		-		0.050	-	0.050	-
Joint Tactical Radio System (JTRS)	Various	PM JTRS, : San Diego, VA	0.712	0.100		0.075		-		-		-	Continuing	Continuing	Continuin
Artillery Command and Control Interoperability (ASCA)	Various	CECOM : Aberdeen Proving Ground, MD	0.678	0.100		0.076		-		-		-	Continuing	Continuing	Continuin
Weapons and Munitions	Various	CECOM : Aberdeen Proving Ground, MD	0.000	-		-		0.050		-		0.050	-	0.050	-
Force Protection Projects (FPP)	Various	RDECOM, : Fort Belvoir, VA	0.090	0.050		0.052		-		-		-	-	0.192	Continuin
Soldier Technologies	TBD	Various : Various	0.000	-		-		0.020		-		0.020	-	0.020	_

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Support (\$ in Millions)			FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Chemical & Biological Defense Technologies	MIPR	RDECOM : Edgewood, Aberdeen, MD	0.000	-		-		0.030		-		0.030	-	0.030	-
		Subtotal	11.564	1.181		0.984		1.630		-		1.630	-	-	-

Test and Evaluation (\$ in Millions)				FY 2013		FY 2014		FY 2015 Base		FY 2015 OCO		FY 2015 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
MIP	Various	CECOM : Aberdeen Proving Ground, MD	1.434	0.230		0.215		-		-		-	Continuing	Continuing	-
STEM/IOL	Various	RDECOM, : Various	0.990	0.063		0.050		-		-		-	Continuing	Continuing	-
Communications, Interoperability, and Electronics Technologies	TBD	Various : Various	0.000	-		-		0.100		-		0.100	-	0.100	-
Low Level Air Defense Interoperability (LLAPI)	Various	AMCOM, : Redstone Arsenal, AL	0.244	-		-		-		-		-	Continuing	Continuing	-
SNR(A)	TBD	Various : Various	1.457	0.100		0.079		-		-		-	Continuing	Continuing	-
ASCA	TBD	CECOM : Aberdeen Proving Ground, MD	0.377	0.090		0.070		-		-		-	Continuing	Continuing	-
Weapons and Munitions	TBD	CECOM : Various	0.000	-		-		0.080		-		0.080	-	0.080	-
Aviation Systems Technologies	TBD	RDECOM, Ft Belvoir, VA: Various	0.000	-		-		0.030		-		0.030	-	0.030	-
Joint Tactical Radio System (JTRS)	TBD	CECOM : Aberdeen Proving Ground, MD	0.302	-		-		-		-		-	Continuing	Continuing	-
Ground Systems Technologies	MIPR	TARDEC : Various	0.000	-		-		0.050		-		0.050	-	0.050	-
Force Protection Projects (FPP)	TBD	RDECOM, : Ft. Belvoir, VA	0.090	0.065		0.066		-		-		-	-	0.221	-
		Subtotal	4.894	0.548		0.480		0.260		-		0.260	-	-	-

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	Prior Years	FY 2013		FY 20	14	FY 2015 Base	FY 2		FY 2015 Total	Cost To	Total Cost	Target Value of Contract		
Project Cost Totals	52.467	4.393		3.872		2.954	-		2.954	-	-	-		

Remarks