Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Army											Date: February 2016	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*					R-1 Program Element (Number/Name) PE 0603790A *I NATO Research and Development*							
COST ($ in Millions)	**Prior Years**	**FY 2015**	**FY 2016**	**FY 2017 Base**	**FY 2017 OCO**	**FY 2017 Total**	**FY 2018**	**FY 2019**	**FY 2020**	**FY 2021**	**Cost To Complete**	**Total Cost**
Total Program Element	-	2.839	6.075	2.300	-	2.300	3.128	3.058	3.172	3.276	Continuing	Continuing
691: *NATO Rsch & Devel*	-	2.839	6.075	2.300	-	2.300	3.128	3.058	3.172	3.276	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. contractor facilities.

B. Program Change Summary ($ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	2.952	6.075	6.248	-	6.248
Current President's Budget	2.839	6.075	2.300	-	2.300
Total Adjustments	-0.113	0.000	-3.948	-	-3.948
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.113	-			
• Adjustments to Budget Years	-	-	-3.948	-	-3.948

Change Summary Explanation

FY 2017 reduction attributed to realignment to other higher priority Army programs (i.e., classified and will be provide under separate cover).

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Appropriation/Budget Activity 2040 / 4	R-1 Program Element (Number/Name) PE 0603790A / *NATO Research and Development*	Project (Number/Name) 691 / *NATO Rsch & Devel*	

COST ($ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
691: *NATO Rsch & Devel*	-	2.839	6.075	2.300	-	2.300	3.128	3.058	3.172	3.276	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

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)	FY 2015	FY 2016	FY 2017
Title: Armaments Cooperation Enterprise Support	1.264	1.835	1.760

Description: Armaments Cooperation Enterprise Support/ International Online (IOL) Development and Implementation NATO/ International Cooperative R&D (AR 70-41) and International Acquisition (AR 70-1, AR 70-3). Prior to FY15, efforts in this area were covered under the area entitled Scientific and Technology Enterprise Management.

FY 2015 Accomplishments:

The goal of this program was 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 funded 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 also included: 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.

FY 2016 Plans:

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

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
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. Additional funds will allow the coordination for cooperative research, development and evaluation of defense technologies/systems/equipments plus joint production and follow-on support of defense systems or equipment and the procurement of foreign technologies. ***FY 2017 Plans:*** 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. The execution AR 70-41 responsibilites requires DASA (DE&C) to conduct engagement with key strategy foreign partners in all regions of the world through the SNR(A) program, international agreement negotiations, and other bilateral and multilateral forums involving DASA (DE&C) personnel. 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. Funds will allow the coordination for cooperative research, development and evaluation of defense technologies/systems/equipments plus joint production and follow-on support of defense systems or equipment and the procurement of foreign technologies.			
Title: Communications Interoperability, and Electronics Technologies ***Description:*** 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, leveraged national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. Includes efforts from areas formerly titled Multi-National Network Enabled Capabilities, Low Level Air Defense Interoperability, JTRS, Combat Identification, and Multilateral Interoperability Program. ***FY 2015 Accomplishments:*** The goal of this project was to develop technologies that enable interoperability among partner countries' command, control, communications, sensors, and information systems. Efforts under this project included development of a single solution standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO. Such standards included common doctrine, technical and procedural specifications to make better use of existing information, shared data, leverage national operating picture capabilities and enabled the development of interoperability of data, databases,	0.499	1.341	0.125

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
applications, security domains and national networks architectures. Included projects formerly titled Multi-National Network Enabled Capabilities, Low Level Air Defense Interoperability, JTRS, Combat Identification, and Multilateral Interoperability Program. ***FY 2016 Plans:*** 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. ***FY 2017 Plans:*** 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. FY 17 funding will be used to partially peruse cooperative projects that were postponed such as: the Coalition Wideband Networking Waveform Phase II, 5-Power-Net-centric Command and Control Interoperability projects.			
Title: Senior National Representatives (Army) (SNR-(A)) ***Description:*** 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 an 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. ***FY 2015 Accomplishments:***	0.058	0.150	0.013

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
Senior National Representatives (Army) (SNR-(A)) Projects with international partners: Supported 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), provided an opportunity to observe and to 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. ***FY 2016 Plans:*** Senior National Representatives (Army) (SNR-(A)) Projects with international partner will support 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), will provide an 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 will support of NAAG studies, analysis and technology demonstrations. Additional funds will be used to persue cooperative initiatives that were postponed, cancelled or not persued due to funding reductions in previous years such as forums and engagement with long-standing foreign partners to identify interoperability gaps and develop necessary standardization programs. ***FY 2017 Plans:*** Senior National Representatives (Army) (SNR-(A)) Projects with international partner will support 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), will provide an 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 will support of NAAG studies, analysis and technology demonstrations. Additional funds will be used to persue cooperative initiatives that were postponed, cancelled or not persued due to funding reductions in previous years such as forums and engagement with long-standing foreign partners to identify interoperability gaps and develop necessary standardization programs. FY 17 funding will be used to pursue cooperative initiatives (i.e., forums and engagement with long-standing foreign partners to identify interoperability gaps and develop necessary standardization programs).			
Title: Weapons and Munitions Technologies	0.588	1.289	0.100
Description: Weapons and munitions technologies (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			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
able to receive and provide mutual fire support (i.e. cannon and rocket fire) in combined operations more rapidly and with minimal errors. ***FY 2015 Accomplishments:*** The goal of this project was to cooperate with partner countries to increase interoperability and to 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 included fuzing and warhead systems, guidance systems, counter improvised explosive device neutralization, directed energy, and fire control systems. Such cooperative development were 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. In FY15, efforts in this program were combined with Artillery Command and Control Interopeability. ***FY 2016 Plans:*** The goal of this project is to cooperate with partner countries to increase interoperability and to 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 is 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. Since FY15, efforts in this program were combined with Artillery Command and Control Interopeability. ***FY 2017 Plans:*** 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. This program was combined with Artillery Command and Control Interopeability in FY15. FY 17 funding will be used to pursue cooperative projects (i.e., to develop and demonstrate interoperability among U.S. foreign partners artillery weapons systems and ammunitions).			
Title: Soldier Technologies	0.020	0.300	-
Description: Soldier Technologies (Partners: United Kingdom, France, Germany, Italy, Sweden, Canada): Soldier Technologies will include R&D collaboration on technologies such as Counter Rocket and Mortar (C-RAM) and Counter Improvised Explosive			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
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). ***FY 2015 Accomplishments:*** The goal of this project was 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 maximized soldier survivability, sustainability, mobility, combat effectiveness, and field quality of life. Efforts under this project also enabled interoperability and standardization among partner country systems that supported the individual soldier. Such cooperative development were 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. Since FY15 this program included Force Protection Projects Programs ***FY 2016 Plans:*** 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. Since FY15 this program adopted Force Protection Project and projects under TRDP, additional funds will be used to persue cooperative projects that were postponed or not persue due to funding reductins in previous years such as cooperative projects in soldier psychological health and traumatic brain injury, improved small arms systems, eye safe lasers, portable soldier power technologies, and enhance body armor.			
Title: Ground Systems Technologies ***Description:*** 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. ***FY 2015 Accomplishments:*** The goal of this project was to cooperate with partner countries to increase interoperability and developd jointly technologies to improved 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 included ground	0.200	0.250	0.100

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
systems design, propulsion, structures, robotics, alternative fuels and lubricants, systems integration, electronics, and power management. Such cooperative development was 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. ***FY 2016 Plans:*** 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 will 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. Additional FY16 funds will be used to continue funding cooperative projects in armored vehicle underbody blast protection and unmanned ground vehicles such as Hybrid Electric PA between US and Japan. ***FY 2017 Plans:*** 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 will 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. FY17 funding will be used to fund the continuation of cooperative projects in armored vehicle underbody blast protection and unmanned ground vehicles such as Hybrid Electric Project Agreement between US and Japan.			
Title: Aviation Systems Technologies	0.180	0.460	0.202
Description: 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. ***FY 2015 Accomplishments:*** The goal of this project was to cooperate with partner countries to increase interoperability and to develop jointly improved aerodynamics, aeromechanics, avionics, weapons and sensor integration, propulsion, and aviation autonomy technologies			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
that improved range, payloads, speed, survivability and lethality to maintain U.S. technical superiority and combat overmatch for vertical lift aviation systems. Such cooperative development was 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. ***FY 2016 Plans:*** 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. Additional FY16 funds will be used to persue cooperative projects that were postponed or not pursued due to funding reductions in previous years such as cooperative projects to develop advance rotorcraft technologies and improve systems that aid pilots and aircrew in degrated visual environments. ***FY 2017 Plans:*** 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. FY 17 funding will be used to pursue cooperative projects (i.e., the development of advance rotorcraft technologies and improve systems that aid pilots and aircrew in degraded visual environments).			
Title: Chemical and Biological Defense Technologies ***Description:*** 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. ***FY 2015 Accomplishments:*** 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	0.030	0.250	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2015	FY 2016	FY 2017
monitoring, handling, and demilitarization. Such cooperative development was 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. ***FY 2016 Plans:*** 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. Additional FY16 funds will be used to continue cooperative projects that were postponed due to funds reductions in previous years, such as cooperative projects to develop vaccines for soldier protection against biological threats and enhanced radiological and biological threat detection systems.			
Title: Missiles and Rocket Technologies ***Description:*** The goal of this project is to cooperate with partner countries to increase interoperability and deveop 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 purpose of improving defense capabilities of the U.S. and partner countries. ***FY 2016 Plans:*** The goal of this project is to cooperate with partner countries to increase interoperability and deveop 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 purpose of improving defense capabilities of the U.S. and partner countries. a portion of former Technology Research and Development Projects (TRDP) was moved to Missiles and Rockets as part of project realignment in FY15. Additional FY16 funds are used to persue cooperative projects that were postponed or not pursued due to funding reductions in previous years such as cooperative projects to enhance coalition capabilities in Ground-based Air Defense.	-	0.200	-
Accomplishments/Planned Programs Subtotals	2.839	6.075	2.300

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

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D. Acquisition Strategy

Acquisition Strategy:
The goal of this program is to expand worldwide allied standardization interoperability through cooperative research and development (R&D) and technology sharing per SECDEF guidance and especially in support of the of the U.S. Army.
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.

List of the programs curently in place:
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.

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

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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 materiel interoperability. Army support of NAAG studies, analysis and technology demonstrations.

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.

Exhibit R-2A, RDT&E Project Justification: PB 2017 Army		Date: February 2016
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E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army		Date: February 2016
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ArmamentsCooperation Enterprise Support	MIPR	DASA DEC HQDA : Ft Belvoir, VA	0.000	0.006		0.006		-		-		-	0	0.012	0
Weapons and Munitions	TBD	CECOM : Aberdeen Proving Ground, MD	0.000	-		0.010		-		-		-	0	0.010	0
Communications Interoperability and Electronic Technologies Interoperability	MIPR	SPAWAR : Various	0.000	-		0.010		-		-		-	0	0.010	0
Ground Systems Technologies	MIPR	TARDEC : Warren, MI	0.000	-		0.010		-		-		-	0	0.010	0
Chemical and Biological Technologies	MIPR	Aberseen Proving Groun : MD	0.000	-		0.010		-		-		-	0	0.010	0
		Subtotal	0.000	0.006		0.046		-		-		-	0.000	0.052	0.000

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Missiles and Rocket Technologies	MIPR	APG, Redstone Arsenal : MD, AL	0.000	-		0.100		-		-		-	0	0.100	0
Communications, Interoperability, and Electronics Technologies	MIPR	CECOM, JTRS, COALWNW, JTNC, SPAWAR : San Diego,CA, various	0.000	0.164		0.405		-		-		-	0	0.569	0
Weapons and Munitions	Various	ARDEC, PEO AMMO, PM-CAS : VARIOUS	0.000	0.350		0.402		-		-		-	0	0.752	0
Aviation Systems Technologies	Various	AMRDEC : RED STONE, VARIOUS	0.000	0.100		0.075		-		-		-	0	0.175	0
Ground Systems Technology	FFRDC	Various : Various	0.000	0.100		0.025		-		-		-	0	0.125	0

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SNR(A)	C/TBD	ARDEC: Arlington, VA : Various	9.012	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	9.012	0.714		1.007		-		-		-	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Armaments Cooperation Enterprise Support	C/FFP	LSS/GDIT : Fairfax, VA	0.000	1.258		1.918		1.760		-		1.760	0	4.936	0
Missiles and Rocket Technologies	MIPR	APG, Redstone Arsenal : MD, AL	0.000	-		0.100		-		-		-	0	0.100	0
Communications, Interoperability, and Electronics Technologies	MIPR	Joint Tactical Radio (JTRS), JTNC, COALWNW, SPAWAR, CERDEC, ARDEC W1DF : San Diego, CA, Red Stone Arsenal	0.000	0.235		0.558		0.125		-		0.125	0	0.918	0
Aviation Systems Technologies	MIPR	RDECOM/ AMRDEC : Red Stone Arsenal	0.000	0.050		0.335		0.200		-		0.200	0	0.585	0
Ground Systems Technology	MIPR	TARDEC : Various	0.000	0.050		0.215		0.100		-		0.100	0	0.365	0
Weapons and Munitions	Various	CECOM, ARDEC, AMMO, PEO C3T : Aberdeen Proving Ground, Various	0.000	0.238		0.588		0.100		-		0.100	0	0.926	0
Soldier Technologies	TBD	Various : Various	0.000	0.020		0.300		-		-		-	0	0.320	0
SNR(A)	C/TBD	ARL, HQDA, JCGISR: Army : Various	2.094	0.058		0.150		0.015		-		0.015	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Army			Date: February 2016
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Chemical & Biological Defense Technologies	MIPR	ECBC : Edgewood, Aberdeen, MD	0.000	0.030		0.240		-		-		-	0	0.270	0
		Subtotal	2.094	1.939		4.404		2.300		-		2.300	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2015 Cost	FY 2015 Award Date	FY 2016 Cost	FY 2016 Award Date	FY 2017 Base Cost	FY 2017 Base Award Date	FY 2017 OCO Cost	FY 2017 OCO Award Date	FY 2017 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Communications, Interoperability, and Electronics Technologies	Various	JTRN, JTNC, COALWNW, CERDEC, NIGHT VISION : SPAWAR	0.000	0.100		0.368		-		-		-	0	0.468	0
Weapons and Munitions	TBD	ARDEC, PEO AMMO, ASCA : Various	0.000	-		0.200		-		-		-	0	0.200	0
Aviation Systems Technologies	TBD	RDECOM, AMRDEC : RED STONE	0.000	0.030		0.050		-		-		-	0	0.080	0
Ground Systems Technologies	MIPR	TARDEC : Various	0.000	0.050		-		-		-		-	0	0.050	0
		Subtotal	0.000	0.180		0.618		-		-		-	0.000	0.798	0.000

	Prior Years	FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	11.106	2.839		6.075		2.300		-		2.300	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2017 Army		Date: February 2016
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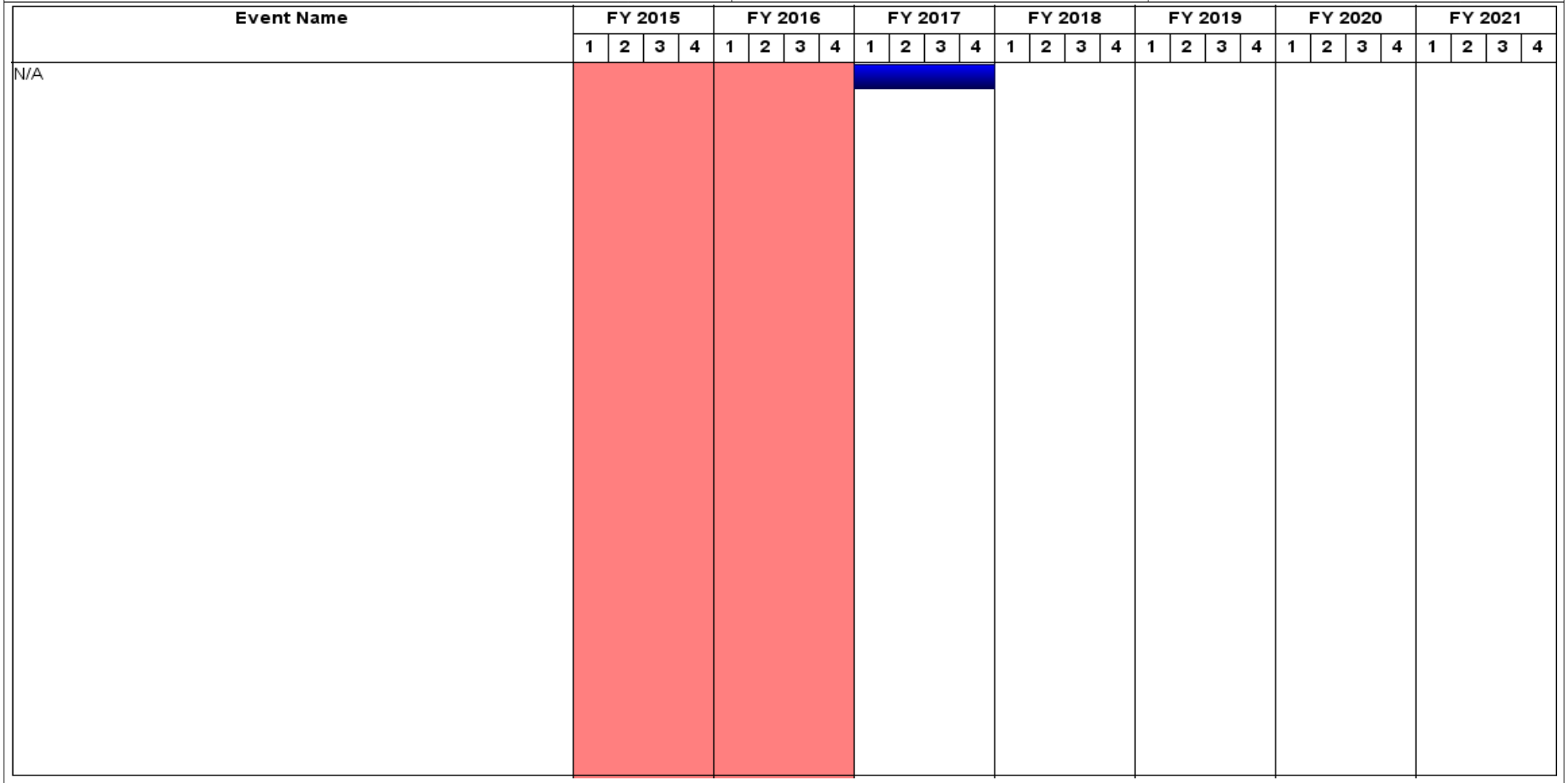

Exhibit R-4A, RDT&E Schedule Details: PB 2017 Army		Date: February 2016
Appropriation/Budget Activity 2040 / 4	**R-1 Program Element (Number/Name)** PE 0603790A / *NATO Research and Development*	**Project (Number/Name)** 691 / *NATO Rsch & Devel*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
N/A	1	2017	4	2017