Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0603923D8Z: Coalition Warfare

BA 4: Advanced Component Development & Prototypes (ACD&P)

COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	13.431	12.434	11.398	-	11.398	11.495	11.634	11.858	12.062	Continuing	Continuing
P923: Coalition Warfare	13.431	12.434	11.398	-	11.398	11.495	11.634	11.858	12.062	Continuing	Continuing

A. Mission Description and Budget Item Justification

APPROPRIATION/BUDGET ACTIVITY

The Coalition Warfare Program (CWP) is the only Office of the Secretary of Defense (OSD) program dedicated to initiating cooperative research, development, test and evaluation (RDT&E) projects with allies and coalition partners. CWP projects accelerate the delivery of high-quality solutions to warfighter problems, improve U.S. interoperability with its coalition partners, and strengthen global partnerships. Projects leverage foreign investments in technology and manpower to address Combatant Command (COCOM) requirements and support DoD RDT&E community undertakings. CWP can also help program offices convert U.S.-only projects into coalition solutions, with the expenses and benefits shared by the U.S. and international partners.

Current U.S. military strategy and the global security environment make coalition warfare and multinational operations fundamental features of the U.S. national security strategy. Coalitions provide a broad-base of technological, operational, and logistical support for military operations and ease the U.S. financial and manpower burdens associated with meeting military goals and objectives. In addition, effective responses to global humanitarian disasters require broad international, interagency, civilian, and non-governmental coordination. As national defense budgets decline, but threats to mutual security do not, coalition operations will continue to grow in importance.

Despite decades of conducting multinational operations, the United States and its partners continue to experience interoperability issues. Shortcomings in areas such as C4ISR (command, control, communications, and computers and intelligence, surveillance, and reconnaissance), battlespace awareness, and logistics reveal the complexities and challenges associated with multinational air, land, and sea campaigns and encumber warfighters' abilities to effectively and safely complete missions. Small investments in interoperability early in the research and development process can help avoid larger expenses related to adding coalition capability later in the development cycle. Partner nations participate in CWP to the extent permitted by security considerations and when such partnering is advantageous to the U.S. government.

DATE: February 2012

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Office of Secretary Of Defense

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0603923D8Z: Coalition Warfare

BA 4: Advanced Component Development & Prototypes (ACD&P)

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	13.786	12.743	13.026	-	13.026
Current President's Budget	13.431	12.434	11.398	-	11.398
Total Adjustments	-0.355	-0.309	-1.628	-	-1.628
 Congressional General Reductions 	-	-			
 Congressional Directed Reductions 	-	-			
 Congressional Rescissions 	-	-			
 Congressional Adds 	-	-			
 Congressional Directed Transfers 	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-0.230	-0.224			
Other Reductions	-0.125	-0.085	-	=	-
 Reduced Fiscal Guidance 	-	-	-0.372	-	-0.372
Program Adjustments	-	-	-1.256	-	-1.256

DATE: February 2012

Exhibit R-2A, RDT&E Project Jus	stification: PE	3 2013 Office	e of Secreta	ry Of Defens	e				DATE: Febr	uary 2012	
APPROPRIATION/BUDGET ACTI	VITY			R-1 ITEM N	IOMENCLA	TURE		PROJECT			
0400: Research, Development, Tes				PE 060392	3D8Z: Coalit	ion Warfare		P923: Coali	tion Warfare		
BA 4: Advanced Component Devel	opment & Pro	ototypes (AC	D&P)								
COST (\$ in Millions)			FY 2013	FY 2013	FY 2013					Cost To	
COST (\$ III WIIIIOTIS)	FY 2011	FY 2012	Base	oco	Total	FY 2014	FY 2015	FY 2016	FY 2017	Complete	Total Cost
P923: Coalition Warfare	13.431	12.434	11.398	-	11.398	11.495	11.634	11.858	12.062	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

The Coalition Warfare Program (CWP) is the only Office of the Secretary of Defense (OSD) program dedicated to initiating cooperative research, development, test and evaluation (RDT&E) projects with allies and coalition partners. CWP projects accelerate the delivery of high-quality solutions to warfighter problems, improve U.S. interoperability with its coalition partners, and strengthen global partnerships. Projects leverage foreign investments in technology and manpower to address Combatant Command (COCOM) requirements and support DoD RDT&E community undertakings. CWP can also help program offices convert U.S.only projects into coalition solutions, with the expenses and benefits shared by the U.S. and international partners.

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Despite decades of conducting multi-national operations, the United States and its partners continue to experience interoperability issues. Shortcomings in areas such as C4ISR (command, control, communications, and computers and intelligence, surveillance, and reconnaissance), battlespace awareness, and logistics reveal the complexities and challenges associated with multinational air, land, and sea campaigns and encumber warfighters' abilities to effectively and safely complete missions. Small investments in interoperability early in the research and development process can help avoid larger expenses related to adding coalition capability later in the development cycle. Partner nations participate in the Coalition Warfare Program (CWP) to the extent permitted by security considerations and when such partnering is advantageous to the U.S. government.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013
Title: Previous Year Continuing Projects	4.222	-	-
Description: Program provided additional funding to projects that began in earlier selection cycles.			
FY 2011 Accomplishments: Projects continued efforts that will deliver: a maritime and land-based sensor/communication/common operating picture system capable of monitoring and detecting activity in the riverine and inland near-water environments; state-of-the-art clip-on sensor fusion prototype devices for small arms; and the technical capability within the fire support community to update fire control input data without the need to completely retest and reissue new software.			
Title: FY11 Continuing Projects	7.058	5.227	-

	UNCLASSII ILD				
Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secre	etary Of Defense		DATE: Fe	bruary 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603923D8Z: Coalition Warfare	PROJECT P923: Coa	alition Warfai	re	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
Description: Program provided two years of funding for projects sele	cted during the FY11 selection process.				
FY 2011 Accomplishments: Initiated projects that will provide: optimal EM sensor, sensor placeme on the local operating environment; combat system enhancements to awareness; and a hybrid power source capable of 150 watts of contin military rechargeable batteries in a small, lightweight package.	address current shortfalls in high Northern sit	uational			
FY 2012 Plans: Projects selected during the FY11 selection process will receive their efforts started in FY11 and will deliver the stated capabilities.	second year of CWP funding. Projects will co	mplete the			
Title: Alternative Fuel			-	1.000	1.000
Description: Project will flight test a fighter aircraft using jet fuel derive this class of fuel for use in both military and commercial aviation systems.		certification of			
FY 2012 Plans: Component test, analysis and evaluation of fuel produced under the p	project.				
FY 2013 Plans: Additional fuel analysis and engine and airframe component tests.					
Title: Battlefield Antennas			0.450	0.550	1.000
Description: Project will use a breakthrough high permeability materiantennas, thereby extending the effective frequency band of these an systems.					
FY 2011 Accomplishments: Funding supporting research and development personnel at Army lab	as well as contract management.				
FY 2012 Plans: Procure the metaferrites and model and fabricate candidate antenna	designs for bench testing.				
FY 2013 Plans: Integrate the candidate antenna designs on to suitable platforms for v	validation of performance.				
Title: Enhanced Maritime Awareness			0.195	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secre	etary Of Defense		DATE: Fe	bruary 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)		PROJECT P923: <i>Coal</i>	lition Warfa	re	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
Description: Develop the means to connect maritime information/integration of any data the Parties wish to make available to each other, enabling maritime threats.		•			
FY 2011 Accomplishments: Identify data sources necessary for the values added services, development data sources, and then share these data sources.	op the information exchange schema and data models	s for the			
Title: Helicopter Rapid Structural Repair In Theater			-	0.896	0.836
Description: Develop a portable cold spray metallization system that helicopters in theater.	can be used to facilitate rapid structural repairs of				
FY 2012 Plans: Concurrent development, testing, and evaluation for both structural recomponents and the design and construction of a second generation		ninum			
FY 2013 Plans: Finalize the construction of the portable system, systems prove out, of application using the portable system.	lata generation, and prove out the repair process(s)				
Title: Improved Renewable Energy Power System			-	0.250	0.250
Description: Provide a portable power system utilizing renewable en improvements in battery development technology and the Reusing Exsystem.					
FY 2012 Plans: Develop and integrate system components, and complete internal tes	st and evaluation of the improved RENEWS system.				
FY 2013 Plans: Acquire integrated systems, produce system safety assessments reprevaluation opportunities.	orts and releases, and support participation in field				
Title: Mobile Operations in a Disconnected, Intermittent or Low-band	width Environment (MODILE)		-	0.400	0.400
Description: Provide solution sets for coalition maritime operations in	n satellite restricted/denied environment problem.				
FY 2012 Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secr	etary Of Defense		DATE: Feb	oruary 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)		PROJECT 1923: Coali	ition Warfar	e	
B. Accomplishments/Planned Programs (\$ in Millions)		i	FY 2011	FY 2012	FY 2013
Architecture development and basic engineering.					
FY 2013 Plans: Finalize development of the communication protocol, target architectuoperations and standard operating procedures, and implementing an		ept of			
Title: Network Centric Collaborative Targeting / Cooperative Electron Testing (NCCT/CESMO Live Fly)	ic Support Measures Operations Gateway Software L	ive Fly	-	0.500	0.150
Description: Demonstrate an operational data gateway between the the NATO Cooperative Electronic Support Measures Operations Systems		and			
FY 2012 Plans: Facilitate the development of the data guard, integration of the NCCT operationally representative network, and support trial planning for the		nto an			
FY 2013 Plans: Support an in-depth analysis of data collected during CY2012 demon concept of operations.	stration to include publishing a final test report and an	initial			
Title: Return to Duty			0.385	0.300	0.475
Description: Develop and deliver a ruggedized, in-theater device cap pressure information for assessment, treatment and return to duty of					
FY 2011 Accomplishments: Pilot testing of current prototype					
FY 2012 Plans: Incorporate visual and auditory components into the prototype; provide	le programming enhancements.				
FY 2013 Plans: Ruggedize prototype for field use. Modify prototypes based on feedbatrials and in-theatre testing.	ack from first year pilot tests. Field test with continued	clinical			
Title: Multinational Electromagnetic Spectrum Collaboration Technology	ogy		0.157	0.466	0.480
Description: Develop technology that would enable partner nations, organizations an internet-based solution to request frequencies from		blish			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secr	etary Of Defense		DATE: Fe	bruary 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603923D8Z: Coalition Warfare	PROJEC P923: Co	T alition Warfa	re	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
frequencies specific to humanitarian assistance/disaster relief (HA/DF frequencies to be accessible to all partners assisting in HA/DR effort.		ow published			
FY 2011 Accomplishments: Support U.S. participation within the Spectrum Management Technology development.	ogy Working Group (SMTWG) and initial databa	ise			
FY 2012 Plans: Purchase equipment including database server, web server SMT wor evaluation network	kstations and ancillary equipment to establish a	testing and			
FY 2013 Plans: Finalize the integration with enterprise database.					
Title: Space Situational Awareness Environmental Monitoring to Mitig Africa (SSA-EM)	gate Severe Ionospheric Impacts to DOD C3I Sy	stems in	-	0.475	0.47
Description: Fuse data from sensor networks to characterize the ion	osphere over the African continent in near real-	time.			
FY 2012 Plans: Purchase and deploy equipment. Establish data server to integrate dainstalling gap-filling ionospheric scintillation sensors and upgrade exist quality.					
FY 2013 Plans: Complete installations of all sensors, continue upgrading existing stat robustness. Evaluate performance of scintillation products driven by f and mitigate as much as possible. Develop and test nowcasting tools	used data sources; identify weaknesses in region	onal models			
Title: Tools for Hyperspectral Exploitation from Multi-Angular Spectra	(THEMAS)		-	0.800	0.850
Description: Develop a satellite angular mapping tool to characterize	e coastlines for targeting and shore assault oper	ations.			
FY 2012 Plans: Capture multi-angular characterization of spectral response and asso around a set of specific applications and scenarios (probable mine plabathymetry, hazards/anomalies, bottom type, etc.).					

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secr	etary Of Defense		DATE: Fel	oruary 2012	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603923D8Z: Coalition Warfare	PROJECT P923: Co	T alition Warfar	e	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2011	FY 2012	FY 2013
Modeling and calibration/validation, encapsulating findings in softwar results and documentation and beta-testing of software add-ons. Fin		ting of			
Title: FY13 Project Selections			-	0.400	4.200
Description: Program will conduct competitive nomination process to	o identify new projects.				
FY 2012 Plans: Program provides funding for projects selected during the FY13 selected certain projects require funding to prepare for early tests or demonst		greements.			
FY 2013 Plans: FY13 projects will be selected based on COCOM, Service, Joint Staf	f, OSD, and DoD Agencies priorities and requirem	ents.			
Title: Coalition Warfare Program Support			0.724	0.535	0.55
Description: Program funds contractors to support CWP program m					
Defense directives and regulations; providing assessment of program recommendations to the Director, International Cooperation concerning periodic CWP meetings to foster international cooperation and improsite visits as necessary to determine project progress; managing the financial activities at the OUSD(AT&L) level; briefing foreign embassing CWP projects and interoperability initiatives; educating Combatant CCWP and the opportunity to improve coalition interoperability.	ng new and continuing CWP projects; organizing a ve U.S. interoperability with foreign partners; cond OSD-level CWP proposal selection process and c y representatives and others as necessary on the	providing and hosting ucting on- oordinating status of			
Defense directives and regulations; providing assessment of program recommendations to the Director, International Cooperation concerning periodic CWP meetings to foster international cooperation and improsite visits as necessary to determine project progress; managing the financial activities at the OUSD(AT&L) level; briefing foreign embassion CWP projects and interoperability initiatives; educating Combatant C	n status and risk to higher authorities; briefing and ng new and continuing CWP projects; organizing a ve U.S. interoperability with foreign partners; cond OSD-level CWP proposal selection process and cy representatives and others as necessary on the sommand, Service, Agency, and OSD personnel at modern documentation to support FY13 selection procesus olidated project financial reporting to respond to not foreign RDT&E personnel about CWP and facil	providing and hosting ucting on- coordinating status of cout the ss; AT&L and itate the			

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secreta	ry Of Defense		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT	
0400: Research, Development, Test & Evaluation, Defense-Wide	PE 0603923D8Z: Coalition Warfare	P923: Coali	ition Warfare
BA 4: Advanced Component Development & Prototypes (ACD&P)			

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2011	FY 2012	FY 2013
Contractor will continue to provide management support of the CWP, to include evaluating proposals for FY13 funding, attending RDT&E meetings and events, and monitoring and managing projects' technical and financial performance. On-site contractor support reduced by 33% due to Efficiency Defense-wide cut.	112011	1 1 2012	112013
FY 2013 Plans: Contractor will continue to provide management support of the CWP, to include evaluating proposals for FY14 funding, attending RDT&E meetings and events, and monitoring and managing projects' technical and financial performance.			
Title: Interoperability and Collaboration Initiatives	0.240	0.635	0.728
Description: Program provides funds in support of new or planned acquisition programs with the aim of 1) promoting coalition interoperability early in the requirements or technical development phases, 2) harmonizing common goals between U.S. and foreign partners, 3) improving management of collaborative efforts. Funds support workshops, risk reduction efforts, standards development, architecture analysis, and information management initiatives.			
FY 2011 Accomplishments: Supported COCOM risk reduction effort with foreign partner. Funded NATO interoperability projects.			
FY 2012 Plans: Program funded efforts aimed at improving U.S. interoperability with foreign partners and improving collaborative project processes. Initiated the development of a tool for improving the process for sharing information regarding international collaborative projects with COCOMs and Services.			
FY 2013 Plans: Program will fund efforts aimed at improving U.S. interoperability with foreign partners and improving collaborative project processes.			
Accomplishments/Planned Programs Subtotals	13.431	12.434	11.398

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

N/A

D. Acquisition Strategy

The Combatant Commands, Services, Defense Agencies, and the Office of the Secretary of Defense nominate candidate projects on an annual basis. CWP provides selected projects one to two years of funding. The Program selects projects that address DoD priorities and meet the needs and requirements specified by the Joint Staff and the Combatant Commanders. Projects should have equitable contributions from international partners, strong potential for transition, and should contribute to allied interoperability and/or meet a user need.

Exhibit R-2A, RDT&E Project Justification: PB 2013 Office of Secre	etary Of Defense	DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY				
0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	PE 0603923D8Z: Coalition Warfare	P923: Coalition Warfare		
E. Performance Metrics After successful completion of the competitive nomination process, i information, project plan, description of project team, etc. Continued progress toward each project's stated goals, timely reporting on fina towards transition goals.	d project funding is dependent on compliance	with CWP requirements, which include: adequate		

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Office of Secretary Of Defense		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 4: Advanced Component Development & Prototypes (ACD&P)	R-1 ITEM NOMENCLATURE PE 0603923D8Z: Coalition Warfare	PROJECT P923: Coalition Warfare		

R-1 ITEM NOMENCLATURE

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Office of Secretary Of Defense

BA 4: Advanced Component Development & Prototypes (ACD&P)

DATE: February 2012

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

PROJECT

PE 0603923D8Z: Coalition Warfare

P923: Coalition Warfare

Schedule Details

	Start		End	
Events	Quarter	Year	Quarter	Year
FY10-FY11 Projects	1	2011	4	2011
FY11-FY12 Projects	1	2011	4	2012
FY12-FY13 Projects	1	2012	4	2013
FY13-FY14 Projects	1	2013	4	2014
FY14-FY15 Projects	1	2014	4	2015
FY15-FY16 Projects	1	2015	4	2016
FY16-FY17 Projects	1	2016	4	2017