

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense **Date:** February 2020

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603923D8Z I <i>Coalition Warfare Program (CWP)</i>
---	--

COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	72.750	8.379	11.316	10.129	-	10.129	9.491	9.650	9.688	9.892	Continuing	Continuing
923: <i>Coalition Warfare</i>	72.750	8.379	11.316	10.129	-	10.129	9.491	9.650	9.688	9.892	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Coalition Warfare Program (CWP) supports DoD organizations that: 1) work with foreign partners to collaboratively address strategic technology gaps for current and future missions; 2) develop interoperability solutions for coalition operations; and 3) develop and strengthen defense relationships. CWP comprehensively addresses all three National Defense Strategy lines of effort: to develop a more lethal joint force; strengthen alliances and attract new partners; and implement business practices for greater performance and affordability. Coalition warfare and multinational operations are 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. Coalitions and relationships with international partners are high priorities for the nation and the Department of Defense.

CWP supplements a U.S. Government proponent's funding for cooperative efforts, ensuring U.S. funds are sufficient to complete the engagement with the foreign partner(s). When CWP funds are used to help fund a cooperative project, that project leverages technical and financial contributions of the foreign partner(s) and speeds the development and delivery of technical solutions to the warfighter. For every \$1 CWP has invested in cooperative projects, the program has leveraged \$3 in foreign partner resources – from 76 foreign partners – and \$2 in other U.S. Government resources, providing an overall 5:1 return on investment. CWP funding enables DoD project teams to move a technology into the next stage of development or to complete and transition a technology to operational forces. These projects may also form the basis for future cooperation with international partners.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	8.528	11.316	11.050	-	11.050
Current President's Budget	8.379	11.316	10.129	-	10.129
Total Adjustments	-0.149	0.000	-0.921	-	-0.921
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.129	-			
• FFRDC	-0.019	-	-	-	-
• Other Program Adjustments	-0.001	-	-0.319	-	-0.319
• Defense Wide Review Adjustment	-	-	-0.602	-	-0.602

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>	

Change Summary Explanation

The FY 2021 funding request was reduced by \$0.602 million as a result of the Defense Wide Review, which focused on the Secretary's guidance to streamline operations, increase efficiency, and promote greater affordability within the OSD and Defense Agencies and Field Activities in order to ensure the Department's optimum alignment to the National Defense Strategy and DoD strategic guidance, with particular focus on building a more lethal, resilient, agile, and ready force while strengthening alliances, prioritizing cyber and space capabilities, and focusing on innovation to maintain the technological advantage."

An additional \$0.319 million dollars was re-aligned to support planned program changes within the Office of the Under Secretary of Defense Acquisition and Sustainment OUSD(A&S).

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense										Date: February 2020		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>				Project (Number/Name) 923 / <i>Coalition Warfare</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
923: <i>Coalition Warfare</i>	72.750	8.379	11.316	10.129	-	10.129	9.491	9.650	9.688	9.892	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Coalition Warfare Program (CWP) supports DoD organizations that: 1) work with foreign partners to collaboratively address strategic technology gaps for current and future missions; 2) develop interoperability solutions for coalition operations; and 3) develop and strengthen defense relationships. CWP comprehensively addresses all three National Defense Strategy lines of effort: to develop a more lethal joint force; strengthen alliances and attract new partners; and implement business practices for greater performance and affordability. Coalition warfare and multinational operations are 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. Coalitions and relationships with international partners are high priorities for the nation and the Department of Defense.

CWP supplements a U.S. Government proponent’s funding for cooperative efforts, ensuring U.S. funds are sufficient to complete the engagement with the foreign partner(s). When CWP funds are used to help fund a cooperative project, that project leverages technical and financial contributions of the foreign partner(s) and speeds the development and delivery of technical solutions to the warfighter. For every \$1 CWP has invested in cooperative projects, the program has leveraged \$3 in foreign partner resources – from 76 foreign partners – and \$2 in other U.S. Government resources, providing an overall 5:1 return on investment. CWP funding enables DoD project teams to move a technology into the next stage of development or to complete and transition a technology to operational forces. These projects may also form the basis for future cooperation with international partners.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2019	FY 2020	FY 2021
Title: Coalition Warfare Program (Continuing Projects)	8.379	11.316	10.129
Description: CWP provides funding on a competitive basis to DoD organizations to conduct cooperative research, development, test, and evaluation projects with foreign partners. The goals of the CWP program are to: collaboratively address strategic technology gaps for current and future missions, develop interoperability solutions for coalition operations, and strengthen current defense partnerships and developing new relationships. CWP selects projects for funding through an annual competitive selection process in accordance with Department of Defense and Combatant Command needs.			
In addition to funding newly selected projects, the program also provides funding to projects that began in earlier selection cycles (for a total of up to three years of funding for each project). Currently, the funded portfolio includes projects with 15 different foreign partners.			
Including prior year project selections, for FY 2020, the following projects will encompass CWP funding in FY 2020 and FY 2021:			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>	Project (Number/Name) 923 / <i>Coalition Warfare</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<ul style="list-style-type: none"> - Air-Breathing, Long Range Munition Demonstration (US Navy) - Compact, Agile and Lightweight Refractive Infrared Non-Mechanical Beam Steering (US Navy) - Autonomous & Robotic Remote Refueling Point for Tactical Rotary Wing Aircraft (US Army) - Collaborative and Heterogeneous Counter small Unmanned Aerial Systems (US Army) - Common Space Hazard and Threat Awareness (US Air Force) - Micro Aerial Chemical Detection System (US Army) - Mid-Latitude Plasma Density Irregularities (US Air Force) - Development & Optimization of Nano-Grained Boron Carbide Ceramic Armor (US Army) - Severe Acute Respiratory Infection Threat Characterization in Jordan: Toward a MERS Vaccine (US Army) - Synthetic Aperture Radar Automatic Target Recognition for Space-based Sensors (US Navy) - Virtual Interoperability Prototyping Research Environment (OSD) - Wideband AR Surfaces for Warfighter Systems (US Navy) - Interoperability and Collaboration Initiatives: 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. <p>FY 2020 Plans: Completion of efforts that will reduce size, weight, and power of non-GPS positioning, navigation, and timing processors for soldier-borne equipment; develop autonomous vertical take-off and landing unmanned aerial systems deployment and charging from mobile ground and surface vessel units; develop solid and liquid-fueled ramjet engines, and develop a coalition interoperable electronic warfare battle management system for common operating picture.</p> <p>FY 2021 Plans: Completion of efforts that will increase the range and lethality of gun-launched munitions using solid fuel ramjets; optimize size, weight, and power for non-mechanical beam steering; develop autonomous operational energy solutions for helicopters; develop chemical agent detection payloads for micro-unmanned aircraft; develop artificial intelligence agents and custom munitions for defeating small unmanned aerial systems; and automatic target recognition for sensing un-flagged sea vessels.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: The FY 2021 funding request was reduced by \$0.602 million as a result of the Defense Wide Review, which focused on the Secretary's guidance to streamline operations, increase efficiency, and promote greater affordability within the OSD and Defense Agencies and Field Activities in order to ensure the Department's optimum alignment to the National Defense Strategy and DoD</p>			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
--	----------------------------

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>	Project (Number/Name) 923 / <i>Coalition Warfare</i>
--	--	--

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
strategic guidance, with particular focus on building a more lethal, resilient, agile, and ready force while strengthening alliances, prioritizing cyber and space capabilities, and focusing on innovation to maintain the technological advantage."			
An additional funding was re-aligned to support planned program changes within the Office of the Under Secretary of Defense Acquisition and Sustainment OUSD(A&S).			
Accomplishments/Planned Programs Subtotals	8.379	11.316	10.129

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

Remarks

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 up to three 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 have equitable contributions from international partners, strong potential for transition, Combatant Command endorsement, and contribute to allied interoperability and/or meet a user need.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Office of the Secretary Of Defense **Date:** February 2020

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>	Project (Number/Name) 923 / <i>Coalition Warfare</i>
--	--	--

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Coalition Warfare Program Project Product Development Costs	Various	Various : Various	51.843	6.849		9.536		8.382		-		8.382	-	-	-
Subtotal			51.843	6.849		9.536		8.382		-		8.382	-	-	N/A

Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Coalition Warfare Program Project Test and Evaluation Costs	Various	Various : Various	12.170	0.715		0.950		0.902		-		0.902	-	-	-
Subtotal			12.170	0.715		0.950		0.902		-		0.902	-	-	N/A

Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Coalition Warfare Program Project Management Services Costs	Option/ FFP	Analygence, INC. : Fulton, MD	8.737	0.815		0.830		0.845		-		0.845	-	-	-
Subtotal			8.737	0.815		0.830		0.845		-		0.845	-	-	N/A

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		72.750	8.379	11.316	10.129	-	-	-	N/A

Remarks

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Office of the Secretary Of Defense		Date: February 2020
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603923D8Z / <i>Coalition Warfare Program (CWP)</i>	Project (Number/Name) 923 / <i>Coalition Warfare</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY 2019 CWP Project Execution	1	2019	4	2020
FY 2020 CWP Project Selection	2	2019	2	2019
FY 2020 CWP Project Execution	1	2020	4	2021
FY 2021 CWP Project Selection	2	2020	2	2020
FY 2021 CWP Project Execution	1	2021	4	2022
FY 2022 CWP Project Selection	2	2021	2	2021
FY 2022 CWP Project Execution	1	2022	4	2023
FY 2023 CWP Project Selection	2	2022	2	2022
FY 2023 CWP Project Execution	1	2023	4	2024
FY 2024 CWP Project Selection	2	2023	2	2023
FY 2024 CWP Project Execution	1	2024	4	2025
FY 2025 CWP Project Selection	2	2024	2	2024
FY 2025 CWP Project Execution	1	2025	4	2025