Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Operational Test and Evaluation, Defense

R-1 Program Element (Number/Name)

0460: Operational Test and Evaluation, Defense I BA 6: RDT&E Management | PE 0605814OTE I Operational Test Activities and Analyses

Date: May 2017

Support

Appropriation/Budget Activity

COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
Total Program Element	70.262	63.763	52.631	67.897	-	67.897	58.941	47.907	48.618	49.531	Continuing	Continuing
0605814OTE: <i>OTA&A</i>	70.262	63.763	52.631	67.897	-	67.897	58.941	47.907	48.618	49.531	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and Center for Countermeasures (CCM).

Joint Test and Evaluation projects are test and evaluation activities conducted in a joint military environment that develop process improvements. These multi-Service projects, chartered by the Office of the Secretary of Defense and coordinated with the Joint Staff, appropriate combatant commanders, and the Services, provide nonmateriel solutions that improve: joint interoperability of Service systems, technical and operational concepts, joint operational issues, development and validation of joint test methodologies, and test data for validating models, simulations, and test beds. The JT&E projects address relevant joint war fighting issues in a joint test and evaluation environment by developing and providing new tactics, techniques, and procedures to improve joint capabilities and methodologies.

Threat Systems, based on a memorandum of agreement between the Director, Operational Test and Evaluation (DOT&E) and the Defense Intelligence Agency. provides DOT&E support in the areas of threat resource analysis, intelligence support and threat systems investments. Threat Systems provides threat resource analyses on the availability, capabilities and limitations of threat representations (threat simulators, targets, models, U.S. surrogates and foreign materiel) and analysis of test resources used for operational testing to support DOT&E's assessment of the adequacy of testing for those programs designated for oversight by DOT&E and the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics. Threat Systems provides DOT&E assessment officers and other DOT&E activities with program specific threat intelligence support. Threat Systems also funds management, oversight, and development of common-use threat specifications for threat simulators, threat representative targets, and digital threat models used for test and evaluation.

The Center, a Joint Service Countermeasure (CM) T&E Activity, directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (CCM) T&E activities of U.S. and foreign weapon systems, subsystems, sensors, and related components. The Center accomplishes this work in support of DOT&E, Deputy Assistant Secretary of Defense (DASD) for Developmental Test and Evaluation (DT&E), weapon system developers, and the Services. The Center's testing and analyses directly supports operational effectiveness and suitability evaluations of CM/CCM systems, such as missile warning and aircraft survivability equipment (ASE), used on rotary-wing and fixed-wing aircraft. The Center develops unique CM/CCM test equipment to support testing in operationally realistic environments. The Center determines effectiveness of precision guided weapon (PGW) systems and subsystems when operating in an environment degraded by CMs. Analysis and recommendations on CM/CCM effectiveness are provided to Service Program Offices, DOT&E, DASD (DT&E), and the Services. The Center also supports Service member exercises, training, and pre-deployment activities with expertise on CM/CCM technology and capabilities.

This Program Element includes funds to obtain Federally Funded Research and Development support and travel funds.

Appropriation/Budget Activity 460: Operational Test and Evaluation, Defense I BA 6: RDT&	E Management	_	ement (Number/Name) - I Operational Test Activ		
Support					
B. Program Change Summary (\$ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	63.763	52.631	58.002	-	58.002
Current President's Budget	63.763	52.631	67.897	-	67.897
Total Adjustments	0.000	0.000	9.895	-	9.895
 Congressional General Reductions 	-	-			
 Congressional Directed Reductions 	-	-			
 Congressional Rescissions 	-	-			
 Congressional Adds 	-	-			
 Congressional Directed Transfers 	-	-			
Reprogrammings	-	-			
SBIR/STTR Transfer	-	_			
 Program adjustment 	-	-	-0.105	-	-0.105
 Program increases for Fifth Generation Aerial Target (5GAT) 	-	-	10.000	-	10.000

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Operational Test and Evaluation, Defense

Project: 0605814OTE: OTA&A

Congressional Add: Joint Test and Evaluation

Congressional Add: Threat Resource Analysis

ns)	FY 2016	FY 2017
	10.000	-
	8.000	-
Congressional Add Subtotals for Project: 0605814OTE	18.000	-
Congressional Add Totals for all Projects	18.000	-

Date: May 2017

Change Summary Explanation

\$10.000M 5GAT enhancement provides a second prototype to accelerate design and delivery of test ready 5th generation targets with the requisite threat characteristics for use in operational and developmental testing, as well as Weapons Systems Evaluation Programs (WSEP) and joint experimentation. The effort will provide validated cost data for alternative design and manufacturing approaches for future weapon system planning and development. This provides a near term solution for realistic testing of the F-35, F-22 3.2B, F-18, AIM-120, and other classified programs.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Operational Test and Evaluation, Defense								Date: May 2017				
Appropriation/Budget Activity 0460 / 6						140TE <i>I Op</i>	t (Number/ erational Te s	,	Project (N 06058140		,	
COST (\$ in Millions)	Prior Years	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
0605814OTE: <i>OTA&A</i>	70.262	63.763	52.631	67.897	-	67.897	58.941	47.907	48.618	49.531	Continuing	Continuing
Quantity of RDT&E Articles	-	_	-	-	-	_	-	-	-	-		

A. Mission Description and Budget Item Justification

The Operational Test Activities and Analyses (OTA&A) programs are continuing efforts that provide management and oversight of test and evaluation functions and expertise to the Department of Defense (DoD). The OTA&A programs consist of three activities: Joint Test and Evaluation (JT&E); Threat Systems (TS); and, the Center for Countermeasures (CCM).

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2016	FY 2017	FY 2018
Title: Operational Test Activities and Analyses	45.763	52.631	67.897
FY 2016 Accomplishments: Joint Test and Evaluation (JT&E)			
In FY 2016 four JT&E projects closed and four projects continued. One of the projects that closed was the Joint Base Architecture for Secure Industrial Control Systems Joint Test that tested joint industrial control systems network tactics, techniques, and procedures to better identify, mitigate, and recover from advanced, persistent cyber-attacks. Another project that closed was the Joint Tactical Air Picture Joint Test that developed tactics, techniques, and procedures to provide an improved tactical air picture that decreases the risk of hostile attacks and fratricide as well as increases the effective use of integrated air and missile defense systems.			
Three new feasibility studies were conducted in FY 2016, two of which were selected to conduct joint tests.			
Threat Systems			
Threat Systems continued test planning working group participation and performed technical analyses to identify threat shortfalls; conducted special studies and provided current intelligence support tailored to specific U.S. weapon systems acquisitions; continued managing intelligence "deep dives" to produce intelligence in sufficient detail to develop new threat test assets; operated and maintained the modeling and simulation configuration control board for threat models and simulation used in test facilities; and continued the development and implementation of a tri-Service and Allied threat M&S roadmap to ensure infrared countermeasure systems have sufficient threat test assets. Moreover, Threat Systems represented DOT&E concerns at the Threat Steering Group (TSG) through the transition from the System Threat Assessment Reports (STARS) to the new Validated Online Lifecycle Threat (VOLT) report process. Represented DOT&E interests on Acquisition/Intelligence/ Requirement Task			

Exhibit R-2A, RDT&E Project Justification: FY 2018 Operation	onal Test and Evaluation, Defense		Date: N	1ay 2017		
Appropriation/Budget Activity 0460 / 6	R-1 Program Element (Number/Name) PE 0605814OTE / Operational Test Activities and Analyses Project (Number/Name) 0605814OTE / OTA&A					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018	
Force (AIRTF) and Executive Steering Group (AIRESG) and pr Analysis & Reporting System (IMARS). Threat Systems propose Test Resource Management Center that support DOT&E-identify the various intelligence agencies for possible development of me the growing and evolving DOT&E Cyber Threat requirements a effecting the baseline required for OT. Threat Systems also co- models.	sed, managed, and oversaw threat test assets funded by the ified threat shortfalls, identified candidate threat systems from nodels for use in test and evaluation. Initiated actions to embind analyzing the convergence of Cyber and Electronic Warfa	n race nre				
These activities helped DOT&E carry out its Title 10 responsibility realistic and suitable, and promotes common solutions to Service		is				
The Center						
The Center completed 32 T&E activities and analyzed and reported on rotary wing survivability, CM/CCM employment, warning and supported received an independent assessment of our data/find was distributed across all the Services.	d targeting systems, and PGWs. Several programs the Cente	r				
Approximately 40% of the Center's efforts were spent on aircrafthese efforts in support of Joint Urgent Operational Need States About 22% of the Center's efforts were spent on PGW, foreign Approximately 8% of the Center's efforts were dedicated to CM	ment (JUONS) and Urgent Universal Needs Statement (UUN systems, and other types of field testing not related to ASE.	S).				
Twenty-six percent of the Center's efforts were spent on internal methodologies for new types of T&E activities. These internal p and Multi-Spectral Sea and Land Target Simulator (MSALTS) u (RLS), and upgrades to existing equipment. The Center is expanditude with an internally funded threat radar stimulation capability. The programs and ASE urgent operational needs.	programs include the, Joint Standard Instrumentation Suite (Jupgrades, a new test van to support the Remote Launcher sy anding its presence/expertise in the electronic warfare (EW) r	stem ealm				
About 4% of the Center's efforts consisted of providing subject test activities. The Center provided expertise to many organizat Expendable Countermeasures (JECM) Integrated Product Teal Working Group (MSS IRCM WG), Joint Aircraft Survivability Product Teal Countermeasures (JECM)	tions and was actively involved in the following panels: Joint m, Joint Infrared Countermeasures Multi Sensing Symposia	eduled				

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Operationa	al Test and Evaluation, Defense	Date:	May 2017	
Appropriation/Budget Activity 0460 / 6	Project (Number 0605814OTE / 07	ect (Number/Name) 814OTE / OTA&A		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
Foreign Material Program T&E Subcommittee, Joint Countermeas Hostile Fire Indicator (HFI) subgroup lead.	sures T&E Working Group (JCMT&E WG), and JCMT&E \	NG		
FY 2017 Plans: Joint Test and Evaluation (JT&E)				
In FY 2017 JT&E plans on closing two projects that were started i Supporting Survivability & Endurability Joint Test, expected to clos protective posturing and mobile support that will mitigate the effect The other project to close in FY 2017 is the Joint Advanced Sense evaluate tactics, techniques, and procedures to more efficiently an integration of rapidly developed capabilities to support combat operations.	se in February 2017, will develop and test procedures for cts of an electromagnetic-pulse on mission critical function or to Shooter Joint Test, which is looking to develop, test a nd effectively gain and maintain battle space awareness the	and		
Two projects that started in FY 2016 will continue through FY 201	7.			
Four new feasibility studies are expected to be conducted in FY 2	2017, two of which will be selected to conduct joint tests.			
Threat Systems				
In FY 2017, Threat Systems will continue test planning working gr threat shortfalls; conduct special studies and provide current intell acquisitions based on the availability of funding. Threat Systems v	ligence support tailored to specific U.S. weapon systems	fy		
 Provide intelligence support to DOT&E staff to address specific of Oversight list and provide briefings and special intelligence reports. Provide DOT&E representative support at the Threat Steering Greports (STARS) to the new Validated Online Lifecycle Threat (V-Continue to represent DOT&E interests on Acquisition/Intelligence Group (AIRESG) and provide access to the Intelligence Mission D-Support the US warfighter by providing threat intelligence to ensire realistic threat representations. Sustain and manage threat M&S to support test and evaluation in developed threat models, performing threat model anomaly resolutions. 	is when necessary. Group (TSG) in the transitioning of the System Threat Asse (OLT) report process. ce/ Requirement Task Force (AIRTF) and Executive Steer Data Management Analysis & Reporting System (IMARS). Sure operational and developmental testing occurs against by overseeing and coordinating intelligence community	essment		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Operation	al Test and Evaluation, Defense	Date: N	May 2017	
Appropriation/Budget Activity 0460 / 6		roject (Number/1 605814OTE / <i>OT</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
 Review validation reports to independently ensure that correct the assessment the threat representation's capabilities to replicate and assessment the threat representation's capabilities to replicate and assessment the threat offensive cyberspace threat representative threat offensive and defensive cyber open environments that can interface with cyber test networks. Manage Integrated Technical Evaluation and Analysis of Multiple T&E Oversight List by conducting intelligence "deep dives" to processets. Initiate new ITEAMS efforts leading to the development of new to Represent DOT&E at foreign material exchanges, inter-agency awareness of T&E needs for foreign material, coordinate service of requirements for T&E. Represent DOT&E at the Intelligence Mission Data Oversight Boaffecting the intelligence data supporting weapons systems acquired the intelligence data supporting weapons systems acquired content of the coordinate system investments. 	real world threat system. resentation and prediction, cyber-economic threats to DoD rations capabilities, and scalable cyberspace threat test e Sources (ITEAMS) efforts supporting programs on the OSD duce intelligence in sufficient detail to develop new threat test hreat systems for T&E. coordinating groups, and non-proliferation groups to raise requirements, and de-conflict and prioritize foreign material pard responsible for development, production and sharing issusition. It and oversight of legacy and new Test Resource Management sibilities to assess test adequacy and determine whether testing	es t		
is realistic and suitable, and promotes common solutions to Service The Center	ce threat representation needs.			
The Center has received 47 requests for support in FY17, which expenses based on priority and schedule. The Center will test, and rotary wing survivability, CM/CCM employment, warning and target an independent assessment of our data/findings and test support support of the DOT&E enterprise, with a clear focus on Title 10 we The Center will continue to conduct ongoing investigations toward testing. In addition to these test activities, the Center will continue as well as CM/CCM-focused tactics, techniques and procedures (Services, as well as intelligence agencies and research and developments).	alyze, and report on more than 30 systems, with emphasis on eting systems, and PGWs. Each program supported will receifor CM/CCM evaluations. The Center will continue to emphase eapons systems, aircraft survivability and hostile fire initiatives as determining and filling the gaps in EW and multimode systems to provide CM expertise in pre-deployment events and training TTP) development. Our support will be distributed across all to	ize :. m g,		
The Center will complete the initial development of JSIS and the will be used in support of testing for both Title 10 programs and A				

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			Project (Number/Name) 0605814OTE / OTA&A				
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2016	FY 2017	FY 2018		
development of a new test van to support more remote threat live Simulator Working Group (TSWG)-sponsored HSIG model.	fire testing. The Center will continue working with the Thre	eat					
The Center will provide expertise to many organizations and will of Integrated Product Team, Joint Infrared Countermeasures Multi S Foreign Material Exploitation Working Group, Foreign Material Prosubgroup lead.	Sensing Symposia Working Group (MSS IRCM WG), JASP),					
5th Generation Aerial Target (5GAT)							
In FY17, the 5th Generation Aerial Target program will complete t program will begin tooling and parts fabrication using carbon combegin the electronic attack equipment integration.							
FY 2018 Plans: Joint Test and Evaluation (JT&E)							
In FY2018 JT&E plans on closing two projects that were started in anticipated to close in May 2018, is developing and testing proced and Close Air Support aircrew can realize the advantage of digita increased confidence prior to weapons release, and improved kill is the Joint Cyber Insider Threat Joint Test, which is developing a insider threats before they have an adverse impact on military open.	dures so Joint Terminal Attack Controllers, Joint Fires Obs I communications, including shared situational awareness, chain timeliness. The other project expected to close in Fand testing procedures to proactively detect and respond to	ervers, Y 2018					
Two projects that started in FY 2017 will continue through FY 201	8.						
Four new feasibility studies are expected be conducted in FY 201	8, two of which will be selected to conduct joint tests.						
Threat Systems							
In FY 2018, Threat Systems will continue test planning working grathreat shortfalls; conduct special studies and provide current intell acquisitions based on the availability of funding. Threat Systems variables are suppressed in the second statement of the second state	ligence support tailored to specific U.S. weapon systems	Ty					

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Operational	Test and Evaluation, Defense	Date: N	May 2017	
Appropriation/Budget Activity 0460 / 6		oject (Number/ 058140TE / <i>07</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018
 Continue to provide intelligence support to DOT&E staff to address the OSD T&E Oversight list and provide briefings and special intelligence continue providing DOT&E representative support at the Threat SAssessment Reports (STARS) to the new Validated Online Lifecycle Continue to represent DOT&E interests on Acquisition/Intelligence Group (AIRESG) and provide access to the Intelligence Mission Data Continue identifying initiatives to improve cyberspace threat represystems, and scalable cyberspace threat test environments that cata Continue identifying initiatives to conduct offensive cyber operation significantly impacting critical operational capabilities. Continue initiatives to improve satellite and space threat represents Support the US warfighter by providing threat intelligence to ensure alistic threat representations. Sustain and manage threat M&S to support test and evaluation by developed threat models, performing threat model anomaly resolut models into T&E facilities and distributing performance and signature. Manage Integrated Technical Evaluation and Analysis of Multiple Oversight T&E List by conducting intelligence "deep dives" to product a series. Represent DOT&E at foreign material exchanges, inter-agency converses of T&E needs for foreign material, coordinate service representation for T&E. Review validation reports to independently ensure that correct threats essessment the threat representation's capabilities to replicate a represent DOT&E at the Intelligence Mission Data Oversight Boa affecting the intelligence data supporting weapons systems acquisitioned threat system investments. Continue ITEAMS efforts leading to the development of new threats realistic and suitable, and promotes common solutions to Service The Center 	igence reports when necessary. Steering Group (TSG) in the transitioning of the System Threat le Threat (VOLT) Report process. It is is a Keyler Requirement Task Force (AIRTF) and Executive Steering at Management Analysis & Reporting System (IMARS). It is sentation and prediction, cyber-economic threats to DoD in interface with cyber test networks. It is income (OCO) and defensive cyber operations (DCO) without attations. It is operational and developmental testing occurs against by overseeing and coordinating intelligence community in resolving differences from live fire testing, integrating threat in models to T&E users. Sources (ITEAMS) efforts supporting programs on the OSD succe intelligence in sufficient detail to develop new threat test appropriating groups, and non-proliferation groups to raise equirements, and de-conflict and prioritize foreign material attails and critical parameters are presented in the report to eat world threat system. It is a confident of legacy and new Test Resource Management at systems for T&E. It is bilities to assess test adequacy and determine whether testing threat systems for T&E.	at es		

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Exhibit R-2A, RDT&E Project Justification: FY 2018 Operational Test and Ev	aluation, Defense			Date: N	lay 2017		
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B. Accomplishments/Planned Programs (\$ in Millions)				FY 2016	FY 2017	FY 2018	
The Center will test, analyze, and report on more than 30 systems, with special employment, warning and targeting systems, and PGWs. Each program support of our data/findings and test support for CM/ CCM evaluations. The Center will denterprise, with a clear focus on Title 10 weapons systems, aircraft survivability will continue to provide CM expertise in pre-deployment events and training, as support will be distributed across all the Services, as well as intelligence agencing. The Center will continue Improvement and Modernization (I&M) efforts to improve work with the HSIG model. The Center plans to continue upgrades to the JSIS of the Center will provide expertise to many organizations and will continue to be Integrated Product Team, Joint Infrared Countermeasures Multi Sensing Sympostroid Material Exploitation Working Group, Foreign Material Program T&E Susubgroup lead.	ted will receive an independent as continue to emphasize support of t and hostile fire initiatives. Furtherr well as CM/CCM-focused TTP detes and research and development ve our T&E capabilities. The Center system. actively involved in the following posia Working Group (MSS IRCM W	sessment he DOT&E more, the C velopment. activities. er will conti anels: JEC /G), JASP,	Center Our nue to				
	Accomplishments/Planned Prog	grams Sub	totals	45.763	52.631	67.89	
		FY 2016	FY 20)17			
Congressional Add: Joint Test and Evaluation		10.000		-			
FY 2016 Accomplishments: Funding provided nine additional Quick Reaction	Tests.						
Congressional Add: Threat Resource Analysis		8.000		-			
FY 2016 Accomplishments: Funds were used to improve threat realism for tes							
intelligence support to improve emerging cyberspace threat representation, predvalidate electronic warfare/cyber convergence efforts; and standardize approach Funds were also used to extend validation support, improve automated tools that and improve the fidelity and availability of models and simulations needed for Telegraphy.	h for cyber threat folder creation. at provide intelligence support,						

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N/A Remarks

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D. Acquisition Strategy Not Applicable		
E. Performance Metrics		
reports that are developed and delivered to program ma	ts, such as test planning documents, tactics, techniques, procedure anagers and customers on time. The on-time completion rate was and time standards relative to the total number of such products that f	computed on the basis of the number of

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