Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Defense Threat Reduction Agency	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
Total Program Element	-	0.000	0.000	12.993	242.668	255.661	12.743	13.207	13.656	13.942	Continuing	Continuing
JS: *Assist Situational Understanding*	-	0.000	0.000	0.000	13.141	13.141	0.000	0.000	0.000	0.000	Continuing	Continuing
JR: *Enable DoD Responsiveness*	-	0.000	0.000	0.000	7.725	7.725	0.000	0.000	0.000	0.000	Continuing	Continuing
JC: *Enable Rapid Capability Delivery*	-	0.000	0.000	12.993	221.802	234.795	12.743	13.207	13.656	13.942	Continuing	Continuing

Note

PE 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing activities were previously authorized and appropriated under the Joint Improvised-Threat Defeat Fund (JIDF).

A. Mission Description and Budget Item Justification

The Counter Improvised-Explosive Device (C-IED) Counter Improvised-Threat (Counter-IT) Technology Demonstration, Prototype Development, and Testing program element supports the development, demonstration, and testing of defeat technologies for advanced wireless signals, compatible electronic counter-measures for IED and IED-facilitation defeat/neutralization, miniaturized and integrated sensors, hand-held detectors, and cutting edge Information Technology enabler capabilities.

This includes providing and enabling open, fully sharable information, and analytical software tools; situational understanding of the threat's tactics, techniques, and procedures (what is urgent and emerging); C-IED and related C-IT material solutions prototyping, experimentation, development, and delivery; and training integration support to ensure deploying and deployed forces' readiness is sustained as new equipment and methods are delivered.

Assist Situational Understanding (JS) of threat-network activities. The IED and other disruptive improvised threats represent a continuing and irregular threat for deployed U.S. and coalition forces. In order to counter the threat, a deep understanding of IED and improvised threat use and facilitation is required. This DTRA capability is enabled by an advanced information technology infrastructure, analytical software tools, deployed and embedded DTRA operations integrators and intelligence analysts, and current and integrated operational data. Supported by CONUS-based reach-back linked to the intelligence community, the inter-agency, and coalition partners, analytics, when combined with production from the Defense Intelligence Enterprise, enables more complete threat awareness and understanding by deploying and deployed US forces to support their planning and targeting. This core function also informs research and development and threat-based rapid prototyping investment decisions, guides international and interagency coordination to enable counter threat-network support, and supplements U.S. Joint Force pre-deployment training to ensure the most recent threat is understood and new counter improvised threat systems can be properly utilized.

Enable DoD Responses to Improvised Weapons (JR). DTRA builds counter-IED and improvised threat solutions in full collaboration with its partners. Through a robust communities of action approach, DTRA coordinates with the Combatant Commanders (CCDRs), the Joint Staff, the Military Departments/Services, the interagency,

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Defense Threat Reduction Agency	Date: February 2018
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 4: *Advanced Component Development & Prototypes (ACD&P)*	**R-1 Program Element (Number/Name)** PE 0604134BR *I Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*

coalition partners, industry, and academia to develop counter IED and improvised threat solutions that further enable the maneuverability and force protection of deployed U.S. Joint Forces. This methodology leverages the authorities, access, and capabilities of the entire U.S. Government and its partners to garner support for counter IED and improvised threat development and delivery.

Enable Rapid Capability Delivery (JC). Understanding the threat drives a DTRA deliberate, structured, and proactive approach to identify and validate urgent or emergent capability gaps and requirements. DTRA's continuous embedded presence with deployed U.S. Joint Forces enables early identification and understanding of C-IED and C-IT gaps, vulnerabilities, and risks and the timely validation, resourcing, development, and delivery of C-IED and C-IT material and non-material solutions. DTRA technical integrators embedded with deployed forces further enables rapid adjustments to solutions as the threat's adaptation evolves.

B. Program Change Summary ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	12.993	242.668	255.661
Total Adjustments	0.000	0.000	12.993	242.668	255.661
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Establish RDT&E Appropriation	-	-	12.993	242.668	255.661

Change Summary Explanation

The increase from FY 2018 to FY 2019 is due to the establishment of the 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing program element in the RDT&E appropriation. This reflects the realignment of the DTRA-JIDO research and development activities in accordance with Congressional intent to terminate the Joint Improvised-Threat Defeat Fund in section 9015 of the Chairman's recommendation to the Senate Appropriations Committee for the Department of Defense Appropriations Bill, 2018 (FY 2018 Baseline: $0 million.)

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	Project (Number/Name) JS / *Assist Situational Understanding*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
JS: *Assist Situational Understanding*	-	0.000	0.000	0.000	13.141	13.141	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project enables DTRA to understand and analyze global threat information. It is an Information Technology (IT) Operations quick-reaction capability supported by the rapid collection, fusion, and dissemination of operational-intelligence, and technology in order to enable the defeat of threat networks that employ disruptive technologies.

The JIDO advanced Mission Information Technology (MIT) capability, its software Systems Integration Lab (SIL), and embedded CCMD-direct support and reachback staff, continuously create capabilities to ingest, fuse, analyze, and present mission relevant data and information that provides immediate assistance to DoD and the whole of government. This capability, called Catapult, is a fully accredited SIPR and JWICS based analytical cloud architecture. The Catapult architecture pulls from over more than 850 SIPR and more than 170 JWICS data sources and allows for simple and open data access, system stability, scalability, and advanced analytics. In addition to Catapult, the MIT created another significant capability called Voltron. Voltron provides analysts access to SIGINT data within a secure and IC-accredited software developer environment. Voltron, give analysts access to continuously new models in support of “Attack the Network” analysis and operations. Voltron provides analysts access to methodologies involving multi-INT fusion in an easy to use interface. These methods are based on years of experience supporting tactical targeting environment and built in collaboration with other teams across the Intelligence Community. There are currently more than 75 models in Voltron available to the user community.

DTRA's authorities and mission have enabled a unique “Path-to-Production” (PTP) for mission-driven IT solutions. This unique development environment includes an integrated Cyber Security Assessment and Authorization (A&A) process, an in-house collateral Authorizing Official (AO), a strong partnership between technologists and intelligence analysts working real-world problems, and a collaborative and innovative culture that launches practical software solutions rapidly.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: JS: Assist Situational Understanding	0.000	0.000	0.000	13.141	13.141
FY 2018 Plans: N/A					
FY 2019 Base Plans:					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
N/A ***FY 2019 OCO Plans:*** - Effort to consolidate Web Visualizations for DTRA IED/sUAS data. This will include the Common Intelligence Picture/Common Operational Picture and technical data and will serve as the platform for creation of C-IED/C-sUAS analytics. - Build a data science enabled module that will crawl through Catapult reporting and identify reports related to IED/sUAS events. Through machine learning techniques and application of training data, the team will train this module to identify reports that normal queries may miss. These reports will serve as the base data set for the C-IED/C-sUAS event table. - Prepare a list of vetted IED/sUAS events pulled from Catapult reporting. Events will be broken down into relevant categories with associated attributes. - Stand up a database of technical data associated with known IED/sUAS. Library will be available for direct query and incorporated into other C-IED/C-sUAS capabilities. - Integrate Virtual Management System processes and capabilities to build 3D models for various maritime vessels requested by external SOF customer. - Develop and test a software mapping tool and spatial data analytics technology web service capable of a providing user functionality to create basic geospatial analytic outputs (i.e., line of sight, route vulnerability, etc.). - Generate additional Data Science tables populated with entities extracted from Catapult using RipIt regex trees. This will provide a “truth set” for future Natural Language Processing. - Develop and Test new tools allowing for the visualizing (and effects) of underwater explosions. - Develop a new application (Thor) as a “rules-based” approach to existing Avengers/Phoenix models. Thor is planned to enhance sensitive site exploitation (SSE) data with a tool will provide comprehensive approach to SSE vetting. - Develop capability to visualize and derive trends for Air and Marine Operations Center non-commercial flight data. - Develop and test an Interactive interface which will provide access to the Avenger tool suite on selective networks. - Scope and Design the Data Science software and tool development environment as to create containerized tools which will provide a standard working image across the multiple networks. - Provide a methodology to leveraging contextual clues from reporting, provide additional information about individual person entities extracted from reports. (i.e., job title).					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Develop and Test custom webpages that will provide “pre-vetted” data against analyst problem set. Automated workflow built for specific customer needs. - Develop and test a web-based Horizon version to act as a location intelligence discovery tool. The tool will provide geospatial querying within 2D maps to users as a light weight alternative to the smart-client version. - Develop and test a web-based C2IS2 tool that will provide OP/INTEL users with the capability to capture and manage the processes, observables, and signatures associated with IED operations and use that data for training, analysis, collection planning, and exploitation. - Continued improvements to the JIDO DevOps Pipeline and maturing the approach to delivery using containers - Deploy a subset of the Attack the Network Tool Suite (ANTS) application on Non-Classified Local Area Network and an easy navigation directory. - Provide Integration and Test activities against a Battlefield Information Collection and Exploitation System (BICES) instance of Catapult. Upgrade and test all applications to work with Metrics across the ANTS Suite, upgrade the user account and authentication in relation to the F5/Certificate Authentication System, and deploy Horizon Web. - Conduct System Integration of Catapult and all ANTS applications on the new HP Moonshot hardware. - Support proper deployment procedures and provide a test environment for the newly deployed Catapult and ANTS related applications on HP Moonshot hardware. - Test all Catapult and all ANTS applications at a COOP location. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The increase from FY 2018 to FY 2019 is due to the establishment of Project JS-Assist Situational Understanding in Program Element 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing in the RDT&E appropriation. This reflects the realignment of the DTRA-JIDO research and development activities in accordance with Congressional intent to terminate the Joint Improvised-Threat Defeat Fund in section 9015 of the Chairman's recommendation to the Senate Appropriations Committee for the Department of Defense Appropriations Bill, 2018 (FY 2018 Baseline: $0 million.)					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	13.141	13.141

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

D. Acquisition Strategy

Assessment and selection of best performer to provide contractual services to develop and operationalize requirements through the new Enterprise Acquisition Strategy Initiative (EASI) at the least risk, optimal cost and proven technically. Performer base selection includes research developers across DoD and other Government agency laboratories, academia, and industry.

E. Performance Metrics

Performing contractors operate under a Cost Plus\Award Fee contract measured by a number of mutually agreed Service Level Agreements (SLAs). Measurement \Awards is done semi-annually. The contractor is required to provide Monthly status and progress against the SLAs.

System metrics are measured by usage to include network, number of users, data, scope, integrations, and access.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.622	Dec 2018	1.622	Continuing	Continuing	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.695	Dec 2018	0.695	Continuing	Continuing	-
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.391	Mar 2019	1.391	Continuing	Continuing	-
QRC IT Network (RS)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.391	Mar 2019	1.391	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		5.099		5.099	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.361	Dec 2018	0.361	Continuing	Continuing	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.155	Dec 2018	0.155	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	Project (Number/Name) JS / *Assist Situational Understanding*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.309	Mar 2019	0.309	Continuing	Continuing	-
QRC IT Network (RS)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.309	Mar 2019	0.309	Continuing	Continuing	-
Combatant Command C-IED Exercise Support Intergration Program (J7)	MIPR	Various : N/A	-	-		-		0.000		1.811		1.811	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		2.945		2.945	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.262	Dec 2018	1.262	Continuing	Continuing	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.541	Dec 2018	0.541	Continuing	Continuing	-
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.080	Mar 2019	1.080	Continuing	Continuing	-
QRC IT Network (RS)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		1.081	Mar 2019	1.081	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		3.964		3.964	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Direct Operations Support	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.361	Dec 2018	0.361	Continuing	Continuing	-
Attack the Network Suite (MIT) - Systems Integration Lab (SIL) - Mission IT Capability Development (Automation and Data Science)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.154	Dec 2018	0.154	Continuing	Continuing	-
QRC IT Network (OIR)	C/CPAF	Booz Allen Hamilton : Reston, VA	-	-		-		0.000		0.309	Mar 2019	0.309	Continuing	Continuing	-
QRC IT Network (RS)	C/CPAF	QRC IT Network (RS) : Reston, VA	-	-		-		0.000		0.309	Mar 2019	0.309	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		1.133		1.133	Continuing	Continuing	N/A

	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		0.000		0.000		13.141		13.141	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
N/A									[redacted]																			

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JS / *Assist Situational Understanding*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
N/A	1	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	Project (Number/Name) JR / *Enable DoD Responsiveness*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
JR: *Enable DoD Responsiveness*	-	0.000	0.000	0.000	7.725	7.725	0.000	0.000	0.000	0.000	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project enhances U.S. Joint Forces' responsiveness to improvised weapons. DTRA builds counter-threat solutions in full collaboration with its partners. Through a robust communities of action approach, DTRA coordinates with the Combatant Commanders (CCDRs), the Joint Staff, the Military Departments/Services, the interagency, coalition partners, industry, and academia to develop C-IED and C-IT solutions that further enable the maneuverability and force protection of deployed U.S. Joint Forces. This methodology leverages the authorities, access, and capabilities of the entire U.S. Government and its partners as counter-improvised threat solutions are developed and realized.

DTRA responds to the following improvised threats: Home-Made Explosives (HME), Vehicle-Borne IED (VBIED), Unmanned Aerial Systems (UAS) Vehicle-Attached IED (VAIED), Anti-Armor IED (AIED) Buried IED, Radio Controlled IED (RCIED), Person-Borne IED (PBIED), Booby Trapped Structures (BTS), Improvised WMD, Water-Borne IED (WBIED), Tunnels, and emerging threats that are identified by the warfighter deployed forward.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: JR: Enable DoD Responsiveness	0.000	0.000	0.000	7.725	7.725
FY 2018 Plans: N/A					
FY 2019 Base Plans: N/A					
FY 2019 OCO Plans: - Leverage capabilities and expertise primarily from Department of Defense University Affiliated Research Centers (UARCs) such as Georgia Tech Research Institute (GTRI) and Massachusetts Institute of Technology (MIT) Lincoln Labs. - Delivers technical reports in response to RFIs submitted by JIDO Program/System Integrators and JIDO Initiative Evaluation Team Members. - Conduct Joint Lab Board in support of rapid development and prototyping to counter improvised threats. - Conduct Hacking 4 Defense in support of rapid development and prototyping to counter improvised threats.					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JR / *Enable DoD Responsiveness*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Develop Broad Area Announcement (BAA) solicitation in support of capabilities to counter improvised threats. ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The increase from FY 2018 to FY 2019 is due to the establishment of Project JR-Enable DoD Responsiveness in Program Element 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing in the RDT&E appropriation. This reflects the realignment of the DTRA-JIDO research and development activities in accordance with Congressional intent to terminate the Joint Improvised-Threat Defeat Fund in section 9015 of the Chairman's recommendation to the Senate Appropriations Committee for the Department of Defense Appropriations Bill, 2018 (FY 2018 Baseline: $0 million.)					
Accomplishments/Planned Programs Subtotals	0.000	0.000	0.000	7.725	7.725

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Assessment and selection of best performer for developmental requirements to meet specific military capability needs. Performer base includes research developers across DoD and other Government agency laboratories, academia, and industry.

E. Performance Metrics

Percentage of completed Counter Improvised-Threat Technology demonstration programs transitioning to Warfighter each year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JR / *Enable DoD Responsiveness*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Technical Outreach	C/TBD	TBD : TBD	-	-		-		0.000		7.425	Mar 2019	7.425	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		7.425		7.425	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CERDEC Electro-Magnetice MS Support	TBD	TBD : TBD	-	-		-		0.000		0.300	Dec 2018	0.300	Continuing	Continuing	-
		Subtotal	-	-		-		0.000		0.300		0.300	Continuing	Continuing	N/A

	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		0.000		0.000		7.725		7.725	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JR / *Enable DoD Responsiveness*

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
N/A									[redacted]																			

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JR / *Enable DoD Responsiveness*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
N/A	1	2019	4	2019

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	Project (Number/Name) JC / *Enable Rapid Capability Delivery*	

COST ($ in Millions)	Prior Years	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total	FY 2020	FY 2021	FY 2022	FY 2023	Cost To Complete	Total Cost
JC: *Enable Rapid Capability Delivery*	-	0.000	0.000	12.993	221.802	234.795	12.743	13.207	13.656	13.942	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project harnesses an in-depth understanding of the threat leading to identification and validation of urgent or emergent counter-threat requirements and Combatant Command capability gaps. In turn, DTRA-JIDO rapidly provides Counter - Improvised Explosive Device/ Counter- small Unmanned Aerial Systems (C-IED/C-sUAS) and C-IT solutions to prevent or mitigate battlefield operational surprise. DTRA's continuous embedded presence with deployed U.S. Joint Forces and coordination with Military Service components enables full transparency of investment activities and provides for the early identification and understanding of C-IED and C-IT risks and vulnerabilities which enable the timely validation, development, and delivery of counter-threat material and non-material solutions.

DTRA delivers counter-threat materiel solutions in support of US Joint Forces supporting contingency operations, effectively addressing changes to threat Tactics, Techniques, and Procedures (TT&P) affecting deployed forces. Capability incorporates an embedded tactical presence to understand a continuously evolving threat environment and complete visibility of the current DoD counter-threat portfolio to enable rapid response to warfighter vulnerabilities and to enhance force protection and maneuverability. DTRA responds to the following improvised threats: Home-Made Explosives (HME), Vehicle-Borne IED (VBIED), Unmanned Aerial Systems (UAS) Vehicle-Attached IED (VAIED), Anti-Armor IED (AIED) Buried IED, Radio Controlled IED (RCIED), Person-Borne IED (PBIED), Booby Trapped Structures (BTS), Improvised WMD, Water-Borne IED (WBIED), Tunnels, and emerging threats that are identified by the warfighter deployed forward.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
Title: JC: Enable Rapid Capability Delivery	0.000	0.000	12.993	221.802	234.795
FY 2018 Plans: N/A					
FY 2019 Base Plans: - Conduct and participate in test and evaluation events in support of improvised threats. - Develop and test C-IED/C-sUAS systems for compatibility prior to systems deploying to operational theaters in support of the warfighter. - Maintain production platforms that support the development and fielding of capabilities that combat improvised threats and the network. - Improve deployable forensic field kits to provide near real time feedback and reduce the reach back support requirement.					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Conduct modeling and simulation in support of countering improvised threats - Continue threat device characterization, prototyping and production.					
FY 2019 OCO Plans: - Increase Positive Detection (PD) and acceptable False Alarm Rate (FAR) with multiple integrated sensors in Latest Time of Value (LTOV) in support of Standoff Detection of improvised threats - Improve size, weight, power and integration of sensors to small unmanned systems. - Improve on-board vs. off-board data processing to provide real time data in unmanned systems to support real-time improvised threat detection. - Develop Magnetometers that can detect items emplaced on vehicle and report to mobile app in support of VAIED friendly notification. - Develop the ability to reverse polarity of the vehicle upon emplacement of magnet in support of VAIED. - Improve video monitoring/physical security in support of VAIED notification. - Identify and develop technology that is portable enough to look through walls and identify hazards with fidelity in real-time for BTS. - Develop imagery that can provide fidelity to operator and complete inspection of room in support of BTS - Proof of concept for unmanned vehicle that can autonomously operate within confined spaces and provide necessary imagery to operator for BTS - Integrate sensor to detect various anomalies in unstructured environment with the ability to detect through clothes and report in real-time at safe standoff distances in support of PBIED - Identify / develop biometry and non-cooperative biometrics from standoff distance in support of behavioral prediction and tracking in uncontrolled environments in support of PBIED. - Obtain baseline threat signatures for vehicles to support sensor development for VBIED detection. - Improve bulk explosive detection through metal at standoff distance in support of VBIED. - Improve automatic slewing of sensors and non-lethal vehicle/driver stopping technologies for stopping VBIED. - Develop counter measures for RCIED's based on the evolving global network environments (4G, LTE and 5G). - Identify alternative methods to Common Timing Protocol (CTP) for current and future Electronic Counter Measure (ECM) capabilities. - Develop remote neutralization of HME and pre-cursors: through the use of chemical neutralization, dilution solutions, and dispersants while controlling the thermal degradation to target HME manufacturing without putting the warfighter in harm's way.					

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2017	FY 2018	FY 2019 Base	FY 2019 OCO	FY 2019 Total
- Improve / develop threat Improvised Explosive Device/small Unmanned Aerial Systems (IED/sUAS) detect and defeat capabilities against future technology: acoustic detection at range, machine learning of constantly changing threat signatures (acoustic, RF signal, radar cross-section, optics, Unattended Radiated Emissions (URE), etc.) - Develop anti-armor detection and defeat capabilities: Real-time reporting from sensors on mounted vehicles that can detect road-side threats in high clutter, while operating at speed, with high Positive Detection and acceptable False Alarm Rate. - Develop real-time data processing of signal in subterranean environment to improve friendly operations in a tunnel. - Improve in-tunnel ISR and communications. - Develop explosive formulations and rapid remediation techniques for improvised threats in support of improvised threats in tunnels. - Test and develop airborne detection using thermal changes in earth or condensation anomalies presented by voids for detection of tunnels. - Improve smaller laser to support pre-detonation capabilities - Improve size, weight and power for next generation of pre-detonation systems - Improve mounted detection of buried IEDs through real-time reporting from sensors on mounted vehicles that can detect buried threats at depths while conducting maneuver ops at speed with high Positive Detection and acceptable False Alarm Rate. Hardware improvements enable faster sensing and software improvements enable faster systems-of-systems reporting (higher Positive Detection and lower False Alarm Rate). ***FY 2018 to FY 2019 Increase/Decrease Statement:*** The increase from FY 2018 to FY 2019 is due to the establishment of Project JC-Enable Rapid Capability Delivery in Program Element 0604134BR / Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing in the RDT&E appropriation. This reflects the realignment of the DTRA-JIDO research and development activities in accordance with Congressional intent to terminate the Joint Improvised-Threat Defeat Fund in section 9015 of the Chairman's recommendation to the Senate Appropriations Committee for the Department of Defense Appropriations Bill, 2018 (FY 2018 Baseline: $0 million.)					
Accomplishments/Planned Programs Subtotals	0.000	0.000	12.993	221.802	234.795

C. Other Program Funding Summary ($ in Millions)

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*

C. Other Program Funding Summary ($ in Millions)

Remarks

D. Acquisition Strategy

Assessment and selection of best performer for developmental requirements to meet specific military capability needs. Performer base includes research developers across DoD and other Government agency laboratories, academia, and industry.

E. Performance Metrics

Percentage of completed Counter Improvised-Threat Technology demonstration programs transitioning to Warfighter each year.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	Project (Number/Name) JC / *Enable Rapid Capability Delivery*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Iris Trace	C/TBD	I2WD-COMMUNICATIONS-ELECTRONICS RESEARCH, DEVELOPMENT AND ENGINEERING CENTER (CERDEC) : Abderdeen, MD	-	-		-		1.236	Dec 2018	0.000		1.236	Continuing	Continuing	-
Iris Sanctum	TBD	Central Intelligence Agency : Fairfax, VA	-	-		-		1.751	Dec 2018	0.000		1.751	Continuing	Continuing	-
Tough Luck	C/TBD	Johns Hopkins University : Baltimore, MD	-	-		-		1.545	Dec 2018	0.000		1.545	Continuing	Continuing	-
Velvet Paper	C/TBD	Johns Hopkins University/Navy : Various	-	-		-		1.545	Dec 2018	0.000		1.545	Continuing	Continuing	-
Anti-Armor IED (AAIED)	C/TBD	TBD : TBD	-	-		-		0.000		4.000	Dec 2018	4.000	Continuing	Continuing	-
Booby Trapped Structures (BTS)	C/TBD	TBD : TBD	-	-		-		0.000		3.850	Dec 2018	3.850	Continuing	Continuing	-
Buried IED	C/TBD	TBD : TBD	-	-		-		0.000		19.750	Mar 2019	19.750	Continuing	Continuing	-
Home-Made Explosives (HME)	C/TBD	TBD : TBD	-	-		-		0.000		18.100	Dec 2018	18.100	Continuing	Continuing	-
Network	C/TBD	TBD : TBD	-	-		-		0.000		40.668	Dec 2018	40.668	Continuing	Continuing	-
Person-Born IED (PBIED)	C/TBD	TBD : TBD	-	-		-		0.000		5.000	Dec 2018	5.000	Continuing	Continuing	-
Radio Controlled IED (RCIED)	C/TBD	TBD : TBD	-	-		-		0.000		32.500	Mar 2019	32.500	Continuing	Continuing	-
Tunnel	C/TBD	TBD : TBD	-	-		-		0.000		7.000	Dec 2018	7.000	Continuing	Continuing	-
Unmanned Aerial Systems (UAS)	C/TBD	TBD : TBD	-	-		-		0.000		58.955	Mar 2019	58.955	Continuing	Continuing	-
Vehicle-Attached IED (VAIED)	C/TBD	TBD : TBD	-	-		-		0.000		1.000	Dec 2018	1.000	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency			Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Vehicle-Borne IED (VBIED)	C/TBD	TBD : TBD	-	-		-		0.000		19.550	Dec 2018	19.550	Continuing	Continuing	-
Water-Borne IED (WBIED)	C/TBD	TBD : TBD	-	-		-		0.000		2.000	Mar 2019	2.000	Continuing	Continuing	-
		Subtotal	-	-		-		6.077		212.373		218.450	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2017 Cost	FY 2017 Award Date	FY 2018 Cost	FY 2018 Award Date	FY 2019 Base Cost	FY 2019 Base Award Date	FY 2019 OCO Cost	FY 2019 OCO Award Date	FY 2019 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TAG Modeling and Simulation	C/TBD	Naval Air Weapons Station : China lake, CA	-	-		-		2.575	Dec 2018	-		2.575	Continuing	Continuing	-
Theater Support Test (JTB)	TBD	Naval Air Weapons Station : China Lake, CA	-	-		-		2.796	Dec 2018	-		2.796	Continuing	Continuing	-
Threat Devices Characterization Prototyping and Production	TBD	I2WD-COMMUNICATIONS-ELECTRONICS RESEARCH, DEVELOPMENT AND ENGINEERING CENTER (CERDEC) : Abderdeen, MD	-	-		-		1.545	Dec 2018	-		1.545	Continuing	Continuing	-
Rapid Experimentation and Analysis for Development Support (READS)	C/TBD	TBD : TBD	-	-		-		0.000		2.060	Mar 2019	2.060	Continuing	Continuing	-
Joint Test Board	TBD	TBD : TBD	-	-		-		0.000		5.074	Dec 2018	5.074	Continuing	Continuing	-
OC25	C/TBD	TBD : TBD	-	-		-		0.000		0.235	Dec 2018	0.235	Continuing	Continuing	-
Tech Exploitation	C/TBD	TBD : TBD	-	-		-		0.000		2.060	Mar 2019	2.060	Continuing	Continuing	-
		Subtotal	-	-		-		6.916		9.429		16.345	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2019 Defense Threat Reduction Agency			Date: February 2018
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	Prior Years	FY 2017		FY 2018		FY 2019 Base		FY 2019 OCO		FY 2019 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		0.000		12.993		221.802		234.795	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*

	FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
N/A									[redacted]																			

Exhibit R-4A, RDT&E Schedule Details: PB 2019 Defense Threat Reduction Agency		Date: February 2018
Appropriation/Budget Activity 0400 / 4	**R-1 Program Element (Number/Name)** PE 0604134BR / *Counter Improvised-Threat Technology Demonstration, Prototype Development, and Testing*	**Project (Number/Name)** JC / *Enable Rapid Capability Delivery*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
N/A	1	2019	4	2019