

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense **Date:** February 2018

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 6:</i> <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0305245D8Z / <i>Intelligence Capabilities and Innovation</i>
--	---

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	18.992	109.529	0.000	109.529	71.551	71.117	70.310	70.600	Continuing	Continuing
<i>245: Intelligence Capabilities and Innovation</i>	-	0.000	18.992	109.529	-	109.529	71.551	71.117	70.310	70.600	Continuing	Continuing

Note

The FY2019 funding request was reduced by 2.929 million to account for the availability of prior year execution balances.

A. Mission Description and Budget Item Justification

Intelligence Capabilities and Innovation (ICI) funds Project Intelligence Innovation which is the development, testing, prototyping and demonstration of innovative intelligence capabilities to integrate intelligence and counterintelligence activities across numerous domains and technical areas including signals intelligence (SIGINT), measurements and signature intelligence (MASINT), electronic warfare, cyber, geospatial intelligence (GEOINT), multi-sensor integration, biometrics, identity management, collection management, special communications, clandestine operations, and tagging, tracking and locating. Innovation is the rapid experimentation and development of existing technologies (hardware, software, licenses, databases, analytics, etc.) to create new capabilities and demonstrate their intelligence value in support of warfighter operations.

Beginning in FY 2019, ICI also funds Project Maven which fields increasing amounts of automation to Full Motion Video (FMV) ground exploitation stations for Tactical Unmanned Aerial Vehicles (TUAVs), Medium Altitude and High Altitude ISR platforms. Maven uses artificial intelligence, deep learning, and computer vision algorithms to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon). Maven algorithms increase the intelligence value of ISR, reduce the human burden of screening so analysts can multi-task increasing productivity, and seeds the generation of insight from GEOINT. Project Maven is a commercial technology initiative that inserts commercial Artificial Intelligence (AI) into existing programs of records. Most military intelligence exploitation systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. Project Maven is the pathfinder AI initiative for the DoD and is investing in critical AI architecture to support the rapid expansion of AI to other mission areas besides GEOINT. As Maven algorithms increase in capability, the algorithms will move to the edge (on the sensor platform).

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2019 Office of the Secretary Of Defense	Date: February 2018
---	----------------------------

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6: RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0305245D8Z / <i>Intelligence Capabilities and Innovation</i>
--	---

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	18.992	19.427	0.000	19.427
Current President's Budget	0.000	18.992	109.529	0.000	109.529
Total Adjustments	0.000	0.000	90.102	0.000	90.102
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Departmental Adjustment	-	-	90.102	-	90.102

Change Summary Explanation

Increase of \$93.161 million is due to Project Maven moving from USDI General Support program element to ICI program element. Decrease of \$3.059 million is a result of Project Intelligence Innovation re-phasing funding to better align its contractual funding to the period of performance.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense										Date: February 2018		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0305245D8Z / <i>Intelligence Capabilities and Innovation</i>				Project (Number/Name) 245 / <i>Intelligence Capabilities and Innovation</i>			
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
245: <i>Intelligence Capabilities and Innovation</i>	-	0.000	18.992	109.529	-	109.529	71.551	71.117	70.310	70.600	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project Intelligence Innovation funds the development, testing, prototyping and demonstration of innovative intelligence capabilities to integrate intelligence and counterintelligence activities across numerous domains and technical areas including SIGINT, MASINT, electronic warfare, cyber, GEOINT, multi-sensor integration, biometrics, identity management, collection management, special communications, clandestine operations, and tagging, tracking and locating.

Project Maven fields increasing amounts of automation to FMV ground exploitation stations for UAVs, Medium Altitude and High Altitude ISR platforms. Maven uses artificial intelligence, deep learning, and computer vision algorithms to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon). Maven algorithms increase the intelligence value of ISR, reduce the human burden of screening so analysts can multi-task increasing productivity, and seeds the generation of insight from GEOINT. Project Maven is a commercial technology initiative that inserts commercial AI into existing programs of records. Most military intelligence exploitation systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into their software baseline. Project Maven is the pathfinder AI initiative for the DoD and is investing in critical AI architecture to support the rapid expansion of AI to other mission areas besides GEOINT. As Maven algorithms increase in capability, the algorithms will move to the edge (on the sensor platform).

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

	FY 2017	FY 2018	FY 2019
Title: Intelligence Capabilities and Innovation	0.000	18.992	109.529
FY 2018 Plans: Develops Intelligence Capabilities and Innovation capabilities and capacity to support Combatant Commands, Combat Support Agencies, and Services to execute cyber and asymmetric operations activities. This includes critical and emerging intelligence capabilities and innovation as well as emerging technology solutions in support of Defense Intelligence Enterprise cyber and technical collection requirements and gaps.			
FY 2019 Plans: Project Intelligence Capabilities and Innovation (ICI), will continue to develop Intelligence Capabilities and Innovation capabilities and capacity to support Combatant Commands, Combat Support Agencies, and Services to execute cyber and asymmetric operations activities to include critical and emerging intelligence capabilities and innovation as well as emerging technology solutions in support of Defense Intelligence Enterprise cyber and technical collection requirements and gaps.			
Project Maven will use Rapid prototype sprints to field increasing amounts of automation to FMV ground exploitation stations for UAVs, Medium Altitude and High Altitude ISR platforms. Maven will use artificial intelligence, deep learning, and computer			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2019 Office of the Secretary Of Defense		Date: February 2018		
Appropriation/Budget Activity 0400 / 6	R-1 Program Element (Number/Name) PE 0305245D8Z / <i>Intelligence Capabilities and Innovation</i>	Project (Number/Name) 245 / <i>Intelligence Capabilities and Innovation</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2017	FY 2018	FY 2019
<p>vision algorithms to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon). This initiative brings artificial intelligence, deep learning, and computer vision into the process of object detection, identification, and tracking at computer process speed versus human speed. Incorporating computer vision and algorithms will reduce the human burden and provide efficient and effective exploration of data. Project Maven will develop algorithms focused on tactical UAV FMV automatic target recognition (ATR) and an operational PED environment for platforms and ground stations. AW will build capabilities, integrate AI and machine learning (ML) to provide actionable intelligence and enhance military decision-making by providing algorithms for object detection, classification and user alerts.</p> <p>FY 2018 to FY 2019 Increase/Decrease Statement: Decrease in Project Intelligence Innovation is due to Departmental rephrasing of funding to better align its contractual funding to the period of performance.</p> <p>Beginning in FY 2019, funds for Project Maven transfer from the USDI General Support program element to the Intelligence Capabilities and Innovation program element. AW-Project Maven enables automation of PED.</p>				
Accomplishments/Planned Programs Subtotals		0.000	18.992	109.529
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
Intelligence Capabilities and Innovation acquisition, management, and contracting strategy follows guidance outlined in the DoD 5000 series directives, Federal Acquisition Regulation (FAR) and FAR supplement policies and procedures. Management uses project management tools and meetings to ensure delivery of stated capabilities and performance criteria.				
E. Performance Metrics				
Performance Metrics are measured through internal management controls and external assessments. Performance metrics include, but are not limited to, time, money, realism, fidelity, and transition as defined below:				
<ul style="list-style-type: none"> • Time – Enable the warfighter to speed up processes faster than current capabilities allow. • Money – Enable the warfighter to reduce duplication of effort and to prepare and execute events at a more effective and efficient cost than current capabilities allow. • Realism – Enable the warfighter to create an environment that is close to the real world environment that current capabilities allow. • Fidelity – Ensure unity of efforts throughout the Intelligence Capabilities and Innovation communities. • Transition – Select projects that have the greatest likelihood of transition to operational capabilities. 				