Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Office of the Secretary Of Defense	Date: February 2020
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 8: *Software and Digital Technology Pilot Programs*	**R-1 Program Element (Number/Name)** PE 0308588D8Z *I Algorithmic Warfare Cross Functional Teams - Software Pilot Program*

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	-	0.000	0.000	250.107	0.000	250.107	252.176	120.193	121.255	122.180	Continuing	Continuing
925: *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	-	0.000	0.000	250.107	0.000	250.107	252.176	120.193	121.255	122.180	Continuing	Continuing

A. Mission Description and Budget Item Justification

Provides for agile development, test and evaluation, procurement, production and modification, and the operation and maintenance of Software and Digital Technology Pilot Programs. Characteristics of this budget activity include software, and electronic tools, systems, applications, resources, acquisition of services, business process re-engineering activities, functional requirements development, technical evaluations, and other activities in direct support of acquiring, developing, deploying, sustaining, enhancing, and modernizing Software and Digital Technology Pilot Programs. AWCFT funds Project Maven, a rapid fielding Artificial Intelligence (AI) program to augment and automate Processing, Exploitation and Dissemination (PED) for Full Motion Video (FMV) Tactical Unmanned Aerial Vehicles (TUAVs), Medium Altitude, High Altitude, and Wide Area Motion Imagery (WAMI) Intelligence, Surveillance and Reconnaissance (ISR) platforms in support of defeat-ISIS and National Defense Strategy (NDS) peer/near peer competitor strategy. Project Maven also brings AI to Captured Enemy Material (CEM), Acoustical Intelligence (ACINT), Overhead Persistent Infrared program (OPIR) and Public Available Information (PAI) exploitation. Project Maven uses AI, deep learning, and computer vision algorithms to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon) and other AI algorithms for CEM and text based projects. 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 Geospatial Intelligence (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 Project Maven algorithms increase in capability, the algorithms will move to the edge (on the sensor platform).

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	0.000	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	250.107	0.000	250.107
Total Adjustments	0.000	0.000	250.107	0.000	250.107
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Departmental Decision	0.000	0.000	250.107	0.000	250.107

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Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide I* BA 8: *Software and Digital Technology Pilot Programs*	**R-1 Program Element (Number/Name)** PE 0308588D8Z *I Algorithmic Warfare Cross Functional Teams - Software Pilot Program*

Change Summary Explanation

Funds are transferred from BA-6 to BA-8 Software and Digital Technology Pilot programs. The increase in FY21 is the Department's realization of the importance of AI in support of the NDS.

Exhibit R-2A, RDT&E Project Justification: PB 2021 Office of the Secretary Of Defense			Date: February 2020
Appropriation/Budget Activity 0400 / 8	R-1 Program Element (Number/Name) PE 0308588D8Z / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	Project (Number/Name) 925 / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	

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
925: *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	-	0.000	0.000	250.107	0.000	250.107	252.176	120.193	121.255	122.180	Continuing	Continuing

A. Mission Description and Budget Item Justification

Algorithmic Warfare Cross Functional Team funds Project Maven which fields increasing amounts of automation to FMV ground exploitation stations for TUAVs, Medium Altitude, High Altitude ISR platforms and accelerates the development and deployment of AI capabilities across the Defense Intelligence Enterprise, including exploitation of CEM, ACINT, OPIR and PAI exploitation. Project 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) and other AI algorithms for CEM and text based projects. Project 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 Project Maven algorithms increase in capability, the algorithms will move to the edge (on the sensor platform).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Title: Algorithmic Warfare Cross Functional Teams - Software Pilot Program	0.000	0.000	250.107	0.000	250.107
Description: AWCFT funds Project Maven, a rapid fielding AI program to augment and automate PED for FMV of TUAVs, Medium Altitude, High Altitude, and WAMI ISR platforms in support of defeat-ISIS and NDS peer/ near peer competitor strategy. Project Maven also brings AI to CEM, ACINT, OPIR and PAI exploitation. Project 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) and other AI algorithms for CEM and text based projects. Project 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 architecture to support the rapid expansion of AI to other mission areas besides GEOINT. As Project Maven algorithms increase in capability, the algorithms will move to the edge (on the sensor platform).					
FY 2020 Plans:					

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Appropriation/Budget Activity 0400 / 8	**R-1 Program Element (Number/Name)** PE 0308588D8Z / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	**Project (Number/Name)** 925 / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Project Maven's FMV Sprint 2 capability is now deployed to 40 sites within the Army, Navy, Marine Corps, and Air Force (TUAV and Medium Altitude MQ1-C and MQ9) automatically detecting and geo-locating people, vehicles and buildings, tracking objects in motion, and capturing training data for continued algorithm improvements. Project Maven started by bringing AI to the FMV COIN fight to improve the speed and accuracy of analysis and reduce the manpower burden of video exploitation. The investments in AI for FMV COIN are being leveraged for high end warfare to detect conventional military equipment such as tanks, artillery, airplanes and missile launchers. Project Maven FMV algorithms will be deployed to Air Force and Army units and additional OCONUS sites. ***FY 2021 Base Plans:*** Project Maven uses rapid prototype sprints to field increasing amounts of automation to FMV ground exploitation stations for TUAVs, Medium Altitude, High Altitude and WAMI ISR platforms and accelerate the development and deployment of AI capabilities across the Defense Intelligence Enterprise, including exploitation of CEM, ACINT,OPIR and PAI exploitation Project Maven will continue to use artificial intelligence, deep learning, and computer vision algorithms to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon) and other AI algorithms for CEM and text based projects. 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 plans to 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 ML to provide actionable intelligence and enhancement to military decision-making by providing algorithms for object detection, classification and user alerts. ***FY 2021 OCO Plans:*** N/A ***FY 2020 to FY 2021 Increase/Decrease Statement:*** Funds were transferred from BA-6 to BA-8 Software and Digital Technology Pilot programs. The increase in FY21 is the Department's realization of the importance of AI in support of the NDS.					
Accomplishments/Planned Programs Subtotals	0.000	0.000	250.107	0.000	250.107

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Appropriation/Budget Activity 0400 / 8	**R-1 Program Element (Number/Name)** PE 0308588D8Z / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*	**Project (Number/Name)** 925 / *Algorithmic Warfare Cross Functional Teams - Software Pilot Program*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

AWCFT's contracting strategy follows guidance outlined in the DoD 5000 series directives, Federal Acquisition Regulation (FAR), Defense Federal Acquisition Regulation (DFAR) and rapid prototyping policies and procedures. Management uses project management tools and meetings to ensure delivery of stated capabilities and performance criteria are achieved.