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Exhibit R-2, RDT&E Budget Item Justification: PB 2022 Office of the Secretary Of Defense **Date:** May 2021

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide I BA 6:</i> <i>RDT&E Management Support</i>	R-1 Program Element (Number/Name) PE 0307588D8Z I <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>
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COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
Total Program Element	0.000	232.946	0.000	0.000	-	0.000	-	-	-	-	-	-
590: <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>	0.000	232.946	0.000	0.000	-	0.000	-	-	-	-	-	-

A. Mission Description and Budget Item Justification

The Algorithmic Warfare Cross Functional Team (Project Maven) is the pathfinder artificial intelligence (AI) initiative for the DoD that accelerates the integration of AI into DoD systems to improve warfighting speed and lethality for a rapidly innovating Joint Force. Maven deploys capabilities that complement human cognition by augmenting and automating key tasks of object identification and tracking, and by deriving insights from large-scale data sets to create actionable intelligence. Maven’s AI architecture initially augmented Processing, Exploitation and Dissemination (PED) of Full Motion Video (FMV) from Tactical and Medium Altitude Unmanned Aerial Vehicles (TUAVs). Maven additionally developed algorithms for Wide Area Motion Imagery (WAMI), commercial and military SAR and EO satellite imagery to support the National Defense Strategy (NDS). Maven also includes AI for Captured Enemy Material (CEM), Maritime, Overhead Persistent Infrared Programs (OPIR), and Public Available Information (PAI) exploitation. Most military intelligence exploitation systems were designed pre-AI and require specialized integration and multiple individuals to control and then enable the insertion of algorithms into their software baseline. Maven developed a path forward to eliminate substantial costs and coordination among myriad legacy projects to instead use a single screen with multiple AI-enabled layers and tools. Altogether, Maven increased the value of ISR, reduced the human burdens so analysts could multi-task and produce more intel, and now detects, classifies, and tracks objects exponentially faster than a human. With FMV intel, for example, Maven detects persons, vehicles, and weapons systems. By combining AI detections, tracks, and insights onto a single screen, Maven created tools for deployment to help mission commanders, operations personnel, and intel analysts to unite their increased productivity in conducting military operations in every domain of warfare – air, land, sea, space, and cyberspace.

B. Program Change Summary (\$ in Millions)	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total
Previous President's Budget	221.235	0.000	0.000	-	0.000
Current President's Budget	232.946	0.000	0.000	-	0.000
Total Adjustments	11.711	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• COVID19 Related Services	11.711	-	-	-	-

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Change Summary Explanation

Funds transferred from BA-6 to BA-8 Software and Digital Technology Pilot programs starting FY 2021.

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Exhibit R-2A, RDT&E Project Justification: PB 2022 Office of the Secretary Of Defense										Date: May 2021		
Appropriation/Budget Activity 0400 / 6					R-1 Program Element (Number/Name) PE 0307588D8Z / <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>				Project (Number/Name) 590 / <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>			
COST (\$ in Millions)	Prior Years	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
590: <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>	0.000	232.946	0.000	0.000	-	0.000	-	-	-	-	-	-
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note
Funds transferred from BA-6 to BA-8 Software and Digital Technology Pilot programs in FY 2021.

A. Mission Description and Budget Item Justification

Project Maven funds and fields increasing amounts of augmentation and automation to FMV ground exploitation stations for UAVs, to Medium Altitude, High Altitude ISR platforms and commercial and military satellite imagery. Project Maven accelerates the development and deployment of AI capabilities across the Defense Intelligence Enterprise, including exploitation of CEM, Maritime, OPIR and PAI. In these areas, Maven uses AI, deep learning, and algorithms to detect, classify, and track objects not only within FMV images (e.g., persons, vehicles, and weapons) but also to provide insights in combinations of these and other areas of imagery, data, and text and sensor-based projects. Maven algorithms increase the intelligence value of ISR, reduce the human burden of screening and analyzing, and provides insight from GEOINT and other intelligence areas. To produce these results, Project Maven funds advances in commercial technologies to insert commercial AI into existing platforms and programs of record, providing new uses for legacy systems and sensors. 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 in support of the NDS. As Maven algorithms increase in capability, the algorithms have moved to the edge (on sensor platforms). Additional details on missions and capabilities are available at a higher classification level.

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

	FY 2020	FY 2021	FY 2022
Title: Algorithmic Warfare Cross Functional Team (AWCFT)	232.946	-	-
Description: Project Maven is a rapid fielding AI program that augments and automates PED for FMV of UAVs, Medium Altitude, High Altitude, WAMI ISR, and other platforms in support of the NDS peer/near peer competitor strategy. Aside from imagery, Maven also uses AI to exploit CEM, Maritime, OPIR and PAI. Maven’s AI, deep learning, and computer vision algorithms and insights are used in theater to detect, classify, and track objects within FMV images (e.g., person, vehicle, and weapon) as well as other projects, such as CEM and text-based projects. Maven algorithms increase the intelligence value of ISR and reduce the human burden of screening so analysts can multi-task, so that analysts and operations personnel can more effectively and rapidly react or more efficiently plan, and so that operations personnel can maintain increased situational awareness. Project Maven, as the pathfinder AI initiative for the DoD, continues to invest in critical architecture to support the rapid expansion of AI to other mission areas besides GEOINT. While most military intelligence exploitation systems were designed pre-AI and require specialized integration to enable the insertion of algorithms into the software baseline, Maven has funded multiple means of bridging these gaps. Project Maven’s commercial technology vendors continue to compete for the opportunity to be inserted			

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2020	FY 2021	FY 2022
into existing programs of record. As Maven algorithms increase in capability, the algorithms have moved to the edge (on sensor platforms). Additional details on accomplishments and capabilities are available at a higher classification level.			
Accomplishments/Planned Programs Subtotals	232.946	-	-

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2020	FY 2021	FY 2022 Base	FY 2022 OCO	FY 2022 Total	FY 2023	FY 2024	FY 2025	FY 2026	Cost To Complete	Total Cost
• O&M PE0307588D8Z: <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>	21.663	4.848	4.929	-	4.929	-	-	-	-	-	-
• PROC PE0307588D8Z: <i>Algorithmic Warfare Cross Functional Team (AWCFT)</i>	8.206	0.000	0.000	-	0.000	-	-	-	-	-	-

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 available to cross-functional teams. Management uses project management tools, executive steering group and working group meetings to ensure that stated capabilities and performance criteria are delivered.