

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army										Date: May 2017			
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605457A I Army Integrated Air and Missile Defense (AIAMD)								
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	-	222.074	272.811	336.420	-	336.420	290.250	190.600	117.470	64.510	Continuing	Continuing	
S40: Army Integrated Air and Missile Defense	-	222.074	272.811	336.420	-	336.420	290.250	190.600	117.470	64.510	Continuing	Continuing	

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP).

The AIAMD program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

Funding in FY18 will provide for continuation of software development and developmental test phase activities, to include production representative equipment required for testing. The production representative equipment will consist of a Patriot battalions worth of equipment and assets to support IFPC Initial Operational Test and Evaluation (IOT&E), as well as lab hardware upgrades, developmental test support, and PDB-8 software convergence with AIAMD.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Initial Operational Capability (IOC) will be delivered through fielding of the IBCS EOC-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot components connected via an IFCN, working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Air Defense (THAAD) batteries and Indirect Fire Protection Capability (IFPC) components into the AIAMD architecture.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army				Date: May 2017		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)				
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605457A I Army Integrated Air and Missile Defense (AIAMD)				
B. Program Change Summary (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget		222.075	252.811	169.070	-	169.070
Current President's Budget		222.074	272.811	336.420	-	336.420
Total Adjustments		-0.001	20.000	167.350	-	167.350
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		0.000	20.000	167.350	-	167.350
• Other Adjustments 1		-0.001	0.000	0.000	-	0.000
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: S40: Army Integrated Air and Missile Defense						FY 2016
Congressional Add: Product Development - Cyber Security						FY 2017
						8.000
						-
Congressional Add Subtotals for Project: S40						8.000
						-
Congressional Add Totals for all Projects						8.000
						-
Change Summary Explanation						
FY17 Base funding increase in the amount of \$20.000 Million supports additional testing required to achieve MS C decision.						
FY18 Base funding increase in the amount of \$167.350 Million provides necessary resources for continuing software development and hardware, to include production representative hardware required for test.						

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army										Date: May 2017		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense			
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
S40: Army Integrated Air and Missile Defense	-	222.074	272.811	336.420	-	336.420	290.250	190.600	117.470	64.510	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Integrated Air and Missile Defense (AIAMD) Program is a direct response to the U.S. Army Air and Missile Defense (AMD) Concept and Operational and Organizational (O&O) Plan for the Future Force, the AIAMD System of Systems (SoS) Capabilities Development Document (CDD) and the new Air and Missile Defense Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Air Defense Artillery (ADA) components functioning interdependently to provide total operational capabilities not achievable by the individual element systems. The AIAMD program achieves this objective by establishing the AIAMD architecture and developing (1) the IAMD Battle Command Systems (IBCS) Engagement Operations Center (EOC) that provides the common Mission Command capability, (2) the Integrated Fire Control Network (IFCN) capability for fire control connectivity and distributed operations, and (3) the common Plug and Fight (P&F) Kits that network enable multiple sensor components, weapon components, and the IBCS EOC.

The AIAMD Program will provide advanced capabilities to the Army and the soldier by allowing transformation to a network-centric system-of-systems capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture will enable extended range and non-line-of-sight engagements, to include joint kill chain engagements across the full spectrum of aerial threats, providing fire control quality data to the most appropriate weapon to complete the mission successfully. Further, it will mitigate the coverage gaps and the single points of failure that have plagued AMD defense design in the past. The AIAMD program will provide the user with the ability to train on a single command and control (C2) system that will result in overall training savings. The AIAMD program will also provide the Army with the ability to procure components that will build to established interfaces allowing them to "connect" to the IFCN alleviating the cost of procuring total system capabilities in the future.

Funding in FY18 will provide for continuation of software development and developmental test phase activities, to include production representative equipment required for testing. The production representative equipment will consist of a Patriot battalions worth of equipment and assets to support IFPC Initial Operational Test and Evaluation (IOT&E), as well as lab hardware upgrades, developmental test support, and PDB-8 software convergence with AIAMD.

Fielding of the IBCS is the Army Air Defense Artillery User's number one priority. The AIAMD Initial Operational Capability (IOC) will be delivered through fielding of the IBCS EOC-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot components connected via an IFCN, working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Air Defense (THAAD) batteries and Indirect Fire Protection Capability (IFPC) components into the AIAMD architecture.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army				Date: May 2017		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)		Project (Number/Name) S40 / Army Integrated Air and Missile Defense		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
<p>Title: Product Development</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2016 Accomplishments: Conduct of EMD Flight Tests and Limited User Test (LUT) activities, Program Readiness Review, and risk reduction test.</p> <p>FY 2017 Plans: Product development in support of developmental test activities, and ongoing risk reduction test.</p> <p>FY 2018 Base Plans: Product development in support of the continuation of software development and developmental test activities, and ongoing risk reduction test.</p>		154.307	199.250	262.891	-	262.891
<p>Title: Government Program Management</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2016 Accomplishments: Development of the P&F kits, IFCN, Modeling and Simulation. Other contracts and OGAs in support of the EMD Developmental Test activities, LUT / HWIL, Customer Test, and risk reduction test.</p> <p>FY 2017 Plans: Government Program Management in support of developing the P&F kits, IFCN, and Modeling and Simulation. Other contracts and OGAs in support of the EMD Developmental Test activities, preparation and conduct of flight tests, and ongoing risk reduction test.</p> <p>FY 2018 Base Plans: Conduct of developmental test activities and ongoing risk reduction test.</p>		4.568	4.685	4.853	-	4.853
<p>Title: Test and Evaluation</p> <p>Description: Funding is provided for the following effort</p> <p>FY 2016 Accomplishments: Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support for EMD</p>		55.199	68.876	68.676	-	68.676

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army									Date: May 2017			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense				
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Developmental Test activities including preparation and conduct of flight tests. Also provides for Customer Test, LUT / HWIL, ongoing risk reduction test, and target preparation.												
FY 2017 Plans: Provides for Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/ Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support for developmental test activities including preparation and conduct of flight tests.												
FY 2018 Base Plans: Modeling and Simulation, Joint Interoperability Test Support, Army Evaluation Center/Developmental Test Command/Operational Test Command support and White Sands Missile Range Test Support for developmental test activities.												
Accomplishments/Planned Programs Subtotals								214.074	272.811	336.420	-	336.420
								FY 2016	FY 2017			
Congressional Add: Product Development - Cyber Security								8.000	-			
FY 2016 Accomplishments: Cybersecurity research												
Congressional Adds Subtotals								8.000	-			
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• PE 0605456A, Project PA3: PE 0605456A, Project PA3, PAC- 3/MSE Missile	2.201	-	-	-	-	-	-	-	-	0.000	2.201	
• SSN C53101: SSN C53101, MSE Missile	514.946	702.201	459.040	-	459.040	499.915	540.669	523.413	524.934	Continuing	Continuing	
• PE 0205456, Project EF9: PE 0205456, Project EF9, System Integration and Test	61.653	73.417	78.926	-	78.926	80.314	109.222	112.614	123.007	Continuing	Continuing	
• PE 0604114A, Project EX2: PE 0604114A, Project EX2,	-	35.132	76.728	-	76.728	67.088	83.195	114.185	142.000	Continuing	Continuing	

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army									Date: May 2017			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
Lower Tier Air and Missile Defense (LTAMD) Capability												
• SSN C50016: SSN C50016, Lower Tier Air and Missile Defense (AMD)	130.275	126.470	140.826	-	140.826	125.161	144.243	119.282	121.825	Continuing	Continuing	
• PE 0604319A, Proj DU3: PE 0604319A, Proj DU3, IFPC2 (FY12)	149.222	-	31.303	-	31.303	52.604	239.305	259.804	316.104	Continuing	Continuing	
• PE0603305A IFPC II- Intercept)												
• PE 0605052A, Project EY7: PE 0605052A, Project EY7, IFPC Increment 2 - Block 1	-	83.995	175.069	-	175.069	149.506	52.300	24.700	-	Continuing	Continuing	
• SSN C62002: SSN C62002, IFPC Inc 2-I Block 1 System	-	19.319	-	-	-	31.641	191.830	315.025	277.500	Continuing	Continuing	
• SSN C62001: SSN C62001, IFPC INC 2-I Block 1 Missile	-	-	57.742	-	57.742	157.406	144.740	100.400	14.600	Continuing	Continuing	
• PE 0604820A, Proj E10: PE 0604820A, Proj E10, SENTINEL	11.821	15.983	32.968	-	32.968	31.761	51.897	72.562	81.351	Continuing	Continuing	
• SSN BZ5075: SSN BZ5075, Army IAMD Battle Command System (IBCS)	20.917	204.969	-	-	-	-	326.928	387.026	513.464	Continuing	Continuing	
• PE 0604741A, Proj 146, 149: PE 0604741A, Proj 146, 149, Air Defense C2I Eng Dev	33.619	44.456	28.786	-	28.786	28.320	14.638	8.674	-	Continuing	Continuing	
• SSN AD50700: SSN AD50700, AIR & MSL Defense Planning & Control Sys	28.176	126.539	26.635	24.100	50.735	17.960	6.366	32.397	-	Continuing	Continuing	
• SSN C62004: SSN C62004, IFPC Inc 2-1 Block 2 Missile	-	-	-	-	-	-	-	-	12.300	Continuing	Continuing	
Remarks												
This program is an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture. It provides for development of a common Mission Command (MC) through an open architecture approach allowing for integration of Air Defense Artillery (ADA) components as they become available. This approach enables the AIAMD program to pursue its baseline program independent of fluctuation of other programs.												

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army		Date: May 2017
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / <i>Army Integrated Air and Missile Defense (AIAMD)</i>	Project (Number/Name) S40 / <i>Army Integrated Air and Missile Defense</i>
<p><u>D. Acquisition Strategy</u></p> <p>The AIAMD acquisition strategy is to deliver an Initial Operational Capability (IOC) in FY22. The capabilities are delivered through the fielding of the IAMD Battle Command System (IBCS) Engagement Operations Center (EOC)-based AIAMD architecture including the IBCS EOC, Sentinel, and Patriot (through a Radar Interface Unit (RIU)) components connected via an Integrated Fire Control Network (IFCN), working in an integrated manner. Additional capabilities include the incorporation of IBCS functionality into Air Defense Airspace Management (ADAM) Cells, ADA Brigade Headquarters and Army Air and Missile Defense Command (AAMDC) Headquarters. Future additional capabilities include incorporation of Terminal High Altitude Area Defense (THAAD) batteries and other Army and Joint net-centric architectures to ensure compatibility.</p> <p>Key principles of the AIAMD acquisition approach are the following:</p> <ul style="list-style-type: none"> - Migrate from system-based acquisition to component-based acquisition - Use system-of-systems acquisition approach with collaboration among AIAMD, PEO MS, PEO C3T, and Brigade Combat Team (BCT) Modernization Component Project Offices, Missile Defense Agency (MDA), and other Service Project Offices to network enable weapons and sensor components - Develop and procure common Army IAMD Battle Command System (IBCS) Engagement Operations Center (EOC) that replaces seven weapon system unique Battle Management Command, Control, Communications, Computers and Intelligence (BMC4I) components - Establish product lines used to evaluate and select, modify and integrate modular open systems hardware (HW) and software (SW) common configuration items - Conduct architecture-based System Engineering, Integration and Test (SEI&T) activities for an incremental fielded configuration of the AIAMD Integrated Fire Control (IFC) Network-compatible IBCS EOC, weapons and sensor system components <p><u>E. Performance Metrics</u></p> <p>N/A</p>		

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army												Date: May 2017			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)						Project (Number/Name) S40 / Army Integrated Air and Missile Defense			
Management Services (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	MIPR	Various : Huntsville, AL	22.816	4.568	Oct 2015	4.685	Oct 2016	4.853	Oct 2017	-		4.853	Continuing	Continuing	Continuing
Subtotal			22.816	4.568		4.685		4.853		-		4.853	-	-	-
Product Development (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Air Space and Missile Defense (ASMD) System of Systems (SOS) Hardware-in-the- Loop Testbed	C/CPFF	Various : Huntsville, AL and multiple other locations	17.697	-		-		-		-		-	0.000	17.697	0.000
AIAMD System Engineering & Integration	C/CPFF	Various : Huntsville, AL	97.987	26.716		28.115		32.964	Oct 2017	-		32.964	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	C/CPIF	Northrop Grumman, Raytheon and Other : Huntsville, AL and Various other locations	870.290	111.093		146.632		207.163	Oct 2017	-		207.163	Continuing	Continuing	Continuing
Government Furnished Equipment	TBD	Various : Multiple	16.410	2.079		8.478		7.482	Oct 2017	-		7.482	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	TBD	Various : Huntsville, AL	43.393	14.419		16.025		15.282	Oct 2017	-		15.282	Continuing	Continuing	Continuing
Advanced Electronic Protection Enhancement (AEPE)	TBD	Various : TBD	21.000	-		-		-		-		-	0.000	21.000	0.000
Cyber Security	TBD	Huntsville, AL : TBD	15.000	8.000		-		-		-		-	0.000	23.000	0.000
Subtotal			1,081.777	162.307		199.250		262.891		-		262.891	-	-	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: FY 2018 Army												Date: May 2017			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) S40 / Army Integrated Air and Missile Defense					
Test and Evaluation (\$ in Millions)				FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Evaluation Center/ Developmental Test Command/Operational Test Command	TBD	Various : Multiple Locations	10.904	17.143		20.173		17.645	Oct 2017	-		17.645	Continuing	Continuing	Continuing
Modeling & Sim/Joint Interoperability Test Spt	MIPR	SED : Huntsville, AL	106.477	27.014		37.418		36.816	Oct 2017	-		36.816	Continuing	Continuing	Continuing
Range Support	TBD	WSMR : White Sands, NM	26.083	11.042		11.285		14.215	Oct 2017	-		14.215	Continuing	Continuing	Continuing
Subtotal			143.464	55.199		68.876		68.676		-		68.676	-	-	-
			Prior Years	FY 2016		FY 2017		FY 2018 Base		FY 2018 OCO		FY 2018 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			1,248.057	222.074		272.811		336.420		-		336.420	-	-	-
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: FY 2018 Army																Date: May 2017												
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)								Project (Number/Name) S40 / Army Integrated Air and Missile Defense										
Event Name	FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021				FY 2022			
	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
Modeling and Simulation	<div></div>																											
EMD Developmental Test																												
EMD Continuation	<div></div>																											
(1) Product Readiness Review (PRR)	<div></div>				<div></div>																<div></div>							
(2) Milestone C (MS C) Decision	<div></div>				<div></div>																<div></div>				<div></div>			
Initial Operational T&E/Hardware in the Loop (HWIL)	<div></div>				<div></div>																<div></div>				<div></div>			
(3) Initial Operational Capability (IOC)	<div></div>				<div></div>																<div></div>				<div></div>			

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: FY 2018 Army			Date: May 2017
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / <i>Army Integrated Air and Missile Defense (AIAMD)</i>	Project (Number/Name) S40 / <i>Army Integrated Air and Missile Defense</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Modeling and Simulation	1	2013	4	2022
EMD Developmental Test	4	2014	4	2019
EMD Continuation	1	2016	4	2020
Product Readiness Review (PRR)	4	2016	4	2016
Milestone C (MS C) Decision	4	2020	4	2020
Initial Operational T&E/Hardware in the Loop (HWIL)	4	2020	2	2022
Initial Operational Capability (IOC)	3	2022	3	2022