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**Department of Defense
Fiscal Year (FY) 2024 Budget Estimates**

March 2023



Army

Justification Book Volume 3d of 3

Research, Development, Test & Evaluation, Army

RDT&E – Volume II, Budget Activity 5D

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Army • Budget Estimates FY 2024 • RDT&E Program

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RESEARCH, DEVELOPMENT, TEST AND EVALUATION, ARMY
APPROPRIATION LANGUAGE

For expenses necessary for basic and applied scientific research, development, test and evaluation, including maintenance, rehabilitation, lease, and operation of facilities and equipment, \$15,772,215,000.00 to remain available for obligation until September 30, 2025.

The FY 2024 Overseas Operations accounted for in the base budget are as follows:

In-theater and in-CONUS expenses that remain after combat operations cease and have been previously funded in Overseas Operations \$3,166,000.00.

COST STATEMENT

The following Justification Books were prepared at a cost of \$365,839.52: Aircraft (ACFT), Missiles (MSLS), Weapons & Tracked Combat Vehicles (WTCV), Ammunition (AMMO), Other Procurement Army (OPA) 1 – Tactical & Support Vehicles, Other Procurement Army (OPA) 2 – Communications & Electronics, Other Procurement Army (OPA) 3 & 4 - Other Support Equipment & Spares, Research, Development, Test and Evaluation (RDTE) for: Budget Activity 1, Budget Activity 2, Budget Activity 3, Budget Activity 4, Budget Activity 5A, Budget Activity 5B, Budget Activity 5C, Budget Activity 5D, Budget Activity 6, Budget Activity 7, and Budget Activity 8.

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FY 2024 RDT&E, ARMY PROGRAM ELEMENT DESCRIPTIVE SUMMARIES
Introduction and Explanation of Contents

1. **General.** The purpose of this document is to provide summary information concerning the Research, Development, Test and Evaluation, Army program. The descriptive summaries are comprised of R-2 (Army RDT&E Budget Item Justification – program element level), R-2A (Army RDT&E Budget Item Justification – project level), R-3 (Army RDT&E Cost Analysis), R-4 (Schedule Profile Detail) and R-5 (Termination Liability Funding for MDAPs) Exhibits, which provide narrative information on all RDT&E program elements and projects through FY 2024.
2. **Relationship of the FY 2024 Budget Submitted to Congress to the FY 2023 Budget Submitted to Congress.** This paragraph provides a list of program elements/projects that are major new starts, restructures, developmental transitions, and terminated programs. Explanations for these changes can be found in the narrative sections of the Program Element R-2A Exhibits.

New Start Programs:

<u><i>Budget Activity</i></u>	<u><i>OSDPE / Project</i></u>	<u><i>Project Title</i></u>
02	0602146A / AM6	Modular RF Communications Technology
02	0602148A / CI4	Adaptive Avionics Technologies
02	0602141A / CIC	Fire Control Lethality Technology
02	0602182A / DA8	Quantum PNT & Radio Frequency Sensing
02	0602182A / DB4	Enabling Long Standoff 3D (ELS3D) Tech
02	0602002A / DC6	Sci & Analysis for Autonomous Sys & Counter-Auton
02	0602183A / DE2	Airborne Threat Defeat
02	0602150A / DE3	Adv Beam Control Component Development for C-CM
02	0602182A / DE6	Understanding Environment as a Threat Tech
03	0603044A / CW1	Technical-SAVVY Soldier Advanced Research
03	0603116A / DB2	Future Armaments Scalable Technologies
03	0603042A / DB5	Enabling Long Standoff 3D (ELS3D) Adv Tech
03	0603463A / DB6	Pathfinder 3D Advanced Technology
04	0604103A / DG4	NAVWAR SA
04	0603779A / DH6	Installation Resilience
05	0604802A / DC9	30mm MMPA M-SHORAD INC 3

05	0604818A / DD1	Unified Network Technology Trans & Integ (UNTTI)
05	0605206A / DG3	CI and HUMINT Equipment Program-Army (CIHEP-A)
05	0605013A / DH1	Operational Medicine Information System
05	0605216A / EFA	Joint Target Integrated Cmd & Coordination Suite
05	0605036A / EQ5	Combating Weapons of Mass Destruction (CWMD)
05	0605049A / XT4	Advanced Threat Detection System (ATDS)
06	0605601A / WD1	West Desert Test Center
07	0203735A / DD4	AMPV Improvement Program
07	0607315A / DD5	Army Power Systems Modernization

Program Element/Project Restructures:

<u>Budget Activity</u>	<u>Old OSDPE / Project: Title</u>	<u>New OSDPE / Project</u>
02	0602145A / CU5: Next Generation Combat Vehicle Technolog	0602141A / CIA
02	0602181A / CM7: All Domain Convergence Applied Research	0602141A / CIB
02	0602143A / AZ9: Soldier Lethality Technology	0602143A / BB4
02	0602143A / BBG: Soldier Lethality Technology	0602143A / BC2
02	0602145A / BG8: Next Generation Combat Vehicle Technology	0602144A / DG1
02	0602180A / CL7: Artificial Intelligence and Machine Learning Technologies	0602180A / DE8
03	0603040A / CL6: Artificial Intelligence and Machine Learning Technologies	0603040A / DE9
03	0603463A / AR6: Network C3I Advanced Technology	0603042A / DE7
03	0603041A / CM8: All Domain Convergence Advanced Technology	0603116A / CID
03	0603462A / BH6: Next Generation Combat Vehicle Advanced Technology	0603118A / BD9
03	0603462A / BG9: Next Generation Combat Vehicle Advanced Technology	0603119A / DG2
03	0603464A / CZ8: Long Range Precision Fires Advanced Technology	0603464A / AF2
04	0604036A / BY9: Multi-Domain Sensing System (MDSS) Adv Dev	0604036A / DD6
04	0604036A / BY9: Multi-Domain Sensing System (MDSS) Adv Dev	0604036A / DD6

05	0604818A / EJ5: Family of Heavy Vehicles	0604622A / DG7
05	0605224A / CK4: Long-Range Hypersonic Weapon	0604182A / HX2
05	0605224A / CK4: All Up Round and Canister (AUR+C)	0604182A / HX2
05	0605457A / S40: Common Hypersonic Glide Body (CHGB)	0604182A / HX2
05	0605601A / F30: Ground Support Equipment (GSE)	0604182A / HX2
05	0203744A / EB6: HX6: Test and Evaluation	0604182A / HX2
05	0605224A / CK4: Multi-Domain Intelligence	0604805A / 593
05	0605224A / CK4: Multi-Domain Intelligence	0605224A / DD8
05	0605457A / S40: Multi-Domain Intelligence	0605224A / DD9
05	0605601A / F30: Army Integrated Air and Missile Defense (AIAMD)	0605457A / SS1
06	0605601A / F30: Army Integrated Air and Missile Defense (AIAMD)	0605702A / 128
07	0203744A / EB6: Army Test Ranges and Facilities	0305219A / MQ2

Program Terminations (including transfers to Procurement and Sustainment):

<u>Budget Activity</u>	<u>OSDPE / Project</u>	<u>Project Title</u>
03	0603465A / AI8	Future Vertical Lift Advanced Technology / Alternative Concept Engine Advanced Technology
03	0603463A / AV4	Network C3I Advanced Technology / Foundational S&T for Network C3I Advanced Tech
04	0305251A / DD3	Cyberspace Operations Forces and Force Support / Joint Cyber Warfighting Architecture Cyber Train
04	0604115A / AX8	Technology Maturation Initiatives / Adv Leth and Accuracy Sys for Med Calber (ALAS-MC)
04	0604115A / AX9	Technology Maturation Initiatives / Adv Mobility Experimental Prototype Adv Tech
05	0604802A / CE3	Weapons and Munitions - Eng Dev / Precision Munition (Sniper)
05	0604802A / EU4	Weapons and Munitions - Eng Dev / 40mm HV Improved High Explosive Dual Purpose
05	0604804A / FG4	Logistics and Engineer Equipment - Eng Dev / Ultra-Lightweight Camouflage Net System (ULCANS)
05	0604822A / DV6	General Fund Enterprise Business System (GFEBS) / General Fund Enterprise Business System
05	0604854A / HB6	Artillery Systems - EMD / Mobile 155MM Howitzer
05	0605013A / 184	Information Technology Development / Installation Support Modules
07	0305204A / 11A	Tactical Unmanned Aerial Vehicles / Advanced Payload Develop & Spt

07	0305206A / EH2	Airborne Reconnaissance Systems / EMARSS ADV DEV
07	0305206A / EH3	Airborne Reconnaissance Systems / EMARSS Payloads ADV DEV
08	0608041A / DD2	Defensive CYBER - Software Prototype Development / Joint Cyber Warfighting Architecture Software

3. **Classification:** This document contains no classified data. Appropriately cleared individuals can obtain further information on Classified/Special Access Programs by contacting the Department of the Army.

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Department of Defense
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2023

<u>Appropriation</u>	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
Research, Development, Test and Evaluation, Army	14,660,654	17,142,121	9,100	17,151,221	15,775,381
Total Research, Development, Test, & Evaluation	14,660,654	17,142,121	9,100	17,151,221	15,775,381

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Department of Defense
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Total Obligational Authority
(Dollars in Thousands)

Mar 2023

	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment	FY 2024 Request
<u>Summary Recap of Budget Activities</u>					
Basic Research	590,078	635,395		635,395	497,455
Applied Research	1,521,472	1,823,330		1,823,330	948,358
Advanced Technology Development	2,145,309	2,532,690		2,532,690	1,455,986
Advanced Component Development & Prototypes	3,799,417	4,631,111	6,000	4,637,111	4,420,315
System Development & Demonstration	3,178,005	4,317,752	600	4,318,352	5,639,364
Management Support	1,901,655	1,820,502		1,820,502	1,624,585
Operational Systems Development	1,416,677	1,286,510	2,500	1,289,010	1,105,748
Software And Digital Technology Pilot Programs	108,041	94,831		94,831	83,570
Total Research, Development, Test, & Evaluation	14,660,654	17,142,121	9,100	17,151,221	15,775,381
<u>Summary Recap of FYDP Programs</u>					
General Purpose Forces	559,789	372,120		372,120	404,375
Intelligence and Communications	262,480	248,995		248,995	212,694
Research and Development	13,733,825	16,382,072	9,100	16,391,172	15,055,009
Central Supply and Maintenance	101,466	132,270		132,270	75,317
Administration and Associated Activities	101				
Classified Programs	2,993	6,664		6,664	27,986
Total Research, Development, Test, & Evaluation	14,660,654	17,142,121	9,100	17,151,221	15,775,381

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Department of the Army
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(Dollars in Thousands)

Mar 2023

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Applied Research	1,521,472	1,823,330		1,823,330	948,358
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Advanced Component Development & Prototypes	3,799,417	4,631,111	6,000	4,637,111	4,420,315
System Development & Demonstration	3,178,005	4,317,752	600	4,318,352	5,639,364
Management Support	1,901,655	1,820,502		1,820,502	1,624,585
Operational Systems Development	1,416,677	1,286,510	2,500	1,289,010	1,105,748
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Department of the Army
FY 2024 President's Budget
Exhibit R-1 FY 2024 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Mar 2023

Appropriation: 2040A Research, Development, Test and Evaluation, Army

Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
1	0601102A	Defense Research Sciences	01	U	358,521	391,642		391,642
2	0601103A	University Research Initiatives	01	U	88,797	107,160		107,160
3	0601104A	University and Industry Research Centers	01	U	122,521	121,160		121,160
4	0601121A	Cyber Collaborative Research Alliance	01	U	5,067	5,355		5,355
5	0601601A	Artificial Intelligence and Machine Learning Basic Research	01	U	15,172	10,078		10,078
	Basic Research				590,078	635,395		635,395
6	0602002A	Army Agile Innovation and Development-Applied Research	02	U		1,000		1,000
7	0602115A	Biomedical Technology	02	U	11,489			
8	0602134A	Counter Improvised-Threat Advanced Studies	02	U	1,904	6,192		6,192
9	0602141A	Lethality Technology	02	U	89,285	194,717		194,717
10	0602142A	Army Applied Research	02	U	28,654	27,833		27,833
11	0602143A	Soldier Lethality Technology	02	U	201,221	253,539		253,539
12	0602144A	Ground Technology	02	U	214,489	264,523		264,523
13	0602145A	Next Generation Combat Vehicle Technology	02	U	239,284	277,445		277,445
14	0602146A	Network C3I Technology	02	U	161,759	212,115		212,115
15	0602147A	Long Range Precision Fires Technology	02	U	107,454	128,529		128,529
16	0602148A	Future Verticle Lift Technology	02	U	130,108	104,348		104,348
17	0602150A	Air and Missile Defense Technology	02	U	92,926	88,768		88,768
18	0602180A	Artificial Intelligence and Machine Learning Technologies	02	U	14,486	16,068		16,068

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Appropriation: 2040A Research, Development, Test and Evaluation, Army

Line No	Program Element Number	Item	Act	Se c	FY 2024 Request
1	0601102A	Defense Research Sciences	01	U	296,670
2	0601103A	University Research Initiatives	01	U	75,672
3	0601104A	University and Industry Research Centers	01	U	108,946
4	0601121A	Cyber Collaborative Research Alliance	01	U	5,459
5	0601601A	Artificial Intelligence and Machine Learning Basic Research	01	U	10,708
	Basic Research				497,455
6	0602002A	Army Agile Innovation and Development-Applied Research	02	U	5,613
7	0602115A	Biomedical Technology	02	U	
8	0602134A	Counter Improvised-Threat Advanced Studies	02	U	6,242
9	0602141A	Lethality Technology	02	U	85,578
10	0602142A	Army Applied Research	02	U	34,572
11	0602143A	Soldier Lethality Technology	02	U	104,470
12	0602144A	Ground Technology	02	U	60,005
13	0602145A	Next Generation Combat Vehicle Technology	02	U	166,500
14	0602146A	Network C3I Technology	02	U	81,618
15	0602147A	Long Range Precision Fires Technology	02	U	34,683
16	0602148A	Future Verticle Lift Technology	02	U	73,844
17	0602150A	Air and Missile Defense Technology	02	U	33,301
18	0602180A	Artificial Intelligence and Machine Learning Technologies	02	U	24,142

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
19	0602181A	All Domain Convergence Applied Research	02	U	25,019	27,360		27,360
20	0602182A	C3I Applied Research	02	U	11,954	27,868		27,868
21	0602183A	Air Platform Applied Research	02	U	6,356	41,588		41,588
22	0602184A	Soldier Applied Research	02	U	10,660	15,716		15,716
23	0602213A	C3I Applied Cyber	02	U	12,119	13,605		13,605
24	0602386A	Biotechnology for Materials - Applied Research	02	U	19,889	21,811		21,811
25	0602785A	Manpower/Personnel/Training Technology	02	U	18,414	19,649		19,649
26	0602787A	Medical Technology	02	U	124,002	80,656		80,656
	Applied Research				1,521,472	1,823,330		1,823,330
27	0603002A	Medical Advanced Technology	03	U	147,287	31,588		31,588
28	0603007A	Manpower, Personnel and Training Advanced Technology	03	U	13,865	15,598		15,598
29	0603025A	Army Agile Innovation and Demonstration	03	U	21,420	20,900		20,900
30	0603040A	Artificial Intelligence and Machine Learning Advanced Technologies	03	U	876	6,395		6,395
31	0603041A	All Domain Convergence Advanced Technology	03	U	20,095	45,377		45,377
32	0603042A	C3I Advanced Technology	03	U	3,036	12,716		12,716
33	0603043A	Air Platform Advanced Technology	03	U	727	17,946		17,946
34	0603044A	Soldier Advanced Technology	03	U	858	479		479
35	0603115A	Medical Development	03	U	25,540			
36	0603116A	Lethality Advanced Technology	03	U	7,772	9,796		9,796
37	0603117A	Army Advanced Technology Development	03	U	76,815	134,874		134,874

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Line No	Program Element Number	Item	Act	Se c	FY 2024 Request
19	0602181A	All Domain Convergence Applied Research	02	U	14,297
20	0602182A	C3I Applied Research	02	U	30,659
21	0602183A	Air Platform Applied Research	02	U	48,163
22	0602184A	Soldier Applied Research	02	U	18,986
23	0602213A	C3I Applied Cyber	02	U	22,714
24	0602386A	Biotechnology for Materials - Applied Research	02	U	16,736
25	0602785A	Manpower/Personnel/Training Technology	02	U	19,969
26	0602787A	Medical Technology	02	U	66,266
	Applied Research				948,358
27	0603002A	Medical Advanced Technology	03	U	4,147
28	0603007A	Manpower, Personnel and Training Advanced Technology	03	U	16,316
29	0603025A	Army Agile Innovation and Demonstration	03	U	23,156
30	0603040A	Artificial Intelligence and Machine Learning Advanced Technologies	03	U	13,187
31	0603041A	All Domain Convergence Advanced Technology	03	U	33,332
32	0603042A	C3I Advanced Technology	03	U	19,225
33	0603043A	Air Platform Advanced Technology	03	U	14,165
34	0603044A	Soldier Advanced Technology	03	U	1,214
35	0603115A	Medical Development	03	U	
36	0603116A	Lethality Advanced Technology	03	U	20,582
37	0603117A	Army Advanced Technology Development	03	U	136,280

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38	0603118A	Soldier Lethality Advanced Technology	03	U	148,458	154,639		154,639
39	0603119A	Ground Advanced Technology	03	U	281,637	415,846		415,846
40	0603134A	Counter Improvised-Threat Simulation	03	U	23,920	21,486		21,486
41	0603386A	Biotechnology for Materials - Advanced Research	03	U	51,774	56,853		56,853
42	0603457A	C3I Cyber Advanced Development	03	U	61,426	41,354		41,354
43	0603461A	High Performance Computing Modernization Program	03	U	222,220	301,964		301,964
44	0603462A	Next Generation Combat Vehicle Advanced Technology	03	U	294,491	471,434		471,434
45	0603463A	Network C3I Advanced Technology	03	U	205,576	177,917		177,917
46	0603464A	Long Range Precision Fires Advanced Technology	03	U	138,482	202,830		202,830
47	0603465A	Future Vertical Lift Advanced Technology	03	U	255,323	272,551		272,551
48	0603466A	Air and Missile Defense Advanced Technology	03	U	125,027	99,147		99,147
49	0603920A	Humanitarian Demining	03	U	18,684	21,000		21,000
	Advanced Technology Development				2,145,309	2,532,690		2,532,690
51	0603305A	Army Missile Defense Systems Integration	04	U	56,579	118,001		118,001
52	0603308A	Army Space Systems Integration	04	U	25,401	30,945		30,945
53	0603327A	Air and Missile Defense Systems Engineering	04	U	15,000	15,000		15,000
54	0603619A	Landmine Warfare and Barrier - Adv Dev	04	U	44,933	55,953	6,000	61,953
55	0603639A	Tank and Medium Caliber Ammunition	04	U	61,641	51,488		51,488
56	0603645A	Armored System Modernization - Adv Dev	04	U	154,010	135,122		135,122
57	0603747A	Soldier Support and Survivability	04	U	2,791	4,060		4,060
58	0603766A	Tactical Electronic Surveillance System - Adv Dev	04	U	113,365	72,314		72,314

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Line No	Program Element Number	Item	Act	Se c	FY 2024 Request
38	0603118A	Soldier Lethality Advanced Technology	03	U	102,778
39	0603119A	Ground Advanced Technology	03	U	40,597
40	0603134A	Counter Improvised-Threat Simulation	03	U	21,672
41	0603386A	Biotechnology for Materials - Advanced Research	03	U	59,871
42	0603457A	C3I Cyber Advanced Development	03	U	28,847
43	0603461A	High Performance Computing Modernization Program	03	U	255,772
44	0603462A	Next Generation Combat Vehicle Advanced Technology	03	U	217,394
45	0603463A	Network C3I Advanced Technology	03	U	105,549
46	0603464A	Long Range Precision Fires Advanced Technology	03	U	153,024
47	0603465A	Future Vertical Lift Advanced Technology	03	U	158,795
48	0603466A	Air and Missile Defense Advanced Technology	03	U	21,015
49	0603920A	Humanitarian Demining	03	U	9,068
	Advanced Technology Development				1,455,986
51	0603305A	Army Missile Defense Systems Integration	04	U	12,904
52	0603308A	Army Space Systems Integration	04	U	19,120
53	0603327A	Air and Missile Defense Systems Engineering	04	U	
54	0603619A	Landmine Warfare and Barrier - Adv Dev	04	U	47,537
55	0603639A	Tank and Medium Caliber Ammunition	04	U	91,323
56	0603645A	Armored System Modernization - Adv Dev	04	U	43,026
57	0603747A	Soldier Support and Survivability	04	U	3,550
58	0603766A	Tactical Electronic Surveillance System - Adv Dev	04	U	65,567

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment	FY 2023 Total Enactment
59	0603774A	Night Vision Systems Advanced Development	04	U	62,534	97,478		97,478
60	0603779A	Environmental Quality Technology - Dem/Val	04	U	22,491	76,749		76,749
61	0603790A	NATO Research and Development	04	U	3,639	3,805		3,805
62	0603801A	Aviation - Adv Dev	04	U	1,138,457	1,157,472		1,157,472
63	0603804A	Logistics and Engineer Equipment - Adv Dev	04	U	10,797	24,638		24,638
64	0603807A	Medical Systems - Adv Dev	04	U	27,768	5,598		5,598
65	0603827A	Soldier Systems - Advanced Development	04	U	25,288	23,444		23,444
66	0604017A	Robotics Development	04	U	78,309	26,555		26,555
67	0604019A	Expanded Mission Area Missile (EMAM)	04	U	26,855	258,320		258,320
68	0604020A	Cross Functional Team (CFT) Advanced Development & Prototyping	04	U		77,000		77,000
69	0604035A	Low Earth Orbit (LEO) Satellite Capability	04	U	18,922	35,509		35,509
70	0604036A	Multi-Domain Sensing System (MDSS) Adv Dev	04	U	50,548	47,915		47,915
71	0604037A	Tactical Intel Targeting Access Node (TITAN) Adv Dev	04	U	28,347	863		863
72	0604100A	Analysis Of Alternatives	04	U	9,723	10,659		10,659
73	0604101A	Small Unmanned Aerial Vehicle (SUAV) (6.4)	04	U	892	1,425		1,425
74	0604103A	Electronic Warfare Planning and Management Tool (EWPMT)	04	U				
75	0604113A	Future Tactical Unmanned Aircraft System (FTUAS)	04	U	76,349	134,719		134,719
76	0604114A	Lower Tier Air Missile Defense (LTAMD) Sensor	04	U	408,766	380,147		380,147
77	0604115A	Technology Maturation Initiatives	04	U	127,725	219,742		219,742
78	0604117A	Maneuver - Short Range Air Defense (M-SHORAD)	04	U	37,939	274,838		274,838

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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59	0603774A	Night Vision Systems Advanced Development	04	U	73,675
60	0603779A	Environmental Quality Technology - Dem/Val	04	U	31,720
61	0603790A	NATO Research and Development	04	U	4,143
62	0603801A	Aviation - Adv Dev	04	U	1,502,160
63	0603804A	Logistics and Engineer Equipment - Adv Dev	04	U	7,604
64	0603807A	Medical Systems - Adv Dev	04	U	1,602
65	0603827A	Soldier Systems - Advanced Development	04	U	27,681
66	0604017A	Robotics Development	04	U	3,024
67	0604019A	Expanded Mission Area Missile (EMAM)	04	U	97,018
68	0604020A	Cross Functional Team (CFT) Advanced Development & Prototyping	04	U	117,557
69	0604035A	Low Earth Orbit (LEO) Satellite Capability	04	U	38,851
70	0604036A	Multi-Domain Sensing System (MDSS) Adv Dev	04	U	191,394
71	0604037A	Tactical Intel Targeting Access Node (TITAN) Adv Dev	04	U	10,626
72	0604100A	Analysis Of Alternatives	04	U	11,095
73	0604101A	Small Unmanned Aerial Vehicle (SUAV) (6.4)	04	U	5,144
74	0604103A	Electronic Warfare Planning and Management Tool (EWPMT)	04	U	2,260
75	0604113A	Future Tactical Unmanned Aircraft System (FTUAS)	04	U	53,143
76	0604114A	Lower Tier Air Missile Defense (LTAMD) Sensor	04	U	816,663
77	0604115A	Technology Maturation Initiatives	04	U	281,314
78	0604117A	Maneuver - Short Range Air Defense (M-SHORAD)	04	U	281,239

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79	0604119A	Army Advanced Component Development & Prototyping	04	U	179,483	198,111		198,111
80	0604120A	Assured Positioning, Navigation and Timing (PNT)	04	U	80,858	57,620		57,620
81	0604121A	Synthetic Training Environment Refinement & Prototyping	04	U	198,815	242,468		242,468
82	0604134A	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	U	12,891	14,840		14,840
83	0604135A	Strategic Mid-Range Fires	04	U		404,291		404,291
84	0604182A	Hypersonics	04	U	305,406	238,168		238,168
85	0604403A	Future Interceptor	04	U	6,643	8,179		8,179
86	0604531A	Counter - Small Unmanned Aircraft Systems Advanced Development	04	U	18,449	35,110		35,110
87	0604541A	Unified Network Transport	04	U	33,879	36,966		36,966
88	0604644A	Mobile Medium Range Missile	04	U	275,989			
89	0604785A	Integrated Base Defense (Budget Activity 4)	04	U	2,040			
90	0305251A	Cyberspace Operations Forces and Force Support	04	U	55,895	55,599		55,599
999	999999999	Classified Programs	04	U				
		Advanced Component Development & Prototypes			3,799,417	4,631,111	6,000	4,637,111
91	0604201A	Aircraft Avionics	05	U	6,411	3,335		3,335
92	0604270A	Electronic Warfare Development	05	U	29,683	4,140		4,140
93	0604601A	Infantry Support Weapons	05	U	77,027	83,329		83,329
94	0604604A	Medium Tactical Vehicles	05	U	9,177	22,163		22,163
95	0604611A	JAVELIN	05	U	8,202	16,186		16,186

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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79	0604119A	Army Advanced Component Development & Prototyping	04	U	204,914
80	0604120A	Assured Positioning, Navigation and Timing (PNT)	04	U	40,930
81	0604121A	Synthetic Training Environment Refinement & Prototyping	04	U	109,714
82	0604134A	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	U	16,426
83	0604135A	Strategic Mid-Range Fires	04	U	31,559
84	0604182A	Hypersonics	04	U	43,435
85	0604403A	Future Interceptor	04	U	8,040
86	0604531A	Counter - Small Unmanned Aircraft Systems Advanced Development	04	U	64,242
87	0604541A	Unified Network Transport	04	U	40,915
88	0604644A	Mobile Medium Range Missile	04	U	
89	0604785A	Integrated Base Defense (Budget Activity 4)	04	U	
90	0305251A	Cyberspace Operations Forces and Force Support	04	U	
999	999999999	Classified Programs	04	U	19,200
		Advanced Component Development & Prototypes			4,420,315
91	0604201A	Aircraft Avionics	05	U	13,673
92	0604270A	Electronic Warfare Development	05	U	12,789
93	0604601A	Infantry Support Weapons	05	U	64,076
94	0604604A	Medium Tactical Vehicles	05	U	28,226
95	0604611A	JAVELIN	05	U	7,827

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96	0604622A	Family of Heavy Tactical Vehicles	05	U	27,406	53,014		53,014
97	0604633A	Air Traffic Control	05	U	4,244	2,623		2,623
98	0604641A	Tactical Unmanned Ground Vehicle (TUGV)	05	U		109,849		109,849
99	0604642A	Light Tactical Wheeled Vehicles	05	U	1,980			
100	0604645A	Armored Systems Modernization (ASM) - Eng Dev	05	U	118,296	63,131		63,131
101	0604710A	Night Vision Systems - Eng Dev	05	U	41,831	92,951		92,951
102	0604713A	Combat Feeding, Clothing, and Equipment	05	U	1,598	1,566		1,566
103	0604715A	Non-System Training Devices - Eng Dev	05	U	28,605	18,588		18,588
104	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	05	U	58,633	55,541		55,541
105	0604742A	Constructive Simulation Systems Development	05	U	21,424	29,481		29,481
106	0604746A	Automatic Test Equipment Development	05	U	8,486	5,178		5,178
107	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev	05	U	12,182	8,189		8,189
108	0604798A	Brigade Analysis, Integration and Evaluation	05	U	20,976	21,086		21,086
109	0604802A	Weapons and Munitions - Eng Dev	05	U	287,787	285,778	600	286,378
110	0604804A	Logistics and Engineer Equipment - Eng Dev	05	U	49,201	75,669		75,669
111	0604805A	Command, Control, Communications Systems - Eng Dev	05	U	19,372	44,993		44,993
112	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	05	U	43,023	5,513		5,513
113	0604808A	Landmine Warfare/Barrier - Eng Dev	05	U	28,622	37,150		37,150
114	0604818A	Army Tactical Command & Control Hardware & Software	05	U	146,291	131,190		131,190
115	0604820A	Radar Development	05	U	124,832	71,259		71,259

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96	0604622A	Family of Heavy Tactical Vehicles	05	U	44,197
97	0604633A	Air Traffic Control	05	U	1,134
98	0604641A	Tactical Unmanned Ground Vehicle (TUGV)	05	U	142,125
99	0604642A	Light Tactical Wheeled Vehicles	05	U	53,564
100	0604645A	Armored Systems Modernization (ASM) - Eng Dev	05	U	102,201
101	0604710A	Night Vision Systems - Eng Dev	05	U	48,720
102	0604713A	Combat Feeding, Clothing, and Equipment	05	U	2,223
103	0604715A	Non-System Training Devices - Eng Dev	05	U	21,441
104	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	05	U	74,738
105	0604742A	Constructive Simulation Systems Development	05	U	30,985
106	0604746A	Automatic Test Equipment Development	05	U	13,626
107	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev	05	U	8,802
108	0604798A	Brigade Analysis, Integration and Evaluation	05	U	20,828
109	0604802A	Weapons and Munitions - Eng Dev	05	U	243,851
110	0604804A	Logistics and Engineer Equipment - Eng Dev	05	U	37,420
111	0604805A	Command, Control, Communications Systems - Eng Dev	05	U	34,214
112	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	05	U	6,496
113	0604808A	Landmine Warfare/Barrier - Eng Dev	05	U	13,581
114	0604818A	Army Tactical Command & Control Hardware & Software	05	U	168,574
115	0604820A	Radar Development	05	U	94,944

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment	FY 2023 Total Enactment
116	0604822A	General Fund Enterprise Business System (GFEBs)	05	U	15,395	10,402		10,402
117	0604827A	Soldier Systems - Warrior Dem/Val	05	U	6,219	19,408		19,408
118	0604852A	Suite of Survivability Enhancement Systems - EMD	05	U	93,207	100,384		100,384
119	0604854A	Artillery Systems - EMD	05	U	25,000	48,106		48,106
120	0605013A	Information Technology Development	05	U	125,109	104,134		104,134
121	0605018A	Integrated Personnel and Pay System-Army (IPPS-A)	05	U	65,230	67,519		67,519
122	0605028A	Armored Multi-Purpose Vehicle (AMPV)	05	U	34,262			
123	0605030A	Joint Tactical Network Center (JTNC)	05	U	15,752	17,936		17,936
124	0605031A	Joint Tactical Network (JTN)	05	U	27,849	30,150		30,150
125	0605035A	Common Infrared Countermeasures (CIRCM)	05	U	15,982	11,523		11,523
126	0605036A	Combating Weapons of Mass Destruction (CWMD)	05	U				
127	0605038A	Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite	05	U	7,340			
128	0605041A	Defensive CYBER Tool Development	05	U	18,811	39,029		39,029
129	0605042A	Tactical Network Radio Systems (Low-Tier)	05	U	27,688	4,426		4,426
130	0605047A	Contract Writing System	05	U	20,195	13,742		13,742
131	0605049A	Missile Warning System Modernization (MWSM)	05	U				
132	0605051A	Aircraft Survivability Development	05	U	60,127	19,123		19,123
133	0605052A	Indirect Fire Protection Capability Inc 2 - Block 1	05	U	175,604	131,093		131,093
134	0605053A	Ground Robotics	05	U	15,763	26,809		26,809
135	0605054A	Emerging Technology Initiatives	05	U	219,284	244,047		244,047

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116	0604822A	General Fund Enterprise Business System (GFEBs)	05	U	2,965
117	0604827A	Soldier Systems - Warrior Dem/Val	05	U	11,333
118	0604852A	Suite of Survivability Enhancement Systems - EMD	05	U	79,250
119	0604854A	Artillery Systems - EMD	05	U	42,490
120	0605013A	Information Technology Development	05	U	104,024
121	0605018A	Integrated Personnel and Pay System-Army (IPPS-A)	05	U	102,084
122	0605028A	Armored Multi-Purpose Vehicle (AMPV)	05	U	
123	0605030A	Joint Tactical Network Center (JTNC)	05	U	18,662
124	0605031A	Joint Tactical Network (JTN)	05	U	30,328
125	0605035A	Common Infrared Countermeasures (CIRCM)	05	U	11,509
126	0605036A	Combating Weapons of Mass Destruction (CWMD)	05	U	1,050
127	0605038A	Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite	05	U	
128	0605041A	Defensive CYBER Tool Development	05	U	27,714
129	0605042A	Tactical Network Radio Systems (Low-Tier)	05	U	4,318
130	0605047A	Contract Writing System	05	U	16,355
131	0605049A	Missile Warning System Modernization (MWSM)	05	U	27,571
132	0605051A	Aircraft Survivability Development	05	U	24,900
133	0605052A	Indirect Fire Protection Capability Inc 2 - Block 1	05	U	196,248
134	0605053A	Ground Robotics	05	U	35,319
135	0605054A	Emerging Technology Initiatives	05	U	201,274

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136	0605143A	Biometrics Enabling Capability (BEC)	05	U	4,326	11,091		11,091
137	0605144A	Next Generation Load Device - Medium	05	U	14,835	22,439		22,439
138	0605145A	Medical Products and Support Systems Development	05	U	927			
139	0605148A	Tactical Intel Targeting Access Node (TITAN) EMD	05	U	54,972	108,987		108,987
140	0605203A	Army System Development & Demonstration	05	U	122,175	143,616		143,616
141	0605205A	Small Unmanned Aerial Vehicle (SUAV) (6.5)	05	U	2,192	6,530		6,530
142	0605206A	CI and HUMINT Equipment Program-Army (CIHEP-A)	05	U				
143	0605216A	Joint Targeting Integrated Command and Coordination Suite (JTIC2S)	05	U				
144	0605224A	Multi-Domain Intelligence	05	U	9,313	6,008		6,008
145	0605225A	SIO Capability Development	05	U	22,713			
146	0605231A	Precision Strike Missile (PrSM)	05	U	181,574	259,506		259,506
147	0605232A	Hypersonics EMD	05	U	107,404	633,499		633,499
148	0605233A	Accessions Information Environment (AIE)	05	U	16,177	10,088		10,088
149	0605235A	Strategic Mid-Range Capability	05	U		5,016		5,016
150	0605236A	Integrated Tactical Communications	05	U		12,447		12,447
151	0605450A	Joint Air-to-Ground Missile (JAGM)	05	U	2,467	2,366		2,366
152	0605457A	Army Integrated Air and Missile Defense (AIAMD)	05	U	154,257	263,545		263,545
153	0605531A	Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	05	U	49,667	14,892		14,892
154	0605625A	Manned Ground Vehicle	05	U	194,936	554,925		554,925
155	0605766A	National Capabilities Integration (MIP)	05	U	13,454	17,030		17,030

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136	0605143A	Biometrics Enabling Capability (BEC)	05	U	
137	0605144A	Next Generation Load Device - Medium	05	U	36,970
138	0605145A	Medical Products and Support Systems Development	05	U	
139	0605148A	Tactical Intel Targeting Access Node (TITAN) EMD	05	U	132,136
140	0605203A	Army System Development & Demonstration	05	U	81,657
141	0605205A	Small Unmanned Aerial Vehicle (SUAV) (6.5)	05	U	31,284
142	0605206A	CI and HUMINT Equipment Program-Army (CIHEP-A) Joint Targeting Integrated Command and Coordination Suite	05	U	2,170
143	0605216A	(JTIC2S)	05	U	9,290
144	0605224A	Multi-Domain Intelligence	05	U	41,003
145	0605225A	SIO Capability Development	05	U	
146	0605231A	Precision Strike Missile (PrSM)	05	U	272,786
147	0605232A	Hypersonics EMD	05	U	900,920
148	0605233A	Accessions Information Environment (AIE)	05	U	27,361
149	0605235A	Strategic Mid-Range Capability	05	U	348,855
150	0605236A	Integrated Tactical Communications	05	U	22,901
151	0605450A	Joint Air-to-Ground Missile (JAGM)	05	U	3,014
152	0605457A	Army Integrated Air and Missile Defense (AIAMD) Counter - Small Unmanned Aircraft Systems Sys Dev &	05	U	284,095
153	0605531A	Demonstration	05	U	36,016
154	0605625A	Manned Ground Vehicle	05	U	996,653
155	0605766A	National Capabilities Integration (MIP)	05	U	15,129

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156	0605812A	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	05	U	2,470	9,376		9,376
157	0605830A	Aviation Ground Support Equipment	05	U	1,158	2,959		2,959
158	0303032A	TROJAN - RH12	05	U	3,362	3,761		3,761
159	0304270A	Electronic Warfare Development	05	U	75,520	99,938		99,938
		System Development & Demonstration			3,178,005	4,317,752	600	4,318,352
160	0604256A	Threat Simulator Development	06	U	60,749	138,937		138,937
161	0604258A	Target Systems Development	06	U	41,769	64,132		64,132
162	0604759A	Major T&E Investment	06	U	91,130	142,031		142,031
163	0605103A	Rand Arroyo Center	06	U	31,087	33,631		33,631
164	0605301A	Army Kwajalein Atoll	06	U	242,279	309,005		309,005
165	0605326A	Concepts Experimentation Program	06	U	80,386	86,824		86,824
166	0605502A	Small Business Innovative Research	06	U	374,118			
167	0605601A	Army Test Ranges and Facilities	06	U	362,223	417,567		417,567
168	0605602A	Army Technical Test Instrumentation and Targets	06	U	57,584	67,962		67,962
169	0605604A	Survivability/Lethality Analysis	06	U	35,042	36,500		36,500
170	0605606A	Aircraft Certification	06	U	2,398	4,777		4,777
171	0605702A	Meteorological Support to RDT&E Activities	06	U	6,389	6,958		6,958
172	0605706A	Materiel Systems Analysis	06	U	20,771	22,004		22,004
173	0605709A	Exploitation of Foreign Items	06	U	13,631	6,186		6,186
174	0605712A	Support of Operational Testing	06	U	54,797	70,718		70,718

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156	0605812A	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	05	U	27,243
157	0605830A	Aviation Ground Support Equipment	05	U	1,167
158	0303032A	TROJAN - RH12	05	U	3,879
159	0304270A	Electronic Warfare Development	05	U	137,186
		System Development & Demonstration			5,639,364
160	0604256A	Threat Simulator Development	06	U	38,492
161	0604258A	Target Systems Development	06	U	11,873
162	0604759A	Major T&E Investment	06	U	76,167
163	0605103A	Rand Arroyo Center	06	U	37,078
164	0605301A	Army Kwajalein Atoll	06	U	314,872
165	0605326A	Concepts Experimentation Program	06	U	95,551
166	0605502A	Small Business Innovative Research	06	U	
167	0605601A	Army Test Ranges and Facilities	06	U	439,118
168	0605602A	Army Technical Test Instrumentation and Targets	06	U	42,220
169	0605604A	Survivability/Lethality Analysis	06	U	37,518
170	0605606A	Aircraft Certification	06	U	2,718
171	0605702A	Meteorological Support to RDT&E Activities	06	U	
172	0605706A	Materiel Systems Analysis	06	U	26,902
173	0605709A	Exploitation of Foreign Items	06	U	7,805
174	0605712A	Support of Operational Testing	06	U	75,133

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(Dollars in Thousands)

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment	FY 2023 Total Enactment
175	0605716A	Army Evaluation Center	06	U	65,693	67,058		67,058
176	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	06	U	2,537	6,097		6,097
177	0605801A	Programwide Activities	06	U	90,443	89,793		89,793
178	0605803A	Technical Information Activities	06	U	31,174	37,652		37,652
179	0605805A	Munitions Standardization, Effectiveness and Safety	06	U	54,922	60,645		60,645
180	0605857A	Environmental Quality Technology Mgmt Support	06	U	1,724	1,912		1,912
181	0605898A	Army Direct Report Headquarters - R&D - MHA	06	U	48,798	53,271		53,271
182	0606002A	Ronald Reagan Ballistic Missile Defense Test Site	06	U	78,187	89,602		89,602
183	0606003A	CounterIntel and Human Intel Modernization	06	U	10,641	1,424		1,424
184	0606105A	Medical Program-Wide Activities	06	U	37,616			
185	0606942A	Assessments and Evaluations Cyber Vulnerabilities	06	U	5,466	5,816		5,816
186	0909999A	Financing for Cancelled Account Adjustments	06	U	101			
	Management Support				1,901,655	1,820,502		1,820,502
187	0603778A	MLRS Product Improvement Program	07	U	11,865	18,463		18,463
188	0605024A	Anti-Tamper Technology Support	07	U	8,544	9,284		9,284
189	0607131A	Weapons and Munitions Product Improvement Programs	07	U	39,994	54,674	2,500	57,174
190	0607136A	Blackhawk Product Improvement Program	07	U	14,599			
191	0607137A	Chinook Product Improvement Program	07	U	65,960	67,513		67,513
192	0607139A	Improved Turbine Engine Program	07	U	250,533	228,036		228,036
193	0607142A	Aviation Rocket System Product Improvement and Development	07	U	8,831	11,312		11,312

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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175	0605716A	Army Evaluation Center	06	U	71,118
176	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	06	U	11,204
177	0605801A	Programwide Activities	06	U	93,895
178	0605803A	Technical Information Activities	06	U	31,327
179	0605805A	Munitions Standardization, Effectiveness and Safety	06	U	50,409
180	0605857A	Environmental Quality Technology Mgmt Support	06	U	1,629
181	0605898A	Army Direct Report Headquarters - R&D - MHA	06	U	55,843
182	0606002A	Ronald Reagan Ballistic Missile Defense Test Site	06	U	91,340
183	0606003A	CounterIntel and Human Intel Modernization	06	U	6,348
184	0606105A	Medical Program-Wide Activities	06	U	
185	0606942A	Assessments and Evaluations Cyber Vulnerabilities	06	U	6,025
186	0909999A	Financing for Cancelled Account Adjustments	06	U	
	Management Support				1,624,585
187	0603778A	MLRS Product Improvement Program	07	U	14,465
188	0605024A	Anti-Tamper Technology Support	07	U	7,472
189	0607131A	Weapons and Munitions Product Improvement Programs	07	U	8,425
190	0607136A	Blackhawk Product Improvement Program	07	U	1,507
191	0607137A	Chinook Product Improvement Program	07	U	9,265
192	0607139A	Improved Turbine Engine Program	07	U	201,247
193	0607142A	Aviation Rocket System Product Improvement and Development	07	U	3,014

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment*	FY 2023 Total Enactment
194	0607143A	Unmanned Aircraft System Universal Products	07	U	4,426	10,512		10,512
195	0607145A	Apache Future Development	07	U	9,700	25,074		25,074
196	0607148A	AN/TPQ-53 Counterfire Target Acquisition Radar System	07	U	46,009	61,559		61,559
197	0607150A	Intel Cyber Development	07	U	3,611	13,343		13,343
198	0607312A	Army Operational Systems Development	07	U	28,029	26,131		26,131
199	0607313A	Electronic Warfare Development	07	U	5,673	6,432		6,432
200	0607315A	Enduring Turbine Engines and Power Systems	07	U				
201	0607665A	Family of Biometrics	07	U	1,101	1,114		1,114
202	0607865A	Patriot Product Improvement	07	U	125,851	152,312		152,312
203	0203728A	Joint Automated Deep Operation Coordination System (JADOCS)	07	U	24,556	19,311		19,311
204	0203735A	Combat Vehicle Improvement Programs	07	U	272,438	194,229		194,229
205	0203743A	155mm Self-Propelled Howitzer Improvements	07	U	168,683	116,510		116,510
206	0203744A	Aircraft Modifications/Product Improvement Programs	07	U	10,000			
207	0203752A	Aircraft Engine Component Improvement Program	07	U	127	148		148
208	0203758A	Digitization	07	U	3,759			
209	0203801A	Missile/Air Defense Product Improvement Program	07	U	122	3,109		3,109
210	0203802A	Other Missile Product Improvement Programs	07	U	9,956	9,027		9,027
211	0205412A	Environmental Quality Technology - Operational System Dev	07	U	253	793		793
212	0205778A	Guided Multiple-Launch Rocket System (GMLRS)	07	U	58,516	20,180		20,180
213	0208053A	Joint Tactical Ground System	07	U	11,379	8,813		8,813

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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194	0607143A	Unmanned Aircraft System Universal Products	07	U	25,393
195	0607145A	Apache Future Development	07	U	10,547
196	0607148A	AN/TPQ-53 Counterfire Target Acquisition Radar System	07	U	54,167
197	0607150A	Intel Cyber Development	07	U	4,345
198	0607312A	Army Operational Systems Development	07	U	19,000
199	0607313A	Electronic Warfare Development	07	U	6,389
200	0607315A	Enduring Turbine Engines and Power Systems	07	U	2,411
201	0607665A	Family of Biometrics	07	U	797
202	0607865A	Patriot Product Improvement	07	U	177,197
203	0203728A	Joint Automated Deep Operation Coordination System (JADOCS)	07	U	42,177
204	0203735A	Combat Vehicle Improvement Programs	07	U	146,635
205	0203743A	155mm Self-Propelled Howitzer Improvements	07	U	122,902
206	0203744A	Aircraft Modifications/Product Improvement Programs	07	U	
207	0203752A	Aircraft Engine Component Improvement Program	07	U	146
208	0203758A	Digitization	07	U	1,515
209	0203801A	Missile/Air Defense Product Improvement Program	07	U	4,520
210	0203802A	Other Missile Product Improvement Programs	07	U	10,044
211	0205412A	Environmental Quality Technology - Operational System Dev	07	U	281
212	0205778A	Guided Multiple-Launch Rocket System (GMLRS)	07	U	75,952
213	0208053A	Joint Tactical Ground System	07	U	203

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Line No	Program Element Number	Item	Act	Se c	FY 2022 Actuals	FY 2023 Less Supplementals Enactment	FY 2023 Supplementals Enactment	FY 2023 Total Enactment
216	0303028A	Security and Intelligence Activities	07	U	24,506			
217	0303140A	Information Systems Security Program	07	U	15,680	17,209		17,209
218	0303141A	Global Combat Support System	07	U	43,643	22,600		22,600
219	0303142A	SATCOM Ground Environment (SPACE)	07	U	16,186	18,297		18,297
222	0305179A	Integrated Broadcast Service (IBS)	07	U	5,430	9,926		9,926
223	0305204A	Tactical Unmanned Aerial Vehicles	07	U	8,410	4,500		4,500
224	0305206A	Airborne Reconnaissance Systems	07	U	11,782	17,165		17,165
225	0305219A	MQ-1C Gray Eagle UAS	07	U				
226	0307665A	Biometrics Enabled Intelligence	07	U	2,066			
227	0708045A	End Item Industrial Preparedness Activities	07	U	101,466	132,270		132,270
999	999999999	Classified Programs	07	U	2,993	6,664		6,664
		Operational Systems Development			1,416,677	1,286,510	2,500	1,289,010
228	0608041A	Defensive CYBER - Software Prototype Development	08	U	108,041	94,831		94,831
		Software And Digital Technology Pilot Programs			108,041	94,831		94,831
Total Research, Development, Test and Evaluation, Army					14,660,654	17,142,121	9,100	17,151,221

*Includes enacted funding in the Ukraine Supplemental Appropriation Act, 2023 (Division B of Public Law 117-180) and Additional Ukraine Supplemental Appropriation Act, 2023 (Division M of Public Law 117-328).

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Line No	Program Element Number	Item	Act	Se c	FY 2024 Request
216	0303028A	Security and Intelligence Activities	07	U	301
217	0303140A	Information Systems Security Program	07	U	15,323
218	0303141A	Global Combat Support System	07	U	13,082
219	0303142A	SATCOM Ground Environment (SPACE)	07	U	26,838
222	0305179A	Integrated Broadcast Service (IBS)	07	U	9,456
223	0305204A	Tactical Unmanned Aerial Vehicles	07	U	
224	0305206A	Airborne Reconnaissance Systems	07	U	
225	0305219A	MQ-1C Gray Eagle UAS	07	U	6,629
226	0307665A	Biometrics Enabled Intelligence	07	U	
227	0708045A	End Item Industrial Preparedness Activities	07	U	75,317
999	999999999	Classified Programs	07	U	8,786
	Operational Systems Development				1,105,748
228	0608041A	Defensive CYBER - Software Prototype Development	08	U	83,570
	Software And Digital Technology Pilot Programs				83,570
Total Research, Development, Test and Evaluation, Army					15,775,381

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144	05	0605225A	SIO Capability Development.....	Volume 3d - 162
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Medical Products and Support Systems Development	0605145A	137	05.....	Volume 3d - 100
Multi-Domain Intelligence	0605224A	143	05.....	Volume 3d - 141
National Capabilities Integration (MIP)	0605766A	154	05.....	Volume 3d - 282
Next Generation Load Device - Medium	0605144A	136	05.....	Volume 3d - 93
Precision Strike Missile (PrSM)	0605231A	145	05.....	Volume 3d - 167
SIO Capability Development	0605225A	144	05.....	Volume 3d - 162
Small Unmanned Aerial Vehicle (SUAV) (6.5)	0605205A	140	05.....	Volume 3d - 117
Strategic Mid-Range Capability	0605235A	148	05.....	Volume 3d - 202
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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	60.127	19.123	24.900	-	24.900	13.107	14.576	15.454	16.681	0.000	163.968
ER7: Aircraft Survivability Equipment Development	-	36.930	12.083	15.177	-	15.177	7.890	9.751	10.578	11.750	0.000	104.159
ER8: Common Missile Warning System (CMWS)	-	23.197	7.040	9.723	-	9.723	5.217	4.825	4.876	4.931	0.000	59.809

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of the Aircraft Survivability Equipment (ASE) as well as the Future Vertical Lift (FVL) Future Attack Reconnaissance Aircraft (FARA) and Future Long-Range Assault Aircraft (FLRAA) platforms. The Aircraft Survivability Development program includes Projects titled Aircraft Survivability Equipment Development (ER7) and Common Missile Warning System (CMWS) (ER8). This program also includes funding for Joint Urgent Operational Needs Statement (JUONS) SO-0010 Phase 2a, Headquarters Department of the Army (HQDA) Directed Requirement for Advanced Threat Warner (ATW) portion of Phase 3 ATW/Common Infrared Countermeasures Quick Reaction Capability (ATW/CIRCM QRC), and Limited Interim Missile Warning System Quick Reaction Capability (LIMWS QRC).

ER7: Aircraft Survivability Development.

The objective of the ASE Development project is to improve Radio Frequency (RF) ASE for Army Aviation. APR-39 Radar Warning Receiver (RWR) detects, categorizes, and prioritizes RF emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The Milestone Decision Authority (MDA) approved Phases 1 and 2 of a 3-phased path forward.

Phase 1, APR-39C(V)1/4, serves as an obsolescence / sustainment upgrade to the Processor Line Replaceable Unit (LRU) for AN/APR-39A(V) RWR implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2A is RWR Modernization begins by adopting the United States Navy APR-39D(V)2 system. APR-39D(V)2 will significantly improve the RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Phase 2B, the APR-39E(V)2, Modernized Radar Warning Receiver (MRWR), is an Army Engineering Change Proposal (ECP) to APR-39D(V)2, approved in the Acquisition Decision Memorandum (ADM) signed June 24, 2019. This ECP will implement enhanced hardware and software upgrades to keep APR-39 technically relevant against new and emerging agile threats. APR-39E(V)2 is part of the suite of ASE mission equipment for the FVL platforms.

Phase 3 adds active Radio Frequency Electronic Countermeasures (RF-ECM) capability for selected aircraft with Material Development Decision (MDD) planned in the future.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>		R-1 Program Element (Number/Name) PE 0605051A / <i>Aircraft Survivability Development</i>
Justification: FY 2024 Base RDT&E funding of \$15.177 million supports APR-39E(V)2 Hardware and Software System Development, Systems Engineering and Program Management (SEPM), Limited User Testing (LUT), Government Environmental and EMI Qualification Testing.		
<p>ER8: Common Missile Warning System (CMWS).</p> <p>The CMWS program is a missile warning system that cues both flare and laser-based countermeasures to defeat incoming Infrared (IR)-seeking missiles and will alert aircrews to the presence of certain incoming munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives ultraviolet (UV) missile detection data from Electro-Optic Missile Sensors (EOMS), which detect UV signals, and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently Common Infrared Countermeasures (CIRCM) -multiple platforms and Advanced Threat Infrared Countermeasures (ATIRCM)-equipped CH-47 platform only). In addition CMWS ECU receives from the EOMS munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding materiel release conditions and ensure protection against emerging IR-guided missile threats. Due to evolving threats, CMWS will remain in the Army inventory beyond 2040 and must remain relevant against emerging threats.</p> <p>The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.</p> <p>As a part of Phase 2a of the JUONS (SO-0010) program, the Army integrated the Department of the Navy Large Aircraft Infrared Countermeasure (DoN LAIRCM) system onto the Army and Special Operations Aircraft platforms. Due to a number of challenges, circumstances, and variables, the Army updated the Advanced Threat Warning/CIRCM QRC and LIMWS Directed Requirements (dated November 16, 2018). The updated requirements extend the utilization of ATW DoN LAIRCM on conventional Army aircraft and cancel the need for the ATW/CIRCM QRC system for the conventional Army. (It should be noted that the updated requirement maintains the need for ATW/CIRCM on the Special Operations Aircraft. Sustainment of ATW on Special Operations Aircraft will transfer to Special Operations Aircraft budget line in FY23). As a result, the Army did not acquire the ATW sensors for use in Phase 3 of the JUONS effort. Instead, the Army accelerated the procurement of the CIRCM QRC systems for use with the currently fielded CMWS in preparation for transition to the LIMWS system.</p> <p>LIMWS QRC addresses the HQDA Directed Requirement to provide a greater capability than CMWS, the current Program of Record (POR), to bridge the gap between CMWS and the future POR. LIMWS is required to provide increased detection range, improved detection in clutter, more agile algorithms to rapidly respond to emerging threats, and eliminates the need for sensor alignments. To maintain overmatch of quickly emerging threat technology and tactics, LIMWS will explore and develop system modifications and performance improvements.</p> <p>Justification:</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army			Date: March 2023			
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				
CMWS: FY 2024 Base RDTE dollars in the amount of \$7.875 million will fund Future Sensor and Algorithm Analysis, Threat and Vulnerability Analysis, Systems Engineering and Program Management (SEPM), Model Based Systems Engineering (MBSE), Aviation Artificial Intelligence (AI) Training Environment effort, and Future Vertical Lift (FVL).						
LIMWS: FY 2024 Base RDTE dollars in the amount of \$1.848 million fund USG SEPM and Threat Analysis and Algorithm Concepts.						
References:						
<ul style="list-style-type: none">- Joint Staff, J-8 Deputy Director for Requirements (DOR) memorandum, April 24, 2015- Phase 2a SOCOM JUONs SO-0010, Joint Rapid Acquisition Cell (JRAC) memorandum, May 29, 2015- Directed Requirement for the Phase 3 Advanced Threat Warner and Common Infrared Countermeasure Quick Reaction Capability (ATW/CIRCM QRC) to Support Joint Urgent Operational Need (JUON) SO-0010, CIRCM Critical Intelligence Parameters Breach, December 18, 2015- Directed Requirement for Limited Interim Missile Warning System to Detect Enemy Man Portable Air Defense Systems, March 26, 2017- Update to the Directed Requirement for the United States Special Operations Command Joint Urgent Operational Needs SO-0010 Threat Detection and Countermeasures to Enemy Man Portable Air Defense System Capability, November 16, 2018- Directed Requirement for Limited Interim Missile Warning System to Detect Enemy Man Portable Air Defense Systems, November 16, 2018- Aircraft Survivability Equipment (ASE) Modernization Fielding Guidance, Change 1, November 19, 2018- Acquisition Decision Memorandum (ADM) for Radio Frequency (RF) Project Manager Aircraft Survivability Equipment (PM ASE) Engineering Change Proposal (ECP) for Radar Warning Receiver AN/APR39-D(V)2 to AN/APR39-E(V)2, June 24, 2019 by PEO IEW&S.						
B. Program Change Summary (\$ in Millions)		FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget		61.768	19.123	16.610	-	16.610
Current President's Budget		60.127	19.123	24.900	-	24.900
Total Adjustments		-1.641	0.000	8.290	-	8.290
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-1.641	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	8.290	-	8.290
Change Summary Explanation						
The increase of \$8.290 million in FY 2024 Base funding is due to a combination of the following: An increase in ER7 Base funding of \$6.713 million, an increase in ER8 Base funding of \$1.848 million for LIMWS QRC, and a decrease of ER8 Base funding of \$0.271 for CMWS.						

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				Project (Number/Name) ER7 / Aircraft Survivability Equipment Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
ER7: Aircraft Survivability Equipment Development	-	36.930	12.083	15.177	-	15.177	7.890	9.751	10.578	11.750	0.000	104.159
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of FVL FARA and FLRAA platforms.

The objective of the ASE Development project is to improve RF ASE for Army aviation. APR-39 RWR detects, categorizes, and prioritizes RF emitters and provides a visual / aural alert to aircrew members warning them of targeting by RF-guided weapons. The MDA approved Phases 1 and 2 of a 3-phased path forward.

Phase 1, APR-39C(V)1/4, serves as an obsolescence / sustainment upgrade to the Processor LRU of APR-39A(V) RWR implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.

Phase 2A is RWR Modernization begins by adopting the United States Navy APR-39D(V)2 system. APR-39D(V)2 will significantly improve the RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Phase 2B, the APR-39E(V)2, MRWR, is an Army ECP to APR-39D(V)2, approved in the ADM signed June 24, 2019. This ECP will implement enhanced hardware and software upgrades to keep APR-39 technically relevant against new and emerging agile threats. APR-39E(V)2 is part of the suite of ASE mission equipment for the FVL platforms.

Phase 3 adds active RF-ECM capability for selected aircraft with MDD planned in the future.

Justification: FY 2024 Base RDT&E funding of \$15.177 million supports APR-39E(V)2 Hardware and Software System Development, Systems Engineering and Program Management (SEPM), Limited User Testing (LUT), Government Environmental and EMI Qualification Testing.

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

	FY 2022	FY 2023	FY 2024
Title: Phase 2 Radio Frequency Countermeasure (CM)	36.930	11.642	15.177
Description: Phase 2A is RWR Modernization begins by adopting the United States Navy APR-39D(V)2 system. APR-39D(V)2 will significantly improve the RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Phase 2B, the APR-39E(V)2, MRWR, is an Army ECP to APR-39D(V)2, approved in the ADM signed June 24, 2019. This ECP will implement enhanced hardware and software upgrades to keep APR-39 technically relevant against new and emerging agile threats. APR-39E(V)2 is part of the suite of ASE mission equipment for the FVL platforms.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				Project (Number/Name) ER7 / Aircraft Survivability Equipment Development				
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Will fund APR-39E(V)2 hardware and software system development, systems engineering and program management, initial system government qualification and performance testing. Supports preliminary analysis for integration of ASE systems on FVL FARA and FLRAA platforms. FY 2024 Plans: Will fund APR-39E(V)2 Hardware and Software System Development, Systems Engineering and Program Management (SEPM), Limit User Testing (LUT), Government Environmental and EMI Qualification Testing. FY 2023 to FY 2024 Increase/Decrease Statement: The increase is required to complete software and hardware development, engineering support, DT/OT and government testing.												
Title: SBIR/STTR Transfer Description: : Funding transferred in accordance with Title 15 USC §638. FY 2023 Plans: : Funding transferred in accordance with Title 15 USC §638. FY 2023 to FY 2024 Increase/Decrease Statement: : Funding transferred in accordance with Title 15 USC §638.									-	0.441	-	
Accomplishments/Planned Programs Subtotals									36.930	12.083	15.177	
C. Other Program Funding Summary (\$ in Millions)												
Line Item		FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• AZ3511: Radio Frequency CM		54.841	158.883	146.016	-	146.016	120.698	114.510	120.583	102.607	3,257.349	4,075.487
Remarks												
D. Acquisition Strategy												
Army RF ASE is managed by Project Manager (PM) ASE for development, testing, procurement, integration and installation on Army rotary wing and fixed wing Special Electronic Mission Aircraft (SEMA) aviation platforms. PM ASE proposed a three-phased path forward commensurate with user priorities and affordability considerations. The MDA approved Phases 1 and 2 of a 3-phased path forward.												
Phase 1, APR-39C(V)1/4, serves as an obsolescence / sustainment upgrade to the Processor LRU of APR-39A(V) RWR implemented to ensure that the currently fielded system remains viable until affordable improved RF ASE capability can be pursued in Phases 2 and 3.												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development	Project (Number/Name) ER7 / Aircraft Survivability Equipment Development
<p>Phase 2A is RWR Modernization begins by adopting the United States Navy APR-39D(V)2 system. APR-39D(V)2 will significantly improve the RF threat coverage, automatic detection and identification of threat types, bearing, and lethality. Phase 2B, the APR-39E(V)2, MRWR, is an Army ECP to APR-39D(V)2, approved in the ADM signed June 24, 2019. This ECP will implement enhanced hardware and software upgrades to keep APR-39 technically relevant against new and emerging agile threats. APR-39E(V)2 is part of the suite of ASE mission equipment for the FVL platforms.</p> <p>Phase 3 adds active RF-ECM capability for selected aircraft with MDD planned in the future.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Devel opment				Project (Number/Name) ER7 / Aircraft Survivability Equipment Development					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Threat Management/ SEPM	Various	Various : -	12.434	1.910	Nov 2021	1.167	Nov 2022	1.120	Nov 2023	-		1.120	Continuing	Continuing	-
SBIR/STTR	Various	Various : -	-	-		0.441		-		-		-	0.000	0.441	-
Subtotal			12.434	1.910		1.608		1.120		-		1.120	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
APR-39E(V)2 SW & HW Development	Various	OGA : Aberdeen Proving Grounds, MD	114.861	18.400	Oct 2021	5.332	Oct 2022	9.807	Oct 2023	-		9.807	Continuing	Continuing	-
Subtotal			114.861	18.400		5.332		9.807		-		9.807	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
DT/OT	Various	Various : -	3.439	6.140	Mar 2022	3.001	Mar 2023	3.750	Mar 2024	-		3.750	Continuing	Continuing	-
Government System Test and Evaluation	Various	Various : -	26.263	10.480	Oct 2021	2.142	Oct 2022	0.500	Oct 2023	-		0.500	Continuing	Continuing	-
Subtotal			29.702	16.620		5.143		4.250		-		4.250	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			156.997	36.930		12.083		15.177		-		15.177	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

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2040 / 5

[illegible]

PE 0605051A / Aircraft Survivability Development

Project (Number/Name)	Start Date	End Date	Duration (Days)	Team Lead	Status	Progress (%)	Budget (USD)	Actual Cost (USD)	Variance (USD)	Risk Level	Notes
101	2023-01-01	2023-03-15	74	John Doe	Completed	100	120000	118000	2000	Low	Project completed ahead of schedule.
102	2023-02-01	2023-04-30	89	Jane Smith	In Progress	75	150000	155000	-5000	Medium	Minor budget overrun due to scope changes.
103	2023-03-01	2023-05-15	75	Mike Johnson	On Hold	20	90000	90000	0	High	Project paused due to resource allocation.
104	2023-04-01	2023-06-30	90	Sarah Lee	Planned	0	180000	180000	0	Medium	Project planning phase.
105	2023-05-01	2023-07-15	75	David Kim	Completed	100	110000	112000	-2000	Low	Project completed on time and within budget.
106	2023-06-01	2023-08-31	91	Emily White	In Progress	60	130000	135000	-5000	Medium	Scope creep causing budget concerns.
107	2023-07-01	2023-09-15	76	Chris Brown	On Hold	10	80000	80000	0	High	Project paused due to technical challenges.
108	2023-08-01	2023-10-31	91	Alex Green	Planned	0	160000	160000	0	Medium	Project planning phase.
109	2023-09-01	2023-11-15	75	Mia Black	Completed	100	100000	101000	-1000	Low	Project completed successfully.
110	2023-10-01	2023-12-31	91	Noah Grey	In Progress	40	140000	145000	-5000	Medium	Monitoring budget closely.

ER7 / Aircraft Survivability Equipment Development

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development	Project (Number/Name) ER7 / Aircraft Survivability Equipment Development	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Threat Vulnerability Analysis//SIL Updates	3	2016	4	2017
Phase 2B APR-39E(V)2 Software and Hardware Development	2	2018	4	2024
Phase 2B APR-39E(V)2 Government System Test and Evaluation	3	2021	2	2024
Phase 2B APR-39E(V)2 DT/OT	2	2022	2	2024
Phase 2B APR-39E(V)2 Platform Integration	2	2020	4	2023
Threat Management	4	2020	4	2027

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				Project (Number/Name) ER8 / Common Missile Warning System (CMWS)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
ER8: Common Missile Warning System (CMWS)	-	23.197	7.040	9.723	-	9.723	5.217	4.825	4.876	4.931	0.000	59.809
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Common Missile Warning System (CMWS) program is a missile warning system that cues both flare and laser-based countermeasures to defeat incoming Infrared (IR) seeking missiles and will alert aircrews to the presence of certain incoming munitions. The B-Kit consists of the components which perform the missile detection and aircrew notification, munitions detection and aircrew notification, false alarm rejection, and countermeasure employment/cueing functions of the system. The CMWS Electronic Control Unit (ECU) receives ultraviolet (UV) missile detection data from Electro-Optic Missile Sensors (EOMS), which detect UV signals, and sends a missile alert signal to warn aircrews via on-board avionics. Tier 1 threat missiles detected and tracked by the CMWS are subsequently defeated by a combination of missile seeker countermeasures, including decoy flares and IR Laser Jamming (currently Common Infrared Countermeasures (CIRCM) and Advanced Threat Infrared Countermeasures (ATIRCM) equipped CH-47 platform only). In addition, the CMWS ECU receives from the EOMS munitions detection data which it also passes to the aircrew through aural and visual alerts. The aircrew then applies the appropriate Tactics, Techniques and Procedures (TTPs) to break contact or engage the enemy with own-ship ordnance. The CMWS Generation 3 (Gen 3) ECU in conjunction with ongoing software development efforts will address outstanding materiel release conditions and ensure protection against emerging IR-guided missile threats. Due to evolving threats, CMWS will remain in the Army inventory beyond 2040 and must remain relevant against emerging threats.

The A-Kit for CMWS includes mounting hardware, wiring harnesses, cables, and other components necessary to install and interface the mission kit on host aircraft. The A-Kit ensures the mission kit is functionally and physically operational with a specific host aircraft type.

As a part of Phase 2a of the Joint Urgent Operational Needs Statement (JUONS) (SO-0010) program, the Army integrated the DoN LAIRCM system onto the Army and Special Operations Aircraft Platforms. Due to a number of challenges, circumstances, and variables, the Army updated the Advanced Threat Warning/CIRCM QRC and LIMWS Directed Requirements (dated November 16, 2018). The updated requirements extend the utilization of ATW DoN LAIRCM on conventional Army aircraft and cancel the need for the ATW/CIRCM QRC system for the conventional Army. (It should be noted that the updated requirement maintains the need for ATW/CIRCM on the Special Operations Aircraft. Sustainment of ATW on Special Operations Aircraft will transfer to Special Operations Aircraft budget line in FY23). As a result, the Army did not acquire the ATW sensors for use in Phase 3 of the JUONS effort. Instead, the Army accelerated the procurement of the CIRCM QRC systems for use with the currently fielded CMWS in preparation for transition to the LIMWS system.

Phase 4 Limited Interim Missile Warning System Quick Reaction Capability (LIMWS QRC) addresses the Headquarters Department of the Army (HQDA) Directed Requirement to provide a greater capability than CMWS, the current Program of Record (POR), to bridge the gap between CMWS and the future POR. LIMWS is required to provide increased detection range, improved detection in clutter, more agile algorithms to rapidly respond to emerging threats, and eliminates the need for sensor alignments. To maintain overmatch of quickly emerging threat technology and tactics, LIMWS will explore and develop system modifications and performance improvements.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development	Project (Number/Name) ER8 / Common Missile Warning System (CMWS)		
CMWS: FY 2024 Base Research Development Test and Evaluation (RDTE) dollars in the amount of \$7.875 million will fund Future Sensor and Algorithm Analysis, Threat and Vulnerability Analysis, Systems Engineering and Program Management (SEPM), Model Based Systems Engineering (MBSE), Aviation Artificial Intelligence (AI) Training Environment effort, and Future Vertical Lift (FVL).				
LIMWS: FY 2024 Base RDTE dollars in the amount of \$1.848 million fund United States Government (USG) SEPM and Threat Analysis and Algorithm Concepts.				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Title: CMWS Product Development and Management Services Description: Research Development Test and Evaluation (RDTE) funding supports continuing development engineering threat and vulnerability analysis, Systems Engineering and Program Management (SEPM), and integration with other ASE Systems. FY 2023 Plans: FY 2023 Base Research Development Test and Evaluation (RDTE) dollars in the amount of \$7.040 million will fund Future Sensor and Algorithm Analysis, Threat and Vulnerability Analysis, Systems Engineering and Program Management (SEPM), and Model Based System Engineering (MBSE). FY 2024 Plans: FY 2024 Base Research Development Test and Evaluation (RDTE) dollars in the amount of \$7.875 million will fund Future Sensor and Algorithm Analysis, Threat and Vulnerability Analysis, Systems Engineering and Program Management (SEPM), Model Based System Engineering (MBSE), Aviation Artificial Intelligence (AI) Training Environment effort, and Future Vertical Lift (FVL). FY 2023 to FY 2024 Increase/Decrease Statement: The increase is required to continue Future Sensor and Algorithm Analysis, Threat and Vulnerability Analysis, Systems Engineering and Program Management (SEPM), and Model Based System Engineering (MBSE), Aviation Artificial Intelligence (AI) Training Environment effort, and Future Vertical Lift (FVL).		6.368	6.783	7.875
Title: Phase 4 LIMWS QRC Description: Phase 4 Limited Interim Missile Warning System Quick Reaction Capability (LIMWS QRC) is a follow-on bridging solution to the Joint Urgent Operational Needs Statement (JUONS) SO-0010 to provide a greater capability than the current Program of Record (POR), Common Missile Warning System (CMWS), until the future Program of Record (POR) is available. LIMWS is a Chief of Staff of the Army approved Directed Requirement issued by Army G-8 on March 26, 2017. LIMWS QRC provides an enhanced missile warning system to detect emerging and evolving enemy Man Portable Air Defense Systems (MANPADS) threats. FY 2024 Plans:		13.829	-	1.848

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army								Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				Project (Number/Name) ER8 / Common Missile Warning System (CMWS)			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2022	FY 2023	FY 2024	
FY 2024 Base Research Development Test and Evaluation (RDTE) dollars in the amount of \$1.848 million fund United States Government (USG) Systems Engineering and Program Management (SEPM) and Threat Analysis and Algorithm Concepts.											
FY 2023 to FY 2024 Increase/Decrease Statement: The increase is required to support hardware and software efforts for Special Operations Aircraft and software Threat Analysis and Algorithm efforts for Conventional Army Platforms and Special Operations Aircraft.											
Title: SBIR/STTR Transfer								-	0.257	-	
Description: Funding transferred in accordance with Title 15 USC §638.											
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.											
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.											
Title: Program Increase - Aviation Artificial Intelligence Virtual Training Environment								3.000	-	-	
Accomplishments/Planned Programs Subtotals								23.197	7.040	9.723	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• AZ3517: CMWS	148.570	107.112	72.041	-	72.041	5.216	14.253	14.305	14.276	706.012	1,081.785
Remarks											
D. Acquisition Strategy											
CMWS: Procurement of US Government Common Missile Warning System (CMWS) A-Kit and B-Kits are complete. CMWS is managed as Mission Equipment for deploying units and fielded as directed by Headquarters Department of the Army (HQDA) G-3/5/7. The CMWS program will continue to be supported through a five year services-only Cost Plus Fixed Fee or Cost Plus Incentive Fee contract, with services which began on July 31, 2019.											
Phase 2a JUONS DoN LAIRCM and Phase 3 CIRCM QRC: JUONS S0-0010 acquisition strategy includes aircraft prime contractor engineering support contracted to a Government test organization. Aircraft integration for JUONS will be handled through government operated organizations and industry partners.											
Phase 4 Limited Interim Missile Warning System Quick Reaction Capability (LIMWS QRC): Acquisition strategy included a full and open competition for selection of prime vendor for development of B-Kits, development of A-Kits, and support testing for the lead program. Additional platform A-Kit development will be completed by government organizations, small business and industry partners.											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development	Project (Number/Name) ER8 / Common Missile Warning System (CMWS)
<p>Threat and Vulnerability analysis efforts will be used to determine if an algorithm update is required to maintain missile warning threat overmatch and provide input to improve US Government authoritative threat modeling updates.</p> <p>Future Sensor and Algorithm Analysis development equally supports Man Portable Air Defense Systems (MANPADS) and Hostile Fire overmatch through evaluation of emerging sensor technologies and advances in algorithm techniques. This analysis identifies opportunities to optimize performance and modernize fielded systems in order to maintain relevance for the future.</p> <p>CMWS Systems Engineering and Program Management (SEPM) is necessary due to the nature of emerging and current threat(s). Threat(s) analyses include, when required, collaboration support with intelligence organizations, course of action planning, root cause investigations, threat and laboratory hardware maintenance, and lab tools upgrade to support specific performance analyses.</p> <p>Development of Model Based Systems Engineering (MBSE) models of CMWS and LIMWS will align to Program Executive Office Aviation (PEO AVN) system engineering models. Continued MBSE development supports improved performance, weight reduction and testing.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development				Project (Number/Name) ER8 / Common Missile Warning System (CMWS)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
CMWS Systems Engineering Program Management	Various	Various : PM ASE, HSV, AL	10.774	0.914	Jan 2022	0.857	Jan 2023	1.017	Jan 2023	-		1.017	Continuing	Continuing	Continuing
SBIR/STTR Transfer	Various	Various : Various	0.212	-		0.257		-		-		-	0.000	0.469	-
Subtotal			10.986	0.914		1.114		1.017		-		1.017	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
CMWS Future Sensor and Algorithm Analysis	Various	Various : Various	7.824	1.742	Mar 2022	2.491	Mar 2023	3.251	Mar 2023	-		3.251	0.000	15.308	-
JUONS SO-0010 Training	Various	Various : Various	0.200	3.000	Aug 2022	-		-		-		-	0.000	3.200	-
Limited Interim Missile Warning System (LIMWS) - Development Engineering	Various	Various : PM ASE, HSV, AL	211.827	7.234	Mar 2022	-		1.332	Mar 2023	-		1.332	Continuing	Continuing	Continuing
CMWS Threat and Vulnerability Analysis	Various	Various : Various	9.896	3.712	Mar 2022	3.435	Mar 2023	3.607	Mar 2023	-		3.607	Continuing	Continuing	Continuing
Subtotal			229.747	15.688		5.926		8.190		-		8.190	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
LIMWS - Contractor Support	Various	Various : PM ASE, HSV, AL	9.829	2.001	Jan 2022	-		-		-		-	0.000	11.830	-
Subtotal			9.829	2.001		-		-		-		-	0.000	11.830	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development						Project (Number/Name) ER8 / Common Missile Warning System (CMWS)			
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
LIMWS - Government Testing	Various	Various : PM ASE, HSV, AL	73.861	4.594	Mar 2022	-		0.516	Mar 2023	-		0.516	Continuing	Continuing	Continuing
Subtotal			73.861	4.594		-		0.516		-		0.516	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			324.423	23.197		7.040		9.723		-		9.723	Continuing	Continuing	N/A
Remarks															

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Appropriation/Budget Activity
2040 / 5

Project (Number/Name)
ER8 / *Common Missile Warning System*
(CMWS)

R-1 Program Element (Number/Name)
PE 0605051A / Aircraft Survivability Development

[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605051A / Aircraft Survivability Development	Project (Number/Name) ER8 / Common Missile Warning System (CMWS)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CMWS System Dev/Tier 2 and 3 Upgrades	2	2011	4	2019
CMWS Gen 3 Production	3	2012	4	2016
CMWS Threat Analysis Database (TAD)	2	2012	4	2019
CMWS Vulnerability Analysis and Assessment of Technology	2	2015	4	2019
CMWS Threat and Vulnerability Analysis	1	2020	4	2030
CMWS Future Sensor and Algorithm Analysis	1	2017	4	2030
Phase 3 ATW/CIRCM QRC Engineering, Integration, and Test	2	2016	1	2020
Phase 4 LIMWS QRC Development Engineering and Test	3	2017	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605052A I Indirect Fire Protection Capability Inc 2 - Block 1							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	175.604	131.093	196.248	-	196.248	154.275	166.672	113.841	135.117	0.000	1,072.850
EY7: IFPC Increment 2 - Block 1	-	175.604	131.093	196.248	-	196.248	154.275	166.672	113.841	135.117	0.000	1,072.850

A. Mission Description and Budget Item Justification

This funding line is directly aligned to one of the Army Air and Missile Defense Modernization Priorities and one of the Air and Missile Defense Cross Functional Team (AMD CFT) programs.

The Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) will provide a ground-based weapon system designed to acquire, track, engage, and defeat Cruise Missiles (CM), Unmanned Aircraft Systems (UAS), Rocket, Artillery, and Mortar (RAM) threats. The IFPC Inc 2 system consists of a launcher and interceptor integrated with the Army Integrated Air and Missile Defense (AIAMD) open systems architecture, IAMD Battle Command System (IBCS), and the Sentinel sensor to support the CM and UAS defeat mission. A Second Interceptor focus will be on supersonic cruise missiles and large caliber rockets.

The IFPC Inc 2 program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes component integration, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

The Army is pursuing the IFPC Inc 2 capability consisting of a launcher and interceptor as the kinetic solution for the primary mission to defeat CM, UAS, and will pursue a Second Interceptor to expands the IFPC Inc 2 system's target set by focusing on supersonic cruise missiles and large caliber rockets. The Second Interceptor program also supports the Air and Missile Defense modernization priorities.

The Army plans to pursue the IFPC High Energy Laser (IFPC HEL) and IFPC High Powered Microwave (IFPC HPM) as complimentary non-kinetic effectors of the IFPC counter-RAM, counter-CM, and counter-UAS missions.

Additionally, section 112 of the National Defense Authorization Act for 2019 directed the Army to deploy an Interim Cruise Missile Defense (CMD) capability. The Army contracted with the Israeli Missile Defense Organization (IMDO) for two Interim CMD (Iron Dome Defense System - Army (IDDS-A)) Batteries and continues efforts to field and sustain two operational IDDS-A Batteries.

The total cost of the IFPC Inc 2 Middle Tier Acquisition (MTA) effort is \$546 million from FY 2021 to FY 2024. The IFPC Inc 2 MTA is fully funded across the Future Years Defense Program.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605052A I Indirect Fire Protection Capability Inc 2 - Block 1			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	182.257	131.093	59.266	-	59.266
Current President's Budget	175.604	131.093	196.248	-	196.248
Total Adjustments	-6.653	0.000	136.982	-	136.982
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.653	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	136.982	-	136.982
Change Summary Explanation					
Increase of \$136.118 million for 12 IFPC launch systems made up of 12 launchers, 48 interceptors, and 8 magazines for IOT&E and to fund completion of Operational Assessment.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Cap ability Inc 2 - Block 1				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
EY7: IFPC Increment 2 - Block 1	-	175.604	131.093	196.248	-	196.248	154.275	166.672	113.841	135.117	0.000	1,072.850
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This funding line is directly aligned to the Army Air and Missile Defense Modernization Priority.												
The Indirect Fire Protection Capability Increment 2 (IFPC Inc 2) will provide a ground-based weapon system designed to acquire, track, engage, and defeat Cruise Missiles (CM), Unmanned Aircraft Systems (UAS), and Rocket, Artillery, and Mortar (RAM) threats. The IFPC Inc 2 system consists of a launcher and interceptor integrated with the Army Integrated Air and Missile Defense (AIAMD) open systems architecture, IAMD Battle Command System (IBCS), and the Sentinel sensor to support the Threshold CM and UAS defeat mission. The Second Interceptor focus will be on supersonic cruise missiles and large caliber rockets.												
The Army is pursuing the IFPC Inc 2 capability consisting of a launcher and interceptor as the kinetic solution for the primary mission to defeat CM, UAS, and will pursue a secondary kinetic effector to defeat the IFPC threat set to include RAM threats. The Second Interceptor program supports the Air and Missile Defense modernization priorities, specifically Line of Effort #2, Indirect Fire Protection Capability Increment 2. The Second Interceptor expands the IFPC Inc 2 system's target set by focusing on supersonic cruise missiles and large caliber rockets.												
Additionally, the Army plans to pursue the IFPC High Energy Laser (IFPC HEL) and IFPC High Powered Microwave (IFPC HPM) as non-kinetic effectors of the IFPC counter-RAM, counter-CM, and counter-UAS (Class 1 - 3) missions. The IFPC HEL and IFPC HPM elements will be robust, cost effective, and sustainable complementary capabilities to the overall IFPC mission to protect key fixed and semi-fixed sites.												
Section 112 of the National Defense Authorization Act for 2019 directed the Army to deploy an Interim Cruise Missile Defense (CMD) capability. The Army contracted with the Israeli Missile Defense Organization (IMDO) for two Interim CMD (Iron Dome Defense System - Army (IDDS-A)) Batteries and continues efforts to field and sustain two operational IDDS-A Batteries.												
FY 2024 Base dollars in the amount of \$196.248 million are designated for the development, integration, testing of the IFPC Inc 2 system, the initialization of the IFPC Directed Energy team, and acquisition of 12 IFPC launch systems for Initial Operational Test & Evaluation (IOT&E). IFPC Inc 2 is scheduled for a Milestone C decision in FY 2024.												
The total cost of the IFPC Inc 2 Middle Tier Acquisition (MTA) effort is \$546 million from FY 2021 to FY 2024. The IFPC Inc 2 MTA is fully funded across the Future Years Defense Program.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Title: Interim CMD (Iron Dome Defense System - Army) Integration and Testing									5.335	-	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1	Project (Number/Name) EY7 / IFPC Increment 2 - Block 1		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Description: Funding is provided to support the assessment of operational utility and safety of the Iron Dome Defense System-Army (IDDS-A) as an Interim IFPC Inc 2 capability				
Title: IFPC Inc 2 Prototype Development, Integration, Manufacturing, and Testing		170.269	125.063	192.311
Description: Funding is provided to support the development, integration, prototype manufacturing, and testing of the IFPC Inc 2 capability				
FY 2023 Plans: - Incremental funding for delivery of IFPC Inc 2 prototype launchers and interceptors - Continue IFPC Inc 2 launcher and interceptor model and simulation efforts to provide alternate means to prove out system capabilities while reducing live fire test event requirements - Continue Interoperability End-to-End simulations and testing, to include updating the GSIL's Hardware-in-the-Loop elements with selected prototype hardware - Evaluate Operator and Maintainer Interfaces with Soldiers: Technical User and Maintenance Manuals, internal Maintenance Troubleshooting software, internal training software, RT3 software update for IFPC system, update to IBCS mission command SW tools (i.e., Integrated Defense Designer tool to inform for optimal coverage and protection) - Evaluate trainer hardware and software packages for institutional Operators and Maintainers training at ADA School and NG Training Sites - Continue developmental, operational, and Integrated Fires testing to ensure operational supportability while minimizing the logistical footprint - Prototype design changes to test assets				
FY 2024 Plans: - Final incremental funding for IFPC Inc 2 OTA Firm Fixed Price contract - Continue utilizing a Middle Tier Acquisition (MTA) Rapid prototyping approach while preparing for Milestone C decision point - Continue qualification and operational testing, to include an Operational Assessment, to ensure operational supportability while minimizing the logistical footprint - Procure 12 IFPC launch systems consisting of 12 launchers, 48 interceptors, and 8 magazines for Initial Operational Test & Evaluation (IOT&E)				
FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 to FY 2024 increase to procure 12 launchers, 48 interceptors, and 8 magazines for IOT&E.				
Title: IFPC Directed Energy Integration and Test		-	1.245	2.300
FY 2023 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1				
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
The IFPC Inc 2 Product Office will establish an initial IFPC Direct Energy team to coordinate the transfer of responsibility, as well as, determine IFPC Inc 2 Product Office requirements for these products												
FY 2024 Plans: Continue to support an IFPC Direct Energy team to coordinate the transfer of responsibility, as well as determine IFPC Inc 2 Product Office requirements for these products												
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in IFPC DE transition team to support the programmatic and systems engineering efforts.												
Title: IFPC Second Interceptor Development and Test									-	-	1.637	
FY 2024 Plans: Funding is to support initiation of the IFPC Second Interceptor program. Development of contract requirement package, planning for contract award, conduct of analyses, and development of acquisition documentation to support initiation of the Second Interceptor program.												
FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase from FY 2023 to FY 2024 for initiation of IFPC Second Interceptor Development and Test.												
Title: SBIR/STTR									-	4.785	-	
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.												
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.												
Accomplishments/Planned Programs Subtotals									175.604	131.093	196.248	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• C62002: IFPC INC 2- I BLOCK 1 SYSTEM	19.053	18.924	313.189	-	313.189	697.307	1,002.324	1,023.636	985.973	0.000	4,060.406	
• E10: Sentinel	124.832	71.259	94.944	-	94.944	48.837	18.987	8.508	8.603	0.000	375.970	
• WK5057: Sentinel Mods	100.642	166.736	161.886	-	161.886	233.368	501.923	504.229	548.401	Continuing	Continuing	
• S40: Army Integrated Air and Missile Defense	154.257	263.545	254.163	-	254.163	355.723	214.394	135.637	166.652	0.000	1,544.371	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Cap ability Inc 2 - Block 1				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BZ5075: IAMD Battle Command System	399.800	438.967	412.556	-	412.556	509.654	572.362	658.046	442.781	Continuing	Continuing
• BU9: IFPC High Energy Laser	7.957	215.343	85.852	-	85.852	359.412	778.029	2,120.659	1,592.164	0.000	5,159.416
• CO6: IFPC High Power Microwave (HPM)	18.898	42.977	11.166	-	11.166	4.023	-	-	-	0.000	77.064
Remarks											
This program is an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture.											
D. Acquisition Strategy											
As reported to Congress in Oct 2018, the Army has rapidly fielded an Interim CMD capability with the Israeli Iron Dome Defense System - Army (IDDS-A). Concurrently, the Army has initiated efforts to integrate an enduring IFPC capability of a launcher and interceptor leveraging the AIAMD open systems architecture and IBCS, as the Fire Control component, and the US Sentinel sensor.											
On 9 Feb 2019, the Army approved a Directed Requirement to initiate procurement of the Israeli IDDS-A for the Interim CMD capability. Congress approved ATR actions to align IFPC FY 2018 and 2019 Procurement to fund the Interim CMD (IDDS-A) purchase and to repurpose the FY 2019 RDTE funds in May 2019 for associated system evaluation. To support the Interim CMD (IDDS-A) requirement, the Army contracted for two Interim CMD (IDDS-A) Batteries for technical evaluation, assessment of operational utility, and safety evaluation. Additionally, the IFPC program has performed logistics analysis and assessments to determine IDDS-A training requirements, fielding requirement, spares packages, maintenance policies, and required Operational and Maintenance documentation. IFPC conducted Performance Analysis and Operational Testing of the Interim CMD (IDDS-A) capability at White Sands Missile Range in FY 2021 to prove out their readiness for deployment.											
In support of the Army's enduring Cruise Missile Defense requirement, the Army is utilizing a Middle Tier Acquisition (MTA) Rapid Prototyping approach to evaluate new capability and provide an initial capability, while transitioning into Production and Deployment phase by FY 2024. In support of the IFPC Inc 2 solution, the Army pursued a competitive strategy that saw Industry participating in a "Shoot Off" demonstration in FY 2021 using Industries' proposed launcher and missile solutions integrated with the Army's IBCS and Sentinel radar. The Army has evaluated Industry proposals informed by models and simulations, hardware-in-the-loop, and live fire data, to make a Best Value recommendation to proceed to a single vendor to deliver the IFPC Inc 2 prototype solution. The Army awarded a Firm Fixed Price Other Transaction Authority (OTA) agreement to Dynetics, Inc. on 24 September 2021 to deliver the IFPC Inc 2 prototype solution. The MTA contract will run through mid-FY 2024.											
The IFPC Inc 2 program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes component integration, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605052A / <i>Indirect Fire Protection Cap ability Inc 2 - Block 1</i>	Project (Number/Name) EY7 / <i>IFPC Increment 2 - Block 1</i>
<p>In support of the IFPC Inc 2 system test and evaluation, the program office will acquire AIM-9X interceptors from the Navy contract and Launchers with AUR-Ms from Dynetics. The program will fully fund the assets to meet the delivery schedule required to perform IOT&E in FY 2025.</p> <p>The Army is pursuing the IFPC Inc 2 capability consisting of a launcher and interceptor as the kinetic solution for the primary mission to defeat CM, UAS, and will pursue a Second Interceptor to expands the IFPC Inc 2 system's target set by focusing on supersonic cruise missiles and large caliber rockets. Also, the Second Interceptor program supports the Air and Missile Defense modernization priorities.</p> <p>Additionally, the Army plans to pursue the IFPC High Energy Laser (IFPC HEL) and IFPC High Powered Microwave (IFPC HPM) as non-kinetic effectors of the IFPC counter-RAM, counter-CM, and counter-UAS missions. The Army Rapid Capabilities and Critical Technologies Office (RCCTO) currently manages the IFPC HEL and IFPC HPM programs, which are planned for transition of responsibility to the IFPC Product Office in FY 2025. The IFPC Inc 2 Product Office will establish an initial IFPC Direct Energy team to coordinate the transfer of responsibility, as well as determine IFPC Inc 2 Product Office requirements for these products starting in FY 2023. Current planning assumes the products will require additional development, integration with the AIAMD architecture, and testing.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Cap ability Inc 2 - Block 1				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Travel/Program Management	Various	Various : Various	1.570	0.425	May 2022	1.337	Oct 2022	0.682	Oct 2023	-		0.682	Continuing	Continuing	Continuing
SBIR/STTR	Various	Various : Various	-	-		4.785		-		-		-	0.000	4.785	-
Subtotal			1.570	0.425		6.122		0.682		-		0.682	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Interim CMD (IDDS- A) - System Dev & Interoperability External Spt	Various	Multiple Activities : Multiple Locations	4.475	5.335	May 2022	-		-		-		-	0.000	9.810	-
IFPC - System Eng & Integration	Various	Multiple Activities : Huntsville, AL	63.159	15.030	Jun 2022	18.251	Oct 2022	11.140	Oct 2023	-		11.140	Continuing	Continuing	Continuing
IFPC System Dev and Integration External Support	Various	Multiple Activities : Huntsville, AL	64.624	21.497	Jul 2022	73.275	Oct 2022	37.215	Oct 2023	-		37.215	Continuing	Continuing	Continuing
IFPC Contractor Prototype Dev / Int / Mfg / Log & Test Spt	C/FFP	Launcher and AUR- M Development : Dynetics - Huntsville, AL	104.837	56.508	Jun 2022	15.570	Mar 2023	1.500	Jan 2024	-		1.500	Continuing	Continuing	Continuing
IFPC Prototype GFE Hardware	Various	Multiple Activities : Multiple Locations	-	61.192	Nov 2022	-		-		-		-	0.000	61.192	-
IFPC Directed Energy Integration Support (Transition Team)	Various	Multiple Activities : Huntsville, AL	-	-		1.245	Apr 2023	2.300	Jan 2024	-		2.300	Continuing	Continuing	Continuing
IFPC Second Interceptor Support	C/TBD	Multiple Activities : Huntsville, AL	-	-		-		1.637	Jan 2024	-		1.637	0.000	1.637	-
IFPC IOT&E Contractor Hardware	SS/FP	Dynetics : Huntsville, AL	-	-		-		79.715	Mar 2024	-		79.715	0.000	79.715	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1				Project (Number/Name) EY7 / IFPC Increment 2 - Block 1					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
IFPC IOT&E Interceptors / GFE	Various	US Navy : Huntsville, AL	-	-		-		34.427	Mar 2024	-		34.427	0.000	34.427	-
Subtotal			237.095	159.562		108.341		167.934		-		167.934	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
IFPC Log Support	Various	Multiple Activities : Huntsville, AL	15.398	7.225	Jul 2022	3.444	Nov 2022	4.118	Nov 2023	-		4.118	Continuing	Continuing	-
Subtotal			15.398	7.225		3.444		4.118		-		4.118	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
IFPC PM Testing Support	IA	Multiple Activities : Huntsville, AL	3.801	1.155	Jun 2022	1.883	Nov 2022	2.445	Nov 2023	-		2.445	Continuing	Continuing	Continuing
IFPC Developmental / Operational Testing	IA	Developmental and Operational Tests : Multiple Locations	0.716	7.237	May 2022	10.265	Nov 2022	21.069	Nov 2023	-		21.069	Continuing	Continuing	Continuing
Integrated Fires (IF) SoS Interoperability Testing	IA	Integrated Fires (IF) SoS Interoperability Testing : Huntsville, AL	-	-		1.038	Apr 2023	-		-		-	Continuing	Continuing	Continuing
Subtotal			4.517	8.392		13.186		23.514		-		23.514	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			258.580	175.604		131.093		196.248		-		196.248	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army							Date: March 2023			
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1			Project (Number/Name) EY7 / IFPC Increment 2 - Block 1				
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks IFPC Contractor Prototype Dev / Int / Mfg / Log & Test Spt funding was awarded to Dynetics, Inc with Raytheon as a subcontractor. The prototype interceptor funding originally awarded to Dynetics in June 2022 was de-obligated and placed on contract with the Navy. These FY 2022 funds were awarded to the Navy in November and December 2022.										

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

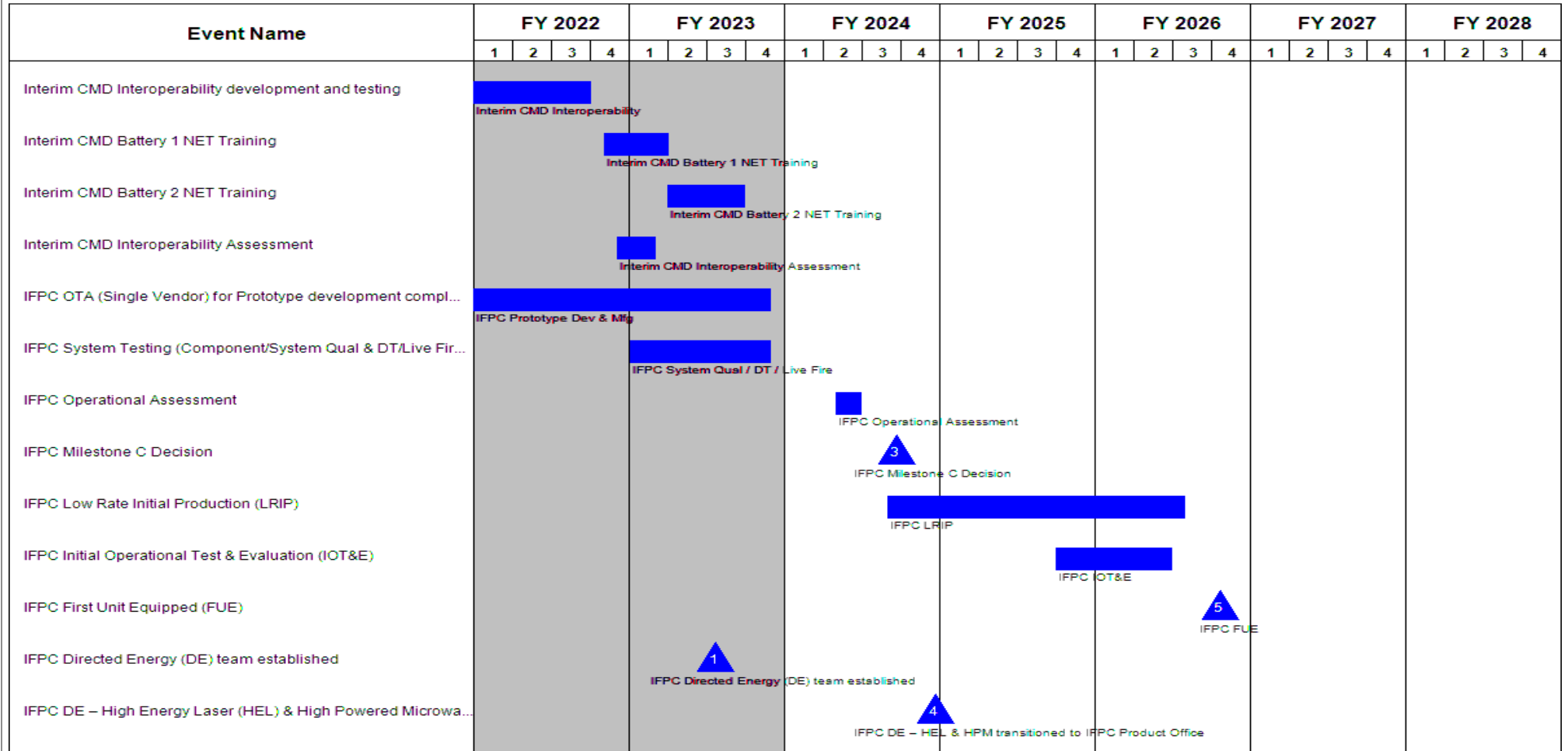
2040 / 5

R-1 Program Element (Number/Name)

PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1

Project (Number/Name)

EY7 / IFPC Increment 2 - Block 1



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023													
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Capability Inc 2 - Block 1										Project (Number/Name) EY7 / IFPC Increment 2 - Block 1									
Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028				
	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	
IFPC DE – HEL Prototyping																													
IFPC DE – HEL Prototyping																													
IFPC DE – HPM Prototyping																													
IFPC DE – HPM Prototyping																													
IFPC 2nd Interceptor Prototyping																													
IFPC Buy Launcher, AUR-M, Missile Assets for IOT&E																													

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605052A / <i>Indirect Fire Protection Capability Inc 2 - Block 1</i>	Project (Number/Name) EY7 / <i>IFPC Increment 2 - Block 1</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
National Defense Authorization Act for FY2019 directed IFPC Report to Congress	1	2019	1	2019
Interim CMD Directed Requirement - Interim CMD System	2	2019	2	2019
Interim CMD Title 10, Para 2373 Contract Award for Interim Iron Dome Btrys 1&2	4	2019	4	2019
Interim CMD Capability Integration and Test Activities	1	2020	4	2020
Interim CMD Interoperability development and testing	4	2020	3	2022
Interim CMD 1st IDDS-A Battery Delivery	1	2021	1	2021
Interim CMD 2nd IDDS-A Battery Delivery	2	2021	2	2021
Interim CMD Live Fire Performance Testing	4	2021	4	2021
Interim CMD Safety Confirmation/Capabilities & Limitations Testing	4	2021	4	2021
Interim CMD Urgent Materiel Release for Deployment of Batteries 1&2	4	2021	4	2021
Interim CMD Battery 1 NET Training	4	2022	1	2023
Interim CMD Battery 2 NET Training	2	2023	3	2023
Interim CMD Interoperability Assessment	4	2022	1	2023
IFPC MDA Decision Point for Middle Tier Acquisition Strategy	4	2021	4	2021
IFPC OTA (Single Vendor) for Prototype development completion and manufacturing	4	2021	4	2023
IFPC System Testing (Component/System Qual & DT/Live Fire Testing)	1	2023	4	2023
IFPC Operational Assessment	2	2024	2	2024
IFPC Milestone C Decision	3	2024	3	2024
IFPC Low Rate Initial Production (LRIP)	3	2024	3	2026
IFPC Initial Operational Test & Evaluation (IOT&E)	4	2025	2	2026
IFPC First Unit Equipped (FUE)	4	2026	4	2026
IFPC Directed Energy (DE) team established	3	2023	3	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605052A / Indirect Fire Protection Cap ability Inc 2 - Block 1	Project (Number/Name) EY7 / IFPC Increment 2 - Block 1	
		Start		End
Events		Quarter	Year	Quarter Year
IFPC DE - High Energy Laser (HEL) & High Powered Microwave (HPM) Mgt Trans to PO		4	2024	4 2024
IFPC DE - HEL Prototyping		1	2025	4 2028
IFPC DE - HPM Prototyping		1	2025	4 2028
IFPC 2nd Interceptor Prototyping		2	2024	2 2029
IFPC Buy Launcher, AUR-M, Missile Assets for IOT&E		2	2024	2 2024
Note CMD: Cruise Missiles Defense FUE: First Unit Equipped FY: Fiscal Year IFPC: Indirect Fire Protection Capability HEL: High Energy Laser HPM: High Powered Microwave				

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army **Date:** March 2023

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	15.763	26.809	35.319	-	35.319	42.549	43.904	41.170	30.879	0.000	236.393
BS9: Robotic Payloads	-	8.220	7.643	5.071	-	5.071	15.528	15.854	11.877	-	0.000	64.193
FB3: Robotics Architecture	-	2.260	2.769	2.731	-	2.731	2.730	2.734	2.764	2.795	0.000	18.783
FB6: Squad Multipurpose Equipment Transport (SMET)	-	2.951	11.270	19.839	-	19.839	15.918	15.936	16.106	16.286	0.000	98.306
FG8: Common Robotic Controller	-	2.332	5.127	7.678	-	7.678	8.373	9.380	10.423	11.798	0.000	55.111

A. Mission Description and Budget Item Justification

This Program Element supports modernization of the current Ground Robotic fleets by investigating technology insertions including, but not limited to: condition-based maintenance, vetronics, Robotic Architecture, autonomous operations and other emerging technologies. Funding also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

A portion of this funding line is a key enabler of the Army Modernization Priorities in support of the Universal Robotic Controller program.

BS9: The Robotic Payloads project is a suite of modular capabilities designed with open architecture to provide an increased level of standoff, situational awareness, disruption capability, and dexterity to respond to current and emergent Chemical, Biological, Radiological, and Nuclear (CBRN), Explosive Ordnance Disposal (EOD) and Engineer requirements. Current Man Transportable Robotic Systems Increment II (MTRS Inc II) and Common Robotic System - Heavy (CRS-H) system characteristics include the following: a remote-controlled articulated arm with a gripper, operating range up to 800 meters, multiple illuminated cameras, a pan/tilt surveillance camera, two-way radio, and a ruggedized operator control unit. This project supports development and testing of the following capabilities: Extended Range Mesh Network (ERMN), Pan/Tilt Imager (PTI) and Obstacle Avoidance & Digital Modeling (OA&DM). The use of robotic payloads allows the first approach, to potentially explosive hazards, to be made by a robot rather than a Soldier. These multiple, modular robotic mission payloads will use open architecture to integrate with the MTRS Inc II and CRS-H platforms to form the Army's next generation platform adaptable robotics systems.

FY 2024 Base dollars in the amount of \$5.071 million, continues to support the integration and testing of the Extended Range Mesh Network (ERMN) and Pan Tilt Imager (PTI) capabilities onto both the MTRS Inc and CRS-H platforms. Additionally, FY 2024 funding supports logistics product analysis, the start of Instructor and Key Personnel Training (I&KPT), continues production prove-out testing and fixes to the prototypes once testing is complete. Programmatic Support funding will be used to achieve Milestone C.

FB3: Robotic Architecture (RA) provides the engineering and development resources to manage the overarching architecture for robotic systems that are both modular and interoperable across the Joint Force in order to facilitate future modernization efforts. It will manage the interoperability standards, modular payload interfaces, common software and common architecture for robotics & autonomous platforms, payloads & universal controllers. It will establish a Common Specifications Reference

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>		R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>
<p>(CSR) to provide a repository codifying the Army Robotic Autonomous Systems (RAS) standards for open architecture, interoperability interfaces, common control, performance specifications and test results. RA includes the construction of program specific Interoperability Profiles (IOP) (i.e. Small Multipurpose Equipment Transport (S-MET) Inc II, Tactical Wheeled Vehicle-Leader Follower (TWV-LF) / Autonomous Transport Vehicle - System (ATV-S), Common Robotics System (Individual) (CRS(I)) Inc. II, Enhanced Robotic Payloads (ERP), Light Reconnaissance Robot (LRR), Optionally Manned Fighting Vehicle (OMFV), Robotic Combat Vehicle (RCV), Assault Breacher Vehicle Remote Control System (ABV RCS), Advanced Reconnaissance Vehicle (ARV), Universal Robotic Controller, etc.), and new standards addressing emerging requirements and Modular Mission Payloads (MMP) (i.e. Cyber Security, new autonomous behaviors & artificial intelligence, new payloads, lethality, etc.). RA underpins the RAS Software Foundry by providing the interface standards to allow the compatibility between next generation autonomous & unmanned software products (i.e., Robotic Technology Kernel, Warfighter Machine Interface, and innovative industry software products).</p> <p>FY 2024 Base dollars in the amount of \$2.731 million supports the post-finalization of the Robotics and Autonomous Systems, Ground (RAS-G) Interoperability Profile (IOP) Version 6.0, the initiation of IOP Version 7.0, and the maturation of IOP to a model based single source of truth to enable digital engineering. IOP 7.0 will provide the required modular open interfaces and compliance test tools for new programs including S-MET Modular Mission Payloads (MMPs), LRR, CRS(H), ATV-S, OMFV, RCV, ERP, Assault Breacher Vehicle Remote Control System (ABV RCS), Advanced Reconnaissance Vehicle (ARV), Robotics & Autonomy Command & Control (RAC2), Common Tactical Truck (CTT) and robotic applique kits for manned ground systems. The IOP provides the interfaces between autonomy kits and vehicle by-wire kits, as well as the interfaces to Robotic Technology Kernel (RTK) and Warfighter Machine Interface (WMI). Additionally, FY 2024 RDTE funds will iterate, mature & harden Robotic Operating System, Military (ROS-M) software modules and ROS-M instantiation documents and manage the ROS-M registry & repository infrastructure. FY 2024 RDTE funds will also mature the Common Specification Reference (CSR) from a minimum viable product to a minimum viable capability release.</p> <p>FB6: The Small Multipurpose Equipment Transport (S-MET) provides small units with a remote-controlled cargo/equipment transport and limited tactical resupply capability, increasing mission capabilities while reducing the individual Soldier load. The S-MET will be capable of carrying 2,500 pounds of equipment currently required to support Infantry and Engineer Platoons in the Infantry Brigade Combat Team (IBCT) for a 72-hour mission without resupply. It is also capable of generating 1-3KW of offload power, with an operational range of 20 miles in silent mode. S-MET will have open architectures, a remote control, support casualty evacuation, and integrate a number of Modular Mission Payloads (MMP) and technical insertions. The Army Acquisition Objective (AAO) is 2,818 across S-MET Inc I and S-MET Inc II. The Army Procurement Objective (APO) S-MET Inc I quantity is 624.</p> <p>The total cost of the S-MET Increment I Middle Tier of Acquisition Rapid Fielding effort is \$162.300 million from FY19 to FY24, including \$26.362 million of RDT&E and \$135.938 million of Procurement. The S-MET program is fully funded across the Future Years Defense Program.</p> <p>FY 2024 RDTE Base dollars in the amount of \$4.227 million continues to support the development, integration, and testing of Increment I Technical Insertions, Engineering Change Proposals, and Modular Mission Payloads (MMP) to increase mission capabilities and address requirements in the Abbreviated Capability Development Document (A-CDD). FY 2024 RDTE funds will also continue to fund testing and development of logistics material required to support MMP efforts. Program support to include labor, travel and miscellaneous expenses in support of these RDTE efforts will also be funded.</p> <p>FY 2024 RDTE Base dollars in the amount of \$15.612 also funds the continuation of S-MET Increment II development, prototyping, test initiation, and performance and safety testing. S-MET Inc II is a follow-on program that will add capability and system maturity in the areas of platform autonomy, increased cyber and electromagnetic</p>		

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605053A I Ground Robotics				
interference hardening, ballistic protections against kinetic threats, and improved battery safety for additional transportability modes. In addition, S-MET Inc II will have added capability to integrate government furnished Modular Mission Payloads (MMPs).						
FG8: Universal Robotics Control (URC) will provide the common information system for all squad and above Robotic and Autonomous Systems (RAS) command and control (C2). The U.S. Army is challenged to transform the Command and Control (C2) warfighting function to execute the RAS strategy in support of Multi-Domain Operations (MDO). The Universal Robotics Control (URC) program responds to this challenge by developing and fielding a system that rapidly synchronizes effects in all domains to defeat the enemy regardless of the mission command network. The URC operates as a distributed information system designed for resilience in a high threat environment utilizing existing and planned RAS elements. URC provides soldier and machine interfaces to establish and maintain positive C2 in all phases of combat and support operations, supported by a continuously developed software ecosystem. The capabilities of a unified information system for RAS C2 at the tactical edge enables improved situational awareness, multi-domain maneuvers, and deployment of lethal and nonlethal effects. URC is a critical enabling capability for NGCV OMFV and RCV programs.						
FY 2024 RDTE Base dollars in the amount of \$7.678 million will be utilized in the Execution Phase of the Software Acquisition Pathway. This effort will execute the development of the Minimum Viable Product (MVP) and the Minimum Viable Capability Release (MVCR) and Software Acquisition Pathway associated tasks. This phase will include: deployment of iterative developed software to the operational environment, conducting value assessments with user community to mature capability requirements, and provide technical training.						
B. Program Change Summary (\$ in Millions)		FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget		16.360	26.809	28.724	-	28.724
Current President's Budget		15.763	26.809	35.319	-	35.319
Total Adjustments		-0.597	0.000	6.595	-	6.595
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-0.597	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	6.595	-	6.595
Change Summary Explanation						
Project BS9 increased for completion of Extended Range Mesh Networking (ERMN) and Pan-Tilt Imaging (PTI) testing						

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) BS9 / Robotic Payloads			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BS9: Robotic Payloads	-	8.220	7.643	5.071	-	5.071	15.528	15.854	11.877	-	0.000	64.193
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Ground Robotics - Robotic Payloads project is a suite of modular capabilities designed with open architecture to provide an increased level of standoff, situational awareness, disruption capability and dexterity to respond to current and emergent Engineer, CBRN and EOD requirements. Current Man Transportable Robotic Systems Increment II (MTRS Inc II) and Common Robotic System - Heavy (CRS-H) system characteristics include the following: a remote controlled articulated arm with a gripper, operating range up to 800 meters, multiple illuminated cameras, a pan/tilt surveillance camera, two-way radio, and a ruggedized operator control unit. This project will support development and testing of the following capabilities: Extended Range Mesh Network (ERMN), Pan/Tilt Imager (PTI) and Obstacle Avoidance & Digital Modeling (OA&DM). The use of robotic payloads allows the first approach, to potentially explosive hazards, to be made by a robot rather than a Soldier. These multiple, modular robotic mission payloads will use open architecture to integrate with the MTRS Inc II and CRS-H platforms to form the Army's next generation platform adaptable robotics systems.

FY 2024 Base dollars in the amount of \$5.071 million, will support developmental testing and a soldier touch point of the Extended Range Mesh Network (ERMN) and Pan Tilt Imager (PTI) capabilities on both the MTRS Inc II and CRS-H platforms. Additionally, FY 2024 funding will support production qualification testing and a user jury. Programmatic Support funding will be used to prepare for production and achieve Milestone C.

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

	FY 2022	FY 2023	FY 2024
Title: Prototype and Payload Development Description: Development of Extended Range Mesh Network (ERMN), Pan/Tilt Imager (PTI) and payload prototypes and payload to platform integration requirements. FY 2023 Plans: FY 2023 funding will continue development of Extended Range Mesh Network (ERMN) and Pan/Tilt Imager (PTI) payload prototypes and payload to platform integration requirements. FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 decrease is due to development ending in FY 2023.	4.367	1.669	-
Title: Integration & Software Development (Platform) Description: Development of integration provisions for mounting the ERMN, PTI to both the MTRS Inc II and CRS-H platforms. Development of the necessary software updates to allow for payload to platform communications. FY 2023 Plans:	2.941	2.392	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) BS9 / <i>Robotic Payloads</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
FY 2023 funding will continue the development of integration provisions for mounting the Extended Range Mesh Network (ERMN) and Pan/Tilt Imager (PTI) to both the MTRS Inc II and CRS-H platforms. It will also continue development of the necessary software updates to allow for payload to platform communications.			
FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 decrease due to Software development and Integration ending in FY23.			
Title: ERMN and PTI Prototypes Description: Purchase of the ERMN & PTI payloads		-	1.000
FY 2023 Plans: Funding will purchase Extended Range Mesh Network (ERMN) and Pan/Tilt Imager (PTI) prototypes to be utilized in testing.			
FY 2024 Plans: FY 2024 funds to be used to update and retrofit payloads from test.			
FY 2023 to FY 2024 Increase/Decrease Statement: FY24 decrease due to retrofit costs being lower than original prototype procurement.			
Title: Testing and Evaluation Description: Testing, evaluation and log analysis of the ERMN, PTI payloads on to the host platforms CRS-H and MTRS Inc II		-	-
FY 2024 Plans: FY 2024 funding supports testing and training of the vendor prototypes to the performance specifications requirements and safety requirements. FY 2024 funding will also fund soldier test point, and product qualification testing.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to Test and Evaluation events.			
Title: Program Support Description: Program support for Enhanced Robotic Payload program		0.912	0.903
FY 2023 Plans: Funding will continue to support the Enhanced Robotic Payloads program during the development of the prototype payloads, integration & software development for the platforms, as well as the testing and evaluation of the payloads.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) BS9 / <i>Robotic Payloads</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
FY 2024 funds to support ERP program during integration, development and test of payloads on to host platforms, and achieve Milestone C.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to ramp up of program events in preparation for Milestone C.			
Title: SBIR/STTR Transfer		-	0.279
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.			
Title: Test Assets		-	1.400
FY 2023 Plans: FY23 funding will be used to purchase MTRS Inc II and CRS-H test assets (2 each). Systems will be dedicated and consumed in support of current and future ERP activities.			
FY 2023 to FY 2024 Increase/Decrease Statement: No Test assets will be purchased in FY24			
Accomplishments/Planned Programs Subtotals		8.220	7.643
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy PdM Robotic and Autonomous Systems (RAS) developed a Performance Specification (PSPEC) from the Enhanced Robotic Payloads-Unmanned Ground Systems (ERP-UGS) Capability Development Document (CDD). PdM RAS released a request for proposal from industry on capabilities to meet the PSPEC which resulted in the selection of the best capability to be further developed, integrated into the host platforms, and tested as a system in an Abbreviated Engineering Manufacturing Development (EMD) phase. After a successful EMD, a production decision will be made to enter Production and Deployment (PD) phase.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) BS9 / Robotic Payloads					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.279		-		-		-	0.000	0.279	-
Program Support	MIPR	DETROIT ACC and TACOM ILSC : Warren, MI	-	0.912	Oct 2021	0.903	Oct 2022	0.925	Oct 2023	-		0.925	0.000	2.740	-
Subtotal			-	0.912		1.182		0.925		-		0.925	0.000	3.019	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Prototype and Payload Development ERMN & PTI	SS/CPFF	FLIR : Boston, MA	-	4.367	Jan 2022	1.669	Feb 2023	-		-		-	0.000	6.036	-
Integration & Software Development ERMN & PTI	SS/CPFF	FLIR : Boston, Ma	-	2.941	May 2022	2.392	Feb 2023	-		-		-	0.000	5.333	-
ERMN & PTI Prototypes	SS/CPFF	FLIR : Boston, Ma	-	-		1.000	Feb 2023	0.350	Jul 2024	-		0.350	0.000	1.350	-
Test Assets (CRS-H and MTRS)	SS/TBD	FLIR : Boston, MA	-	-		1.400	Aug 2023	-		-		-	0.000	1.400	-
Subtotal			-	7.308		6.461		0.350		-		0.350	0.000	14.119	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Development Test ERMN & PTI	MIPR	ATEC : ABERDEEN, MD	-	-		-		1.000	May 2024	-		1.000	0.000	1.000	-
Logistics Product Development	MIPR	TACOM- ILSC : WARREN, MI	-	-		-		1.596	Mar 2024	-		1.596	0.000	1.596	-
Soldier Touch Point	TBD	TBD : TBD	-	-		-		0.200	May 2024	-		0.200	0.000	0.200	-
Production Qualification Test (ERMN & PTI) Plan and Conduct	MIPR	ATEC : ABERDEEN, MD	-	-		-		1.000	Sep 2024	-		1.000	0.000	1.000	-
Subtotal			-	-		-		3.796		-		3.796	0.000	3.796	N/A

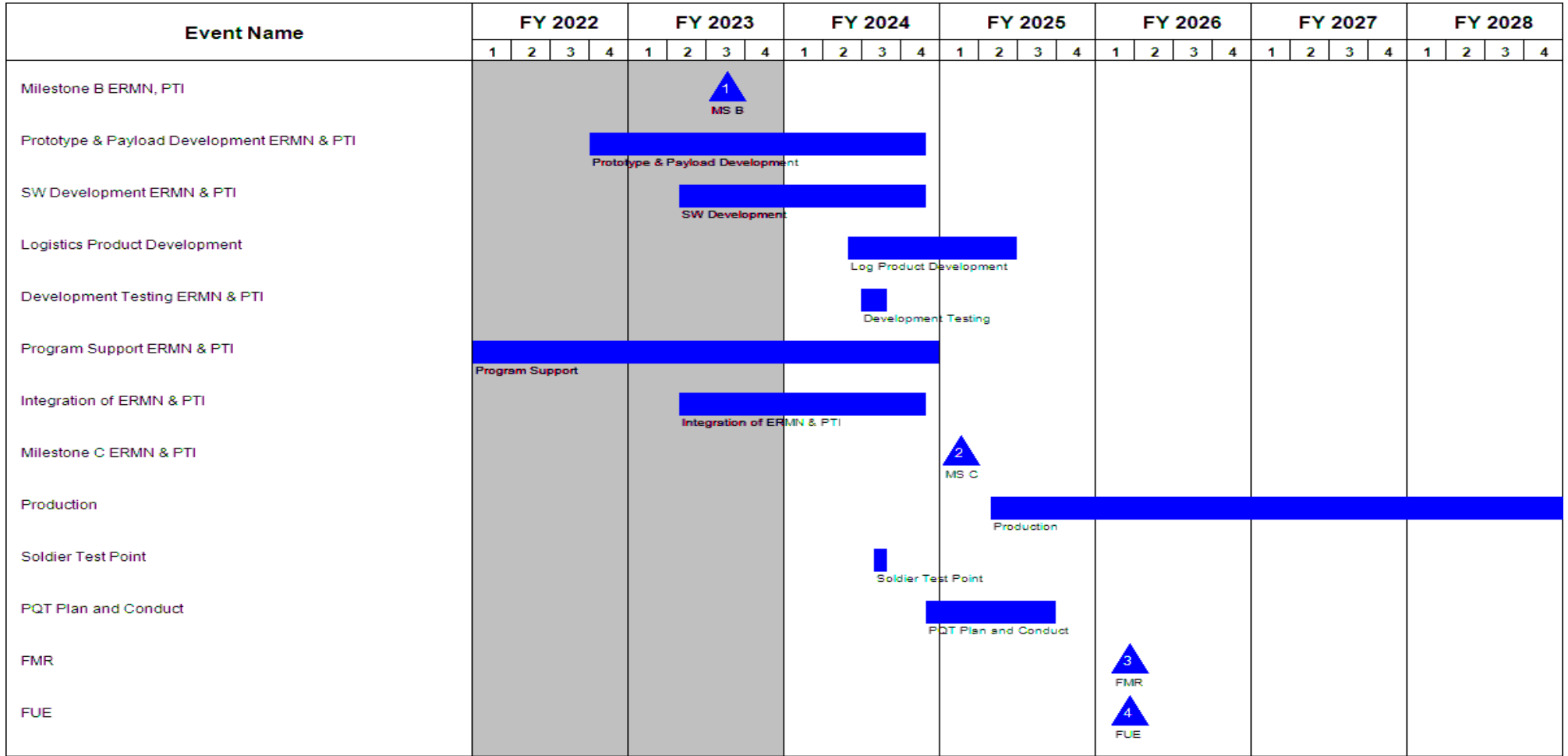
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023			
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics					Project (Number/Name) BS9 / Robotic Payloads				
		Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	8.220		7.643		5.071		-		5.071	0.000	20.934	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics		Project (Number/Name) BS9 / Robotic Payloads	



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army										Date: March 2023				
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)				
2040 / 5					PE 0605053A / Ground Robotics					BS9 / Robotic Payloads				

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Fielding																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) BS9 / <i>Robotic Payloads</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone B ERMN, PTI	3	2023	3	2023
Prototype & Payload Development ERMN & PTI	4	2022	4	2024
SW Development ERMN & PTI	2	2023	4	2024
Logistics Product Development	2	2024	2	2025
Development Testing ERMN & PTI	3	2024	3	2024
Program Support ERMN & PTI	1	2022	4	2024
Integration of ERMN & PTI	2	2023	4	2024
Milestone C ERMN & PTI	1	2025	1	2025
Production	2	2025	2	2029
Soldier Test Point	3	2024	3	2024
PQT Plan and Conduct	4	2024	3	2025
FMR	1	2026	1	2026
FUE	1	2026	1	2026
Fielding	1	2026	2	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FB3 / Robotics Architecture			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FB3: Robotics Architecture	-	2.260	2.769	2.731	-	2.731	2.730	2.734	2.764	2.795	0.000	18.783
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Robotic Architecture (RA) provides the engineering and development resources to manage the overarching architecture for robotic systems that are both modular and interoperable across the Joint Force in order to facilitate future modernization efforts. It will manage the interoperability standards, modular payload interfaces, common software and common architecture for robotics & autonomous platforms, payloads & universal controllers. It will enhance the Common Specifications Reference (CSR) to provide a repository codifying the Army Robotic Autonomous Systems (RAS) standards for open architecture, interoperability interfaces, common control, performance specifications and test results. RA includes the construction of program specific Interoperability Profiles (IOP) (i.e. Small Multipurpose Equipment Transport (S-MET) Inc II, Autonomous Transport Vehicle (ATV), Assault Breach Vehicle Remote Control System (ABV RCS), Robotics & Autonomy Command & Control (RAC2), Common Robotics System (Individual), (CRS(I)) Inc II, Enhanced Robotic Payloads (ERP), Light Reconnaissance Robot (LRR), Optionally Manned Fighting Vehicle (OMFV), Robotic Combat (RCV) variants, robotic bridging and construction vehicles, robotic applique kits for manned ground systems, etc.), and new standards addressing emerging requirements and Modular Mission Payloads (MMP) including Cyber Security, software safety requirements from MIL-STD-882E, new autonomous behaviors & artificial intelligence, new payloads, lethality, etc. RA underpins the RAS software Foundry by providing the interface standards to allow the compatibility between next generation autonomous & unmanned software products (i.e., Robotic Technology Kernel, Warfighter Machine Interface, and innovative industry software products). A key focus of RA will be integrating the RA interfaces with the larger enterprise confluence of Software Foundry, Agile/DevSecOps & software development environments as they are applied to matured product lines such as Robotic Technology Kernel (RTK) and Warfighter Machine Interface (WMI).

FY 2024 Base dollars in the amount of \$2.731 million supports the post-finalization of the Robotics and Autonomous Systems, Ground (RAS-G) Interoperability Profile (IOP) Version 6.0, the initiation of IOP Version 7.0, and the maturation of IOP to a model based single source of truth to enable digital engineering. IOP 7.0 will provide the required modular open interfaces and compliance test tools for new programs including S-MET Modular Mission Payloads (MMPs), LRR, CRS(H), ATV, OMFV, RCV, ERP, Assault Breacher Vehicle Remote Control System (ABV RCS), Advanced Reconnaissance Vehicle (ARV), Robotics & Autonomy Command & Control (RAC2), Common Tactical Truck (CTT) and robotic applique kits for manned ground systems. The IOP provides the interfaces between autonomy kits and vehicle by-wire kits, as well as the interfaces to Robotic Technology Kernel (RTK) and Warfighter Machine Interface (WMI). Additionally, FY 2024 RDTE funds will iterate, mature & harden Robotic Operating System, Military (ROS-M) software modules and ROS-M instantiation documents and manage the ROS-M registry & repository infrastructure. FY 2024 RDTE funds will also mature the Common Specification Reference (CSR) from a minimum viable product to a minimum viable capability release.

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

	FY 2022	FY 2023	FY 2024
Title: Robotics Architecture	2.260	2.668	2.731
Description: Provide architecture tools and support for current Programs of Record (PoR) & new requirements to allow for interoperability within the Joint community for Robotics & Autonomous Systems.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>		Project (Number/Name) FB3 / <i>Robotics Architecture</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
<p>FY 2023 RDTE funds in the amount of \$2.668 million supports the finalization of the Robotics and Autonomous Systems, Ground (RAS-G) Interoperability Profile (IOP) Version 6. IOP V6.0 will provide the required modular open interfaces and compliance test tools for new programs including Small Mobile Equipment Transport (S-MET) Modular Mission Payloads (MMPs), Common Robotic System Heavy (CRS(H)), Tactical Wheeled Vehicle Leader Follower (TWVLF), Optionally Manned Fighting Vehicle (OMFV), Robotic Combat Vehicle (RCV), Enhanced Robotics Payloads (ERP), Assault Breacher Vehicle Remote Control System (ABV RCS), Advanced Recon Vehicle (ARV), Universal Robotic Controller (URC), and robotic applique kits for manned ground systems. Additionally, FY 2023 RDTE funds will continue the development & hardening of Robotic Operating System, Military (ROS-M) software modules and ROS-M instantiation documents, and management of ROS-M registry & repository infrastructure. FY 2023 RDTE funds will also result in the minimum viable product of the Common Specification Reference (CSR).</p> <p>FY 2024 Plans: FY 2024 RDTE funds in the amount of \$2.731 million supports the post-finalization of the Robotics and Autonomous Systems, Ground (RAS-G) Interoperability Profile (IOP) Version 6. IOP V6.0 and initiation of IOP V7.0 and will provide the required modular open interfaces and compliance test tools for new programs including Small Mobile Equipment Transport (S-MET) Increment II & Modular Mission Payloads (MMPs), Autonomous Tactical Vehicle-System (ATV-S), Optionally Manned Fighting Vehicle (OMFV), Robotic Combat Vehicle (RCV), Enhanced Robotics Payloads (ERP), Assault Breacher Vehicle Remote Control System (ABV RCS), Robotics Architecture Command & Control (RAC2), Common Tactical Truck (CTT) and robotic applique kits for manned ground systems. Additionally, FY 2024 RDTE funds will continue the development, iteration & hardening of Robotic Operating System, Military (ROS-M) software modules and ROS-M instantiation documents, and management of ROS-M registry & repository infrastructure. FY 2024 RDTE funds will also move the Common Specification Reference (CSR) from minimum viable product to minimum viable capability release.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase is due to Conformance Verification Testing Update efforts scheduled for FY 2024.</p>					
<p>Title: SBIR/STTR Transfer</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.</p>			-	0.101	-
Accomplishments/Planned Programs Subtotals			2.260	2.769	2.731
C. Other Program Funding Summary (\$ in Millions)					
N/A					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FB3 / <i>Robotics Architecture</i>
C. Other Program Funding Summary (\$ in Millions)		
Remarks		
D. Acquisition Strategy		
<p>In FY 2024 the Robotics Architecture line develops IOP, ROS-M, and CSR tools and supporting infrastructure. It leverages intellectual capital and products which allow for Joint interoperability and helps meet Army Program of Record cost and schedule while delivering high quality products for fielding. The architecture and tools developed under this line provide enterprise-wide efficiencies and are central to the Army's acquisition philosophy of a modular open system approach between the major subsystems of robotics and autonomous systems, as described throughout the Army approved Robotics & Autonomous Systems (RAS) Initial Capabilities Document (ICD), as well as its update to support artificial intelligence.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FB3 / Robotics Architecture					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management	MIPR	Various : Multiple	1.904	0.147	Nov 2021	0.146	Dec 2022	0.161	Jan 2024	-		0.161	0.000	2.358	-
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.101	Jan 2023	-		-		-	0.000	0.101	-
Subtotal			1.904	0.147		0.247		0.161		-		0.161	0.000	2.459	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
IOP Version Development	SS/CPFF	Various / DCS Corp : Warren, MI	2.063	0.650	Jun 2022	0.700	Mar 2023	0.370	Nov 2023	-		0.370	0.000	3.783	-
IOP Version Completion & Release	MIPR	GVSC : Warren, MI	-	-		0.800	Feb 2023	0.500	Nov 2023	-		0.500	0.000	1.300	-
IOP Version Instantiation Tool Development	MIPR	Various : Multiple	0.126	-		-		-		-		-	0.000	0.126	-
Conformance Verification Testing (CVT) Updates	MIPR	GVSC : Warren, MI	0.516	-		-		0.600	Nov 2023	-		0.600	0.000	1.116	-
DCS / Neya Systems for Common Specification Reference (CSR) development	C/CPFF	DCS / Neya Systems : Various	-	1.002	Jul 2022	0.300	Mar 2023	0.300	Mar 2024	-		0.300	0.000	1.602	-
Model based Systems Engineering IOP	MIPR	GVSC : Warren, MI	-	-		-		0.200	Nov 2023	-		0.200	0.000	0.200	-
Architecture Products for Autonomous Systems	SS/CPFF	DCS Corp : Alexandria, VA	-	-		0.275	Apr 2023	-		-		-	0.000	0.275	-
Robotic Operating System - Military (ROS-M)	Various	Various : Multiple	1.809	0.461	May 2022	0.447	May 2023	0.600	Mar 2024	-		0.600	0.000	3.317	-
Subtotal			4.514	2.113		2.522		2.570		-		2.570	0.000	11.719	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			6.418	2.260		2.769		2.731		-		2.731	0.000	14.178	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army							Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>			Project (Number/Name) FB3 / <i>Robotics Architecture</i>			
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army										Date: March 2023			
Appropriation/Budget Activity					R-1 Program Element (Number/Name)					Project (Number/Name)			
2040 / 5					PE 0605053A / Ground Robotics					FB3 / Robotics Architecture			

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Conformance Verification Tool (V5) Development																												
IOP V6																												
Conformance Verification Tool (V6) Development																												
IOP V7																												
Conformance Verification Tool (V7) Development																												
IOP V8																												
ROS-M (Agile Epics)																												
Common Specification Reference (CSR) Iterations																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics	Project (Number/Name) FB3 / Robotics Architecture	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
IOP V4 Capability Plan (CP) Development	1	2018	2	2018
IOP V4 WIPT Kickoff	3	2018	3	2018
IOP V4 WG Development	3	2018	3	2019
Conformance Verification Testing (CVT) V3 Update release to industry	1	2018	4	2018
Instantiation tool development	2	2018	4	2018
Conformance Verification Testing (CVT) V4 Development	1	2019	4	2019
Conformance Verification Tool (CVT) V4 Update release to industry	1	2020	1	2021
IOP V5 Capability Plan (CP) Development	1	2020	2	2020
IOP V5 WIPT Kickoff	3	2020	3	2020
IOP V5 WG Development	3	2020	3	2021
IOP V5 Best Artifacts Stress Testing	1	2021	3	2021
Conformance Verification Tool (V5) Development	2	2021	2	2022
IOP V6	1	2022	4	2022
Conformance Verification Tool (V6) Development	2	2023	1	2025
IOP V7	1	2024	4	2024
Conformance Verification Tool (V7) Development	2	2025	1	2027
IOP V8	1	2026	4	2027
ROS-M Module SRR	3	2020	3	2020
ROS-M Module PDR	4	2020	4	2020
ROS-M Module CDR	1	2021	1	2021
ROS-M Module Build	1	2021	2	2021
ROS-M Module Stress Testing & Hardening	4	2020	2	2021
ROS-M Module Registry & Repository software Drop	2	2021	2	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>		Project (Number/Name) FB3 / <i>Robotics Architecture</i>
		Start		End
Events	Quarter	Year	Quarter	Year
ROS-M (Agile Epics)	1	2022	4	2028
Common Specification Reference (CSR) Iterations	3	2022	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FB6 / Squad Multipurpose Equipment Transport (SMET)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FB6: Squad Multipurpose Equipment Transport (SMET)	-	2.951	11.270	19.839	-	19.839	15.918	15.936	16.106	16.286	0.000	98.306
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The total cost of the S-MET Increment I Middle Tier of Acquisition Rapid Fielding effort is \$162.300 million from FY19 to FY24, including \$26.362 million of RDT&E and \$135.938 million of Procurement. The S-MET program is fully funded across the Future Years Defense Program.

The Small Multipurpose Equipment Transport (S-MET) provides small units with a remote-controlled cargo/equipment transport and limited tactical resupply capability, increasing mission capabilities while reducing the individual Soldier load. The S-MET will be capable of carrying 2,500 pounds of equipment currently required to support Infantry and Engineer Platoons in the Infantry Brigade Combat Team (IBCT) for a 72-hour mission without resupply. It is also capable of generating 1-3KW of offload power, with an operational range of 20 miles in silent mode. S-MET will have open architectures, a remote control, support casualty evacuation, and integrate a number of Modular Mission Payloads (MMP) and technical insertions. The Army Acquisition Objective (AAO) is 2,818 across S-MET Inc I and S-MET Inc II. The Army Procurement Objective (APO) S-MET Inc I quantity is 624.

FY 2024 RDTE Base dollars in the amount of \$4.227 million continues to support the development, integration, and testing of Increment I Technical Insertions, Engineering Change Proposals, and Modular Mission Payloads (MMP) to increase mission capabilities and address requirements in the Abbreviated Capability Development Document (A-CDD). FY 2024 RDTE funds will also continue to fund testing and development of logistics material required to support MMP efforts. Program support to include labor, travel and miscellaneous expenses in support of these RDTE efforts will also be funded.

FY 2024 RDTE Base dollars in the amount of \$15.612 also funds the continuation of S-MET Increment II development, prototyping, test initiation, and performance and safety testing. S-MET Inc II is a follow-on program that will add capability and system maturity in the areas of platform autonomy, increased cyber and electromagnetic interference hardening, ballistic protections against kinetic threats, and improved battery safety for additional transportability modes. In addition, S-MET Inc II will have added capability to integrate government furnished Modular Mission Payloads (MMPs). million funds S-MET Increment II development, prototyping, test initiation, and performance and safety testing.

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

	FY 2022	FY 2023	FY 2024
Title: S-MET	2.951	6.700	4.227
Description: Small Multipurpose Equipment Transport (S-MET) Increment I			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FB6 / <i>Squad Multipurpose Equipment Transport (SMET)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>FY 2023 RDTE Base dollars in the amount of \$6.700 million continues to support Increment I Technical Insertions, Funds Eight (8) Prototypes for remaining test and Modular Mission Payload Development, Engineering Change Proposals, and Modular Mission Payloads (MMP) to increase mission capabilities and address requirements in the Abbreviated Capability Development Document (A-CDD). FY 2023 RDTE funds will also to continue to fund testing and development of logistics material required to support MMP efforts. Program support to include labor, travel and miscellaneous expenses in support of these RDTE efforts will also be funded.</p> <p>FY 2024 Plans: FY 2024 RDTE Base dollars in the amount of \$4.227 million continues to support the development, integration, and testing of Increment I Technical Insertions, Engineering Change Proposals, and Modular Mission Payloads (MMP) to increase mission capabilities and address requirements in the Abbreviated Capability Development Document (A-CDD). FY 2024 RDTE funds will also continue to fund testing and development of logistics material required to support MMP efforts. Program support to include labor, travel and miscellaneous expenses in support of these RDTE efforts will also be funded.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 to FY 2024 budget decreases related to ramp up efforts to support S-MET Increment II</p>			
<p>Title: S-MET Inc II</p> <p>Description: Small Multipurpose Equipment Transport (S-MET) Increment II</p> <p>FY 2023 Plans: FY 2023 RDTE Base dollars in the amount of \$4.158 million funds SMET Increment II development, prototyping, and test initiation.</p> <p>FY 2024 Plans: FY 2024 RDTE Base dollars in the amount of \$15.612 million funds S-MET Increment II development, prototyping, test initiation, and performance and safety testing.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2023 to FY 2024 budget increases related to ramp up efforts to support S-MET Increment II</p>		-	4.158
<p>Title: SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC §638</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>		-	0.412
			-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army								Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>				Project (Number/Name) FB6 / <i>Squad Multipurpose Equipment Transport (SMET)</i>			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2022	FY 2023	FY 2024	
Funding transferred in accordance with Title 15 USC §638.											
Accomplishments/Planned Programs Subtotals								2.951	11.270	19.839	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• R12154: <i>Squad Multipurpose Equipment Transport (SMET)</i>	24.448	29.709	45.890	-	45.890	74.670	82.884	65.360	65.419	0.000	388.380
Remarks											
D. Acquisition Strategy											
<p>It is the Army's intent to maximize the use of an Open Systems Architecture (OSA), as well as the approved Unmanned Ground Vehicle (UGV) interoperability profiles (IOP) for Small Multipurpose Equipment Transport (S-MET). Data collected up to and during the Phase III Production Effort will be utilized to reduce development efforts and provide cost savings for future technical insertions, Engineering Change Proposals (ECP), and Modular Mission Payloads (MMP) into the Program of Record. Throughout the life of the program, the Army will continue to survey the marketplace to identify opportunities for technology insertions and required Modular Mission Payloads (MMP), relying on competition to drive down costs.</p> <p>Small Multipurpose Equipment Transport (S-MET) Increment II will be a competitive field test run off and paper evaluation leading to a down selection to one or two vendor(s) under Major Capability Acquisition (MCA). The Engineering Manufacturing & Development (EMD) phase will include the delivery of prototype systems, safety and performance testing, reliability availability and maintainability testing, and further development and integration of Modular Mission Payloads (MMP). Upon EMD completion, the government will competitively down select one contractor for Program of Record (POR) Production & Deployment.</p>											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FB6 / Squad Multipurpose Equipment Transport (SMET)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management Costs	MIPR	PM FP : Warren, MI	5.622	1.726	Oct 2021	1.599	Oct 2022	1.591	Oct 2023	-		1.591	0.000	10.538	-
SBIR/STTR Transfer	TBD	Varoius : Various112	-	-		0.412	Oct 2022	-		-		-	0.000	0.412	-
Increment II Program Management Costs	MIPR	PM FP : Warren, MI	-	-		2.767	Oct 2022	3.481	Oct 2023	-		3.481	0.000	6.248	-
Subtotal			5.622	1.726		4.778		5.072		-		5.072	0.000	17.198	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Increment II Prototype Development Phase	C/FFP	Year Long Excursion : TBD	-	-		1.576	Oct 2022	10.546	Jan 2024	-		10.546	0.000	12.122	-
Technical Insertions	C/FFP	TBD : TBD	4.299	0.150	Feb 2022	1.988	Feb 2023	1.116	Feb 2024	-		1.116	0.000	7.553	-
Modular Mission Payloads (MMP)	MIPR	Ft Benning : Ft Benning, GA	1.501	0.874	Jan 2022	1.377	Jan 2023	0.500	Jan 2024	-		0.500	0.000	4.252	-
Increment I Prototypes	SS/FFP	General Dynamics Land Systems : Sterling Heights, MI	-	-		1.153	Mar 2023	-		-		-	0.000	1.153	-
Subtotal			5.800	1.024		6.094		12.162		-		12.162	0.000	25.080	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Cyber / Integration	MIPR	TBD : TBD	2.962	-		-		-		-		-	0.000	2.962	-
Subtotal			2.962	-		-		-		-		-	0.000	2.962	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FB6 / Squad Multipurpose Equipment Transport (SMET)					
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
ATEC Test Support	MIPR	Army Test Engineering Center : Various	6.579	0.201	Nov 2021	0.398	Nov 2022	1.020	Nov 2023	-		1.020	0.000	8.198	-
Increment II ATEC Test Support	MIPR	Army Test Engineering Center : Various	-	-		-		1.585	Jun 2024	-		1.585	0.000	1.585	-
Subtotal			6.579	0.201		0.398		2.605		-		2.605	0.000	9.783	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			20.963	2.951		11.270		19.839		-		19.839	0.000	55.023	N/A
Remarks															
The FY 2023 request includes \$6.700 million for the Small Multipurpose Equipment Transport Increment I Middle Tier Acquisition (MTA).															
The FY 2024 request includes \$4.227 million for the Small Multipurpose Equipment Transport Increment I Middle Tier Acquisition (MTA).															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics		Project (Number/Name) FB6 / Squad Multipurpose Equipment Transport (SMET)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
S-MET																												
S-MET Tech Insertions																												
Tech Insertions																												
S-MET Modular Mission Payloads (MMP)																												
MMP																												
S-MET Inc I Program of Record Logistics Development																												
POR Logistics Development																												
S-MET Inc I Test Events																												
Testing																												
S-MET Inc I Conditional Materiel Release (CMR)																												
1 CMR																												
S-MET Inc I First Unit Equipped (FUE)																												
2 FUE																												
S-MET Inc I Full Materiel Release (FMR)																												
4 FMR																												
S-MET Increment II AROC CDD Approval																												
3 Inc II AROC CDD Approval																												
S-MET Increment II EMD																												
Inc II EMD																												
S-MET Increment II Transition to Production																												
Inc II Production																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FB6 / <i>Squad Multipurpose Equipment Transport (SMET)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
S-MET	1	2018	4	2022
S-MET Tech Insertions	3	2018	1	2029
S-MET Modular Mission Payloads (MMP)	2	2019	1	2029
S-MET In I DT / OT	4	2018	4	2021
S-MET Technology Demo	1	2019	3	2019
S-MET MMP Assessment	3	2019	3	2019
S-MET 804 MTA Approval	4	2019	4	2019
S-MET Production Award	4	2020	4	2020
S-MET Inc I Program of Record Logistics Development	4	2020	1	2024
S-MET Inc I Test Events	3	2023	2	2024
S-MET Inc I Conditional Materiel Release (CMR)	3	2023	3	2023
S-MET Inc I First Unit Equipped (FUE)	3	2023	3	2023
S-MET Inc I Full Materiel Release (FMR)	2	2024	2	2024
S-MET Increment II AROC CDD Approval	3	2023	3	2023
S-MET Increment II EMD	2	2024	2	2026
S-MET Increment II Transition to Production	2	2026	1	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FG8 / Common Robotic Controller			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FG8: Common Robotic Controller	-	2.332	5.127	7.678	-	7.678	8.373	9.380	10.423	11.798	0.000	55.111
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Robotic and Autonomous Command and Control effort (RAC2) (formerly Universal Robotic Control (URC)) is a software only program that is a critical capability for ground robotic vehicles: the Next Generation Combat Vehicle (NGCV), Optionally Manned Fighting Vehicle (OMFV), Robotic Combat Vehicle (RCV), and unmanned aircraft vehicles: Short-Range Reconnaissance (SRR), and Long-Range Reconnaissance (LRR). RAC2 will provide the common information system for all Brigade and below Robotic and Autonomous Systems (RAS) Command and Control (C2). The RAC2 program meets the challenge of providing the C2 warfighting function to execute the US Army RAS Strategy in support of Multi-Domain Operations (MDO). RAC2 provides soldier and machine interfaces to establish and maintain positive C2 in all phases of combat and support operations, supported by a continuously developed software ecosystem. The capabilities of RAC2 provide a unified information system at the tactical edge enabling improved situational awareness and multi-domain maneuver.

FY 2024 RDTE Base dollars in the amount of \$7.678 million will be utilized in the Execution Phase of the Software Acquisition Pathway. This effort will execute the development of the Minimum Viable Product (MVP) and the Minimum Viable Capability Release (MVCR) and Software Acquisition Pathway associated tasks. This phase will include deployment of iterative developed software to the operational environment, conducting value assessments with user community to mature capability requirements, and provide technical training.

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

	FY 2022	FY 2023	FY 2024
Title: RAC2 improves Soldier situational awareness while reducing cognitive load on Soldiers and the robotics portfolio logistics footprint	2.332	4.940	7.678
Description: The Robotic and Autonomous Command and Control (RAC2) information system improves situational awareness, multi-domain maneuvers, and deployment of lethal and nonlethal effects utilizing the entire Robotics and Autonomous Systems (RAS) portfolio.			
FY 2023 Plans: FY 2023 RDTE funding in the amount of \$5.127 million will be utilized for Systems Engineering and Program Management (SEPM), risk reduction, and program maturation. This effort will develop and execute risk reduction and program maturation activities. This includes the personnel for preparation of the necessary acquisition strategy, plans, costing, specifications, and supporting documentation for the scheduled FY 2024 year of execution. FY23 funding will be utilized to conduct the planning phase of the Software Acquisition Pathway per Acquisition Decision Memorandum (ADM) signed 26 April 2022.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FG8 / <i>Common Robotic Controller</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>FY 2024 RDTE funding in the amount of \$7.678 million will be utilized for System Engineering and Program Management (SEPM), Software Engineering Development and Licensing to support the execution phase of the Software Acquisition Pathway. This effort will execute the development of the Minimum Viable Product (MVP) and Minimum Viable Capability Release (MVCR) and Software Acquisition Pathway associated tasks. This Phase will include deployment of iterative developed software to the operational environment, conducting value assessments with user community to mature capability requirements, and provide technical training.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> FY 2023 to FY 2024 budget increases related to additional efforts of deployment of software to the operational environment, conducting value assessments, and technical training support.</p>			
<p><i>Title:</i> Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR)</p> <p><i>Description:</i> Funding transferred in accordance with Title 15 USC §638</p> <p><i>FY 2023 Plans:</i> Funding transferred in accordance with Title 15 USC §638</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC §638</p>	-	0.187	-
Accomplishments/Planned Programs Subtotals	2.332	5.127	7.678

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• G99595: <i>Common Robotic System-Individual (CRS-I)</i>	1.141	-	0.000	-	0.000	-	-	-	-	0.000	1.141

Remarks

D. Acquisition Strategy

The RAC2 is to conduct Software Acquisition Pathway per Acquisition Decision Memorandum (ADM) signed 26 April 2022.

Robotic and Autonomous Command and Control (RAC2) Software Capabilities Need Statement (CNS) dated 31 March 2022 was approved by the Robotic Requirements Division (RRD) Maneuver-Capabilities Development Integration Directorate (M-CDID).

The Robotic Autonomous Command and Control (RAC2) Capability Needs Statement (CNS) defines critical capabilities for Battalion (BN) and below Robotic and Autonomous Systems (RAS) Command and Control (C2) software (SW) that enable the operational RAS System of Systems (SoS). The procedures, infrastructure,

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FG8 / <i>Common Robotic Controller</i>
<p>developmental environment, and capabilities developed for RAC2 will provide the basis for future RAS C2 SW development as well as integration into legacy and future air/ground platforms.</p> <p>Project Manager Unmanned Air Systems (PM-UAS), as the material developer, will coordinate the Army's combined efforts for the development of RAS C2. The Robotics Requirements Division (RRD) will serve as the lead capability developer for RAC2. This partnership will prioritize development of detailed user needs and will integrate these needs into the system's capabilities. PM UAS will also provide annual RAC2 CNS user updates, in partnership with RRD, and in-line with the jointly developed User Agreement (UA).</p> <p>PM UAS will develop and maintain a product roadmap and product backlog for each of the main capabilities based on the RAC2 UA. PM UAS will seek to gain user feedback through a series of virtual/simulated or live/field test events. PM UAS will utilize user feedback from these events to inform prioritization for the product roadmaps and backlogs for each capability.</p> <p>PM UAS will implement software for each capability, which builds on Modular Open Systems Approach (MOSA) principles and in accordance with Inter-Operability Protocols (IOPs).</p>		

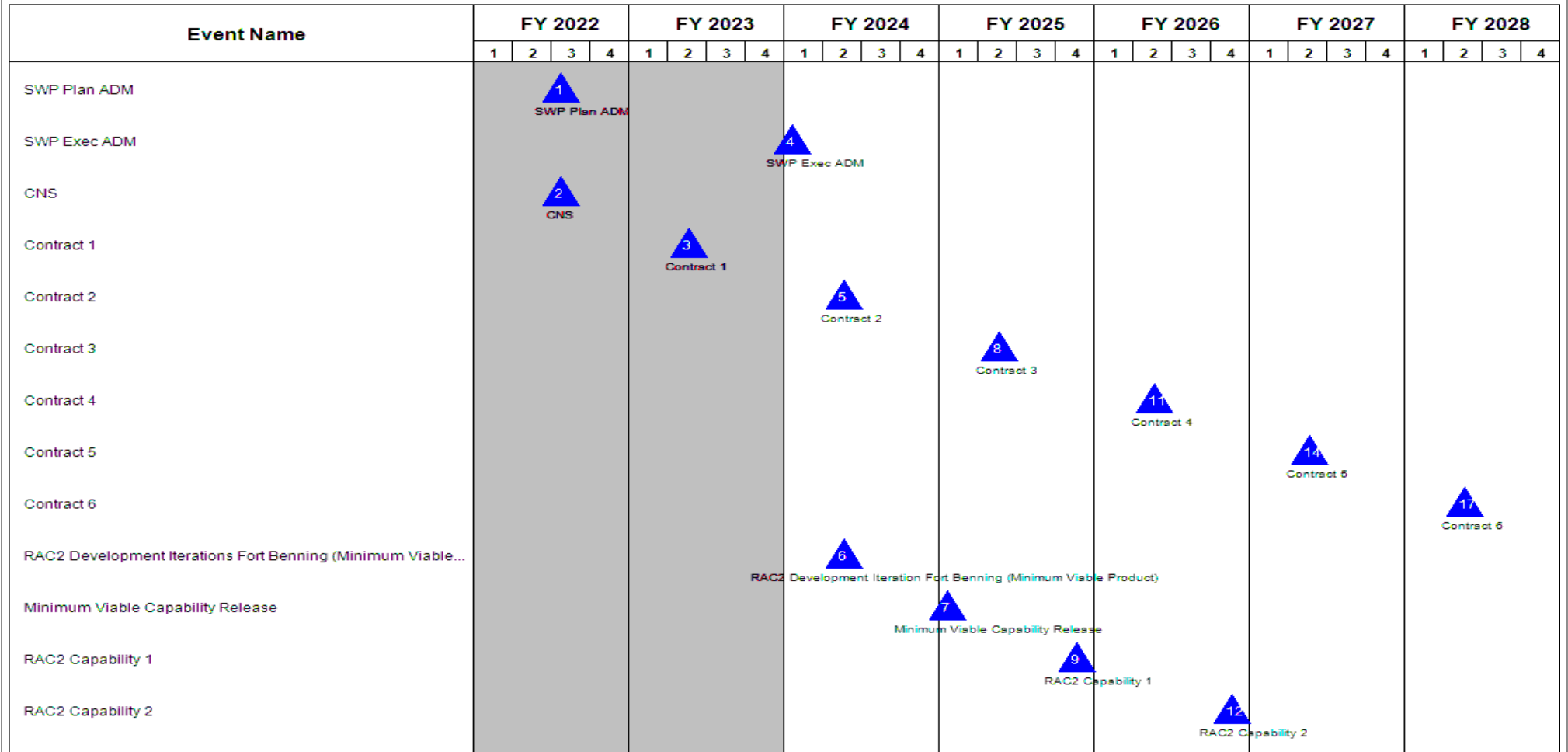
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics				Project (Number/Name) FG8 / Common Robotic Controller					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management support	C/TBD	Various : Multiple	2.382	1.602	Jun 2022	2.748	Nov 2022	2.241	Jan 2024	-		2.241	0.000	8.973	-
SBIR/STTR	TBD	TBD : TBD	-	-		0.187	Mar 2023	-		-		-	0.000	0.187	-
Subtotal			2.382	1.602		2.935		2.241		-		2.241	0.000	9.160	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Engineering Manufacturing & Development	C/CPFF	TBD : TBD	0.517	-		-		3.542	Jan 2024	-		3.542	0.000	4.059	-
Software support	Various	Various : Various	1.284	-		-		1.895	Jan 2024	-		1.895	0.000	3.179	-
Risk Reduction/ Engineering Studies	TBD	TBS : TBD	-	0.730	Jun 2022	2.192	Feb 2023	-		-		-	0.000	2.922	-
Subtotal			1.801	0.730		2.192		5.437		-		5.437	0.000	10.160	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			4.183	2.332		5.127		7.678		-		7.678	0.000	19.320	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / <i>Ground Robotics</i>	Project (Number/Name) FG8 / <i>Common Robotic Controller</i>
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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army										Date: March 2023				
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics					Project (Number/Name) FG8 / Common Robotic Controller				

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
RAC2 Capability 3																												
Value Assessment 1																												
Value Assessment 2																												
Value Assessment 3																												
Risk Reduction & Maturation																												
Software Development																												
Software Licensing																												
Software Integration																												
Software Management & Testing																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605053A / Ground Robotics	Project (Number/Name) FG8 / Common Robotic Controller	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
SWP Plan ADM	3	2022	3	2022
SWP Exec ADM	1	2024	1	2024
CNS	3	2022	3	2022
Contract 1	2	2023	2	2023
Contract 2	2	2024	2	2024
Contract 3	2	2025	2	2025
Contract 4	2	2026	2	2026
Contract 5	2	2027	2	2027
Contract 6	2	2028	2	2028
RAC2 Development Iterations Fort Benning (Minimum Viable Product)	2	2024	2	2024
Minimum Viable Capability Release	1	2025	1	2025
RAC2 Capability 1	4	2025	4	2025
RAC2 Capability 2	4	2026	4	2026
RAC2 Capability 3	4	2027	4	2027
Value Assessment 1	1	2026	1	2026
Value Assessment 2	1	2027	1	2027
Value Assessment 3	1	2028	1	2028
Risk Reduction & Maturation	2	2022	4	2023
Software Development	3	2024	4	2030
Software Licensing	3	2024	4	2030
Software Integration	3	2024	4	2030
Software Management & Testing	3	2024	4	2030

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	PE 0605054A / <i>Emerging Technology Initiatives</i>											
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	219.284	244.047	201.274	-	201.274	113.834	99.260	76.806	77.647	0.000	1,032.152
FI3: <i>Rapid Capability Development and Maturation</i>	-	207.950	231.515	188.173	-	188.173	100.374	85.504	62.750	63.434	0.000	939.700
FL7: <i>Rapid Capability Support</i>	-	11.334	12.532	13.101	-	13.101	13.460	13.756	14.056	14.213	0.000	92.452

A. Mission Description and Budget Item Justification

A portion of this funding line has directly supported the Air & Missile Defense (AMD) Army Modernization Priority. Emerging Technology Initiatives funds prototyping and demonstration, fielding and sustainment of selected technology enabled capabilities to defeat emerging threats against ground, aviation, command, control, communications & reconnaissance systems and equipment, precision weapons, and Soldier equipment. Funding facilitates maturation and demonstration of emerging technologies and systems in relevant varied environments and tactical/operational scenarios. The primary goal is to deliver experimental prototypes for residual combat capability through a collaborative and accelerated acquisition process for transition to a Program of Record in an Army or DoD Program Management Office. Technologies will be demonstrated in operational environments, performing tactical/operational scenarios.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	226.802	185.311	75.157	-	75.157
Current President's Budget	219.284	244.047	201.274	-	201.274
Total Adjustments	-7.518	58.736	126.117	-	126.117
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	59.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.518	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	126.117	-	126.117
• FFRDC Transfer	-	-0.264	-	-	-

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: FI3: *Rapid Capability Development and Maturation*

Congressional Add: *Program Increase: Counter-Unmanned Aerial System Integration with Robotic Vehicles*

Congressional Add: *Program Increase: High Energy Laser Targeting System*

Congressional Add: *Program Increase: Autonomous Offensive Swarming*

FY 2022	FY 2023
5.000	-
5.000	-
-	9.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	
Congressional Add Details (\$ in Millions, and Includes General Reductions)		FY 2022	FY 2023
Congressional Add: Program Increase: C-sUAS HEL Atmospheric Study and Prototype Sensors		-	15.000
Congressional Add: Program Increase: Palletized High Energy Laser		-	5.000
Congressional Add: Program Increase: Counter UAS Technologies		-	25.000
Congressional Add: Program Increase: Extended Shortwave Infrared Sensor for High Energy Lasers		-	5.000
Congressional Add Subtotals for Project: FI3		10.000	59.000
Congressional Add Totals for all Projects		10.000	59.000
Change Summary Explanation Funds provided to Operationalize Hybrid Electric Ground Vehicles increased Base funding in FY2024.			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) FI3 / Rapid Capability Development and Maturation			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FI3: Rapid Capability Development and Maturation	-	207.950	231.515	188.173	-	188.173	100.374	85.504	62.750	63.434	0.000	939.700
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

A portion of this funding line has directly supported the Army Air and Missile Defense Modernization Priority.

This project funds high-priority, threat-based projects with the intent to deliver an operationally effective capability in the near- and mid-terms. Efforts will include accelerated materiel development and prototyping based on anticipated and emerging threats and opportunities. Efforts include development, acquisition, assessment, maturation, and transition of prototype technologies to acquisition programs. Efforts include Directed Energy; Long Range Precision Fires; Air and Missile Defense; Cyber; Artificial Intelligence; Signals Intelligence (SIGINT); Unmanned Aerial Systems (UAS) and Counter UAS (C-UAS); Communications; Survivability; Robotics; Advanced Ground and Aviation Systems; and other high priority emerging threats and opportunities. Funds may also allow for acceleration of critical capabilities to counter urgent and emerging threats for transition to programs of record. Funding may also be used to acquire specialized expertise to execute an initiative.

The Army Rapid Capabilities and Critical Technologies Office (RCCTO) expedites residual combat materiel capabilities to the Warfighter to provide critical capability in support of the Army modernization strategy and transitions the capability to an acquisition program for production and fielding as an enduring need. RCCTO assesses Commercial-Off-The-Shelf (COTS), Government Off-The-Shelf (GOTS), and Non-Developmental Item (NDI) (non-standard equipment) solutions for modification and/or integration to address changes in contested environments with materiel solutions for forces deployed globally. RCCTO engages with industry to identify innovative solutions to high priority problem sets and funds quick turn analysis, modeling and prototyping efforts through this project to demonstrate cross-cutting military utility.

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

	FY 2022	FY 2023	FY 2024
Title: Directed Energy Maneuver - Short Range Air Defense	151.166	99.824	-
Description: This effort matures, integrates, and demonstrates High Energy Laser technologies on Army Stryker vehicles to support Maneuver- Short Range Air Defense (M-SHORAD) requirements and reduce risk for M-SHORAD. The goal is to protect maneuvering forces from Rocket, Artillery, and Mortar (RAM) and Unmanned Aerial System (UAS) threats.			
FY 2023 Plans: Will provide Contractor Logistics Support (CLS) beginning in FY 2023 for the four DE M-SHORAD 50 KW class laser weapon systems delivered in FY 2023; execute contract for additional prototype vehicles for delivery in FY 2024.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	Project (Number/Name) FI3 / Rapid Capability Development and Maturation		
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
Funding decrease reflects the start of the transition of Directed Energy Maneuver - Short Range Air Defense from RCCTO to PEO M&S as M-SHORAD Increment 2.					
Title: Critical Technologies Office (CTO) Description: Continues identification of emerging priority operational gaps that align to technologies that support Army Service Components (ASCs), and operational line units with prototype solutions identified through the planning and execution of Innovation Day events, Science and Technology (S&T) transition, and industry solutions. Conducts technical assessments of technologies, capabilities and potential solutions. Such areas include but not limited to Operational Artificial Intelligence (AI) systems, Advanced Sensing Systems, Decoy Capabilities, Extending Communications, Long Range Persistent Surveillance, Advanced Mobile Weapon Systems, and Modular Open System Architectures (MOSA). Develops the transition to bridge the valley of death to further mature and transition priority efforts, and other concepts, to capabilities for program offices. FY 2023 Plans: Continues identification of emerging priority operational gaps that align to technologies that support Army Service Components (ASCs), and operational line units with prototype solutions identified through Innovation Day events. Develop prototypes that bridge the valley of death to further mature and transition priority S&T efforts to capabilities for program offices. FY 2024 Plans: Continues identification of emerging priority operational gaps that align to technologies that support Army Service Components (ASCs), and operational line units with prototype solutions identified through Innovation Day events. Develop prototypes that bridge the valley of death to further mature and transition priority S&T efforts to capabilities for program offices. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase due to changes in scope.			4.817	3.790	5.000
Title: Wideband Selective Propagating Radar (WiSPR) Description: Prototyping effort to develop a "Low Observable" Radar (60 GHZ) to detect incoming anti-armor rounds and communicate among vehicles. This will be virtually undetectable RADAR and Communications enforced by physics (not assumptions of adversary capabilities) by providing a combined Low Probability to Detect/Low Probability to Intercept RADAR for Active Protection Systems and Communications for inter-vehicle. FY 2023 Plans:			2.700	9.804	15.605

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	Project (Number/Name) FI3 / Rapid Capability Development and Maturation		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
This funding will enable: (1) Developmental testing and design refinement of a wideband selective propagation radar aperture for ground combat vehicles as defined by the unit of action; (2) Refinement of the technical data package and integration of the aperture onto the selected platform. FY 2024 Plans: Prototyping effort to develop a "Low Observable" Radar (60 GHZ) to detect incoming anti-armor rounds and communicate among vehicles. This will be virtually undetectable RADAR and Communications enforced by physics (not assumptions of adversary capabilities) by providing a combined Low Probability to Detect/Low Probability to Intercept RADAR for Active Protection Systems and Communications for inter-vehicle. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased from FY 2023 to FY 2024 due to focus on completing developmental testing of the system and associated refinement of the system design. The funding also will support finalization of the technical data package, platform integration design efforts, and delivery of the initial increment allotment of finalized prototypes that can support supplemental government testing/demonstration to support the planned transition to the assuming Program Office.				
Title: Operationalizing Hybrid Electric - Ground Vehicles Description: Prototype representative vehicles, Armored Multi-Purpose Vehicle (AMPV), Stryker, Joint Light Tactical Vehicle (JLTV), and High Mobility Multi Purpose Wheeled Vehicle (HMMWV), from existing Army platforms by adding mature Hybrid Electric (HE) technologies. Included as a supporting task is to establish policies to increase resilience and reduce fuel requirements. It is anticipated that these investments will demonstrate increase operational value as well as a reduction in operational energy. FY 2023 Plans: Prototype of a Joint Light Tactical Vehicle (JLTV) and High Mobility Multi Purpose Wheeled Vehicle (HMMWV) that will validate hybrid electric technologies by Soldiers in extended operational environments. FY 2024 Plans: Prototype up to a platoon each of the Armored Multi-Purpose Vehicle (AMPV), Stryker, Joint Light Tactical Vehicle (JLTV), and High Mobility Multi Purpose Wheeled Vehicle (HMMWV) that will validate hybrid electric technologies by Soldiers in extended operational environments. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increased from FY 2023 to FY 2024 due to RCCTO given the mission to increase development to platoon size prototypes. This will align the project with Army Green Strategy of fielding HE purpose built systems by 2035.		5.988	10.350	124.600
Title: Offensive Swarm (HIVE)		4.184	7.864	11.914

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>		Project (Number/Name) FI3 / <i>Rapid Capability Development and Maturation</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
<p>Description: Prototyping effort to develop an offensive Unmanned Aerial Systems that will consist of a Control Node UAS, Attack UAS, and UAS intelligent swarming software framework and the ground station. The intelligent swarming software framework provides the logic to carry out the mission including cooperative engagement with the Unit of Action. The Ground Station provides the operator interface to the HIVE with minimal impact to cognitive workload and physical displacement of other resources.</p> <p>FY 2023 Plans: Rapid Acquisition Prototyping Project Office (RAPPO) - HIVE, This funding will enable: (1) integration of commercial off the shelf parts (2) Developmental testing and design refinement of a unmanned aerial systems and integrations of COTS parts for an offensive attack swarm.</p> <p>FY 2024 Plans: Rapid Acquisition Prototyping Project Office (RAPPO) - HIVE, This funding will enable: (1) integration of commercial off the shelf parts (2) Developmental testing and design refinement of a unmanned aerial systems and integrations of COTS parts for an offensive attack swarm. Additionally the funding will enable: (3) integration of commercial off the shelf (COTS) and Government off the shelf (GOTS) software/hardware, (4) Developmental testing and design refinement of a unmanned aerial systems and integrations of GOTS/COTS hardware/software for an offensive kinetic attack swarm that can operate within a GPS denied environment ; (5) Operational Assessments with unit of action.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Increase reflects a breakout of efforts previously captured under Concept Prototyping.</p>					
<p>Title: Concept Prototyping</p> <p>Description: RCCTO hosts events where industry competes for innovative technology projects. Senior Leaders from across the Army, including Program Executive Officers (PEO's), Army Futures Command's Cross Functional Team (AFC CFT) Directors and Research and Development Center Directors, and other subject matter experts select the most impactful projects for the RCCTO Board of Directors approval.</p> <p>Concept Prototyping funds projects focused on but not limited to the following: artificial intelligence, machine learning, resilient and open standard communications, advanced network operation tools, counter unmanned aerial systems, unmanned aerial and terrestrial sensors, advanced ground vehicle enhancements, ground vehicle hybrid electrification, advanced energy efficient battery technologies, ruggedized and resilient power electronics, advanced low size, weight, and power (SWaP) energy generation and storage systems, advanced manned/unmanned aerial systems, advanced manned/unmanned ground systems, weapon system cyber resiliency, advanced defensive and offensive cyber, quantum computing, quantum sensing, assured position, navigation, and timing (APNT), security orchestration and automated response, multi-domain command and control (C2), electronic warfare, autonomy & robotics, soldier borne sensors and capabilities, edge processing technologies, information</p>			22.884	15.509	13.532

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) F13 / <i>Rapid Capability Development and Maturation</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
<p>processing, exploitation and dissemination (PED) tools, tactical data fabrics, resilient water support and safety monitoring capabilities, sensor to shooter capabilities and modeling and simulations in support of these domain areas.</p> <p>These efforts provide the Army initial operational capability for future integration into a program of record and include market research, technology analysis, project planning and development, prototyping and testing requirements.</p> <p>FY 2023 Plans: Prototype, demonstrate and evaluate capabilities.</p> <p>FY 2024 Plans: Prototype, demonstrate and evaluate capabilities.</p> <p>In FY24 RCCTO Concept Prototyping will continue to fund multiple year efforts through the Rapid Acquisition Prototyping Project Office (RAPPO), Advanced Concepts and Experimentation (ACE), Cyber, Electronic Warfare, and Information Dominance (CEID) and Critical Technologies Office (CTO) project offices.</p> <p>These efforts include a rugged, enclosed-rotor sUAS specifically designed to function within a complex hazard and obstacle-rich environment; hybrid data management architecture; a Low Probability of Intercept (LPI) / Low Probability of Detection (LPD) networked communication capability between vehicles fitted with a C4ISR/EW Modular Open Suite of Standards (CMOSS); third level of processing, exploitation, and dissemination (PED) tools; an extreme cold weather storage and distribution solution for both fresh and waste water; a novel modular ruggedized 15 kilowatt (kW) Bi-directional high-density inverter that will enable a Direct Current/Alternating Current (DC/AC) routing platform capable of both synching and sourcing power from established grids or supporting an off-grid mode for standalone applications.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease due to changes in scope.</p>				
<p>Title: Organizational Expenses</p> <p>FY 2023 Plans: Includes support agreements with the Garrisons (Fort Belvoir and Redstone Arsenal) for base operational support; support at the Aberdeen Proving Ground; subject matter expertise in acquisition, program management and law; IT Network support; IT Software Licenses; computers/mobile devices (new and refresh); supplies; training; travel.</p> <p>FY 2024 Plans:</p>		6.211	19.077	17.522

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	Project (Number/Name) FI3 / Rapid Capability Development and Maturation		
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
Includes support agreements with the Garrisons (Fort Belvoir and Redstone Arsenal) for base operational support; Aberdeen Proving Ground; subject matter expertise in acquisition, program management and law; IT Network support; IT Software Licenses; computers/mobile devices (new and refresh); supplies; training; travel; etc.					
FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease reflects a movement of efforts to the Chief Technology Office (CTO).					
Title: SBIR/STTR Transfer					
Description: Funding transferred in accordance with Title 15 USC §638					
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638					
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638					
Accomplishments/Planned Programs Subtotals			197.950	172.515	188.173
			FY 2022	FY 2023	
Congressional Add: Program Increase: Counter-Unmanned Aerial System Integration with Robotic Vehicles			5.000	-	
FY 2022 Accomplishments: Program increase supporting system development and demonstration of Counter-Unmanned Aerial Systems Integration with Robotic Vehicles.					
This work will demonstrate the integration of proven Commercial-Off-The-Shelf (COTS) technologies to provide a modular multi-mission capability to include surveillance (with small Unmanned Aerial Systems (sUAS) detection), Counter-sUAS (C-sUAS) electronic warfare & other hard kill capabilities including High Energy Laser (HEL). This effort provides a single integrated prototype system to be demonstrated in a operational environment.					
Work performed by the Rapid Capabilities and Critical Technologies Office (RCCTO), in Huntsville, Alabama.					
Congressional Add: Program Increase: High Energy Laser Targeting System			5.000	-	
FY 2022 Accomplishments: Program increase supporting system development and demonstration of a high energy laser targeting system.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) FI3 / <i>Rapid Capability Development and Maturation</i>	
		FY 2022	FY 2023
Optical sensor advances can enable leap-ahead performance in High Energy Laser (HEL) targeting capabilities. This project will leverage advanced sensors and laser illuminators to demonstrate weapons targeting benefits with reduced size, weight, and power of the total optical system. It is also expected to demonstrate reduction in illuminator power requirements. Demonstrations will utilize the Outdoor Laser Test Facility at the University of Central Florida. Dual-use sensor capabilities will be demonstrated to support improvements of HEL weapons and conventional imaging/targeting optics.			
Work performed in Huntsville, Alabama by the Rapid Capabilities and Critical Technologies Office (RCCTO).			
Congressional Add: Program Increase: Autonomous Offensive Swarming FY 2023 Plans: Deliver an offensive small Unmanned Air Systems (sUAS) swarm capability that collaboratively identifies and engages threats with limited required input by one human operator.		-	9.000
Congressional Add: Program Increase: C-sUAS HEL Atmospheric Study and Prototype Sensors FY 2023 Plans: This effort quantifies and characterizes the effectiveness of optical systems against Unmanned Air Systems (UAS) and cruise missile threats. It develops instrumentation and performs the necessary studies required to determine Counter- Unmanned Air Systems (C-UAS) parameters to ensure C-UAS systems deployed in the area of responsibility will be effective for countering aggressive threats.		-	15.000
Congressional Add: Program Increase: Palletized High Energy Laser FY 2023 Plans: This effort will develop Army concepts for Directed Energy (DE) system sustainment in operational environments. Maintain and provide Field Service Representative (FSR) support for two Army DE systems during operational assessment.		-	5.000
Congressional Add: Program Increase: Counter UAS Technologies FY 2023 Plans: This effort supports the delivery of two complete tactical power and thermal subsystems which includes a full set of spares and maintenance kits. Additional effort includes the design, test, and certification of battery modules under UN/DOT 38.3 Transportation Testing creating a standard module suitable for various future Army Directed Energy (DE) programs.		-	25.000
Congressional Add: Program Increase: Extended Shortwave Infrared Sensor for High Energy Lasers FY 2023 Plans: This effort improves current Short-Wave Infrared (SWIR) cameras operating at < 1.7 microns. The extended SWIR (eSWIR) atmospheric band (2-2.4 microns) has less scattering, high atmospheric transmission, higher contrast and is less susceptible to turbulence. eSWIR provides better tracking and range.		-	5.000

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023									
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) F13 / <i>Rapid Capability Development and Maturation</i>									
		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;"></td> <td style="width:20%; text-align: center;">FY 2022</td> <td style="width:20%; text-align: center;">FY 2023</td> </tr> <tr> <td>Effort will replace current SWIR sensors with eSWIR capability. This project advances eSWIR sensors to match developing Laser illuminators in the eSWIR band.</td> <td></td> <td></td> </tr> <tr> <td align="right">Congressional Adds Subtotals</td> <td align="center">10.000</td> <td align="center">59.000</td> </tr> </table>		FY 2022	FY 2023	Effort will replace current SWIR sensors with eSWIR capability. This project advances eSWIR sensors to match developing Laser illuminators in the eSWIR band.			Congressional Adds Subtotals	10.000	59.000
	FY 2022	FY 2023									
Effort will replace current SWIR sensors with eSWIR capability. This project advances eSWIR sensors to match developing Laser illuminators in the eSWIR band.											
Congressional Adds Subtotals	10.000	59.000									
C. Other Program Funding Summary (\$ in Millions) N/A											
Remarks											
D. Acquisition Strategy The Army Rapid Capabilities and Critical Technologies Office (RCCTO) capitalizes on current and emerging technologies to provide near-term and mid-term solutions to address emerging threats and high impact capability opportunities for U.S. Army Forces deployed globally. This is accomplished in one of two ways: 1) adapting COTS/GOTS/NDI equipment to meet operational needs and 2) developing emerging deployable capability through research and development organizations, academia, and industry. RCCTO uses streamlined acquisition methods, processes and techniques to rapidly acquire the capability; these methods vary by project. RCCTO has procurement authority and an in-house contracting staff, with the flexibility to use both traditional and non-traditional contracting approaches. To reach non-traditional vendors, RCCTO will use non-standard contracting methods, such as Other Transaction Authority agreements. Where practicable, prototypes will be acquired using competitive procedures. Soldier touchpoints will be conducted to provide feedback in support of Army requirements generation, prototype maturation, fielding residual combat capability to a unit of action, and future capability development. When designated by the RCCTO Board of Directors, projects will be transitioned to an approved acquisition program for production and fielding.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) F13 / Rapid Capability Development and Maturation					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
DE M-SHORAD Matrix, Contractor Labor	Various	RCCTO : Huntsville, AL	-	15.116		1.994		-		-		-	Continuing	Continuing	Continuing
DE M-SHORAD Facilities, IT/Supplies, Travel, Training	Various	RCCTO/DEOP : Huntsville, AL	-	-		0.050	Dec 2022	-		-		-	0.000	0.050	-
Program Increase Contractor Labor	MIPR	RCCTO : Huntsville, AL	-	1.000		-		-		-		-	0.000	1.000	-
WiSPR	TBD	Various : Various	-	-		-		0.050		-		0.050	0.000	0.050	-
Climate Ground Vehicles & Fuels	Various	Various : TBD	-	0.145		0.250		3.015		-		3.015	0.000	3.410	-
Offensive Swarm (HIVE)	Various	Various : TBD	-	0.273		0.596		0.778		-		0.778	0.000	1.647	-
Concept Prototyping	Various	Various : Various	-	4.297		3.311		1.905		-		1.905	0.000	9.513	-
Matrix, Contractor Labor	Various	Various : Various	34.274	4.355		12.227		12.090		-		12.090	0.000	62.946	-
Facilities, IT/Supplies, Travel, Training	Various	Various : Various	10.001	1.856		6.850		5.432		-		5.432	0.000	24.139	-
Program Increase: Autonomous Offensive Swarming	MIPR	Various : Various	-	-		0.450		-		-		-	0.000	0.450	-
SBIR/STTR Transfer	TBD	various : various	-	-		6.297		-		-		-	0.000	6.297	-
Program Increase: C-sUAS HEL atmospheric study and prototype sensors Program Management	MIPR	RCCTO : Huntsville, AL	-	-		1.125	May 2023	-		-		-	0.000	1.125	-
Program Increase: palletized high energy laser Program Management	MIPR	RCCTO : Huntsville, AL	-	-		0.250	May 2023	-		-		-	0.000	0.250	-
Program Increase: Counter UAS technologies Program Management	MIPR	RCCTO : Huntsville, AL	-	-		1.675	May 2023	-		-		-	0.000	1.675	-
Program Increase: extended shortwave	MIPR	RCCTO : Huntsville, AL	-	-		0.500	May 2023	-		-		-	0.000	0.500	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) FI3 / Rapid Capability Development and Maturation					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
infrared sensors for high energy lasers Program Management															
Subtotal			44.275	27.042		35.575		23.270		-		23.270	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
DE M-SHORAD CLS, Procurement & Integration	C/CPFF	TBD : Huntsville, AL	-	108.650		95.280	Apr 2023	-		-		-	Continuing	Continuing	Continuing
DE M-SHORAD Software Support	MIPR	Various : TBD	-	-		0.500	May 2023	-		-		-	0.000	0.500	-
Program Increase: Counter-Unmanned Aerial System Integration with Robotic Vehicles	TBD	SAIC/Liteye CPFF (Completion) : Boulder, CO	-	4.500		-		-		-		-	0.000	4.500	-
Program Increase: High Energy Laser Targeting System	TBD	UCF University of Central Florida/FFP : Orlando, FL	-	4.500		-		-		-		-	0.000	4.500	-
WiSPR	TBD	MIT Lincoln Laboratory : Lexington, MA	-	2.700		8.554		14.555		-		14.555	0.000	25.809	-
Climate Ground Vehicles & Fuels	Various	Various : TBD	-	4.288		7.412		89.234		-		89.234	0.000	100.934	-
Offensive Swarm (HIVE)	Various	Various : TBD	-	3.911		6.818		11.136		-		11.136	0.000	21.865	-
Concept Prototyping	Various	TBD : Various	232.566	7.400		5.293		9.467		-		9.467	6.500	261.226	-
Program Increase: Autonomous Offensive Swarming	TBD	TBD : TBD	-	-		6.550		-		-		-	0.000	6.550	-
Program Increase: C-sUAS HEL atmospheric	TBD	TBD : TBD	-	-		13.875	May 2023	-		-		-	0.000	13.875	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) FI3 / Rapid Capability Development and Maturation					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
study and prototype sensors															
Program Increase: palletized high energy laser	C/CPFF	SAIC, Inc : Huntsville, AL	-	-		4.750	May 2023	-		-		-	0.000	4.750	-
Program Increase: Counter UAS technologies	C/CPFF	TBD : Boulder, NV & Huntsville, AL	-	-		23.325	May 2023	-		-		-	0.000	23.325	-
Program Increase: extended shortwave infrared sensors for high energy lasers	MIPR	EPIR : Bolingbrook, IL	-	-		4.500	May 2023	-		-		-	0.000	4.500	-
Subtotal			232.566	135.949		176.857		124.392		-		124.392	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Critical Technology Office (CTO)	Various	Various : TBD	5.000	4.817		3.790		5.000		-		5.000	0.000	18.607	-
WiSPR	TBD	MIT Lincoln Laboratory : Lexington, MA	-	-		0.500		0.500		-		0.500	0.000	1.000	-
Climate Ground Vehicles & Fuels	Various	Various : Various	-	1.497		2.588		31.151		-		31.151	0.000	35.236	-
Offensive Swarm (HIVE)	Various	Various : TBD	-	-		0.050		-		-		-	0.000	0.050	-
Concept Prototyping	TBD	TBD : Various	16.841	6.606		4.264		0.254		-		0.254	0.000	27.965	-
Subtotal			21.841	12.920		11.192		36.905		-		36.905	0.000	82.858	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) FI3 / Rapid Capability Development and Maturation					
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
DE M-SHORAD Test & Evaluation	MIPR	Various : Various	-	27.400		2.000	Apr 2023	-		-		-	0.000	29.400	-
WiSPR	TBD	MIT Lincoln Laboratory : Lexington, MA	-	-		0.450		0.500		-		0.500	0.000	0.950	-
Climate Ground Vehicles & Fuels	Various	Various : Various	-	0.058		0.100		1.200		-		1.200	0.000	1.358	-
Offensive Swarm (HIVE)	Various	Various : TBD	-	-		0.400		-		-		-	0.000	0.400	-
Concept Prototyping	TBD	TBD : Various	51.201	4.581		2.941		1.906		-		1.906	0.000	60.629	-
Program Increase: Autonomous Offensive Swarming	TBD	TBD : TBD	-	-		2.000		-		-		-	0.000	2.000	-
Subtotal			51.201	32.039		7.891		3.606		-		3.606	0.000	94.737	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			349.883	207.950		231.515		188.173		-		188.173	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

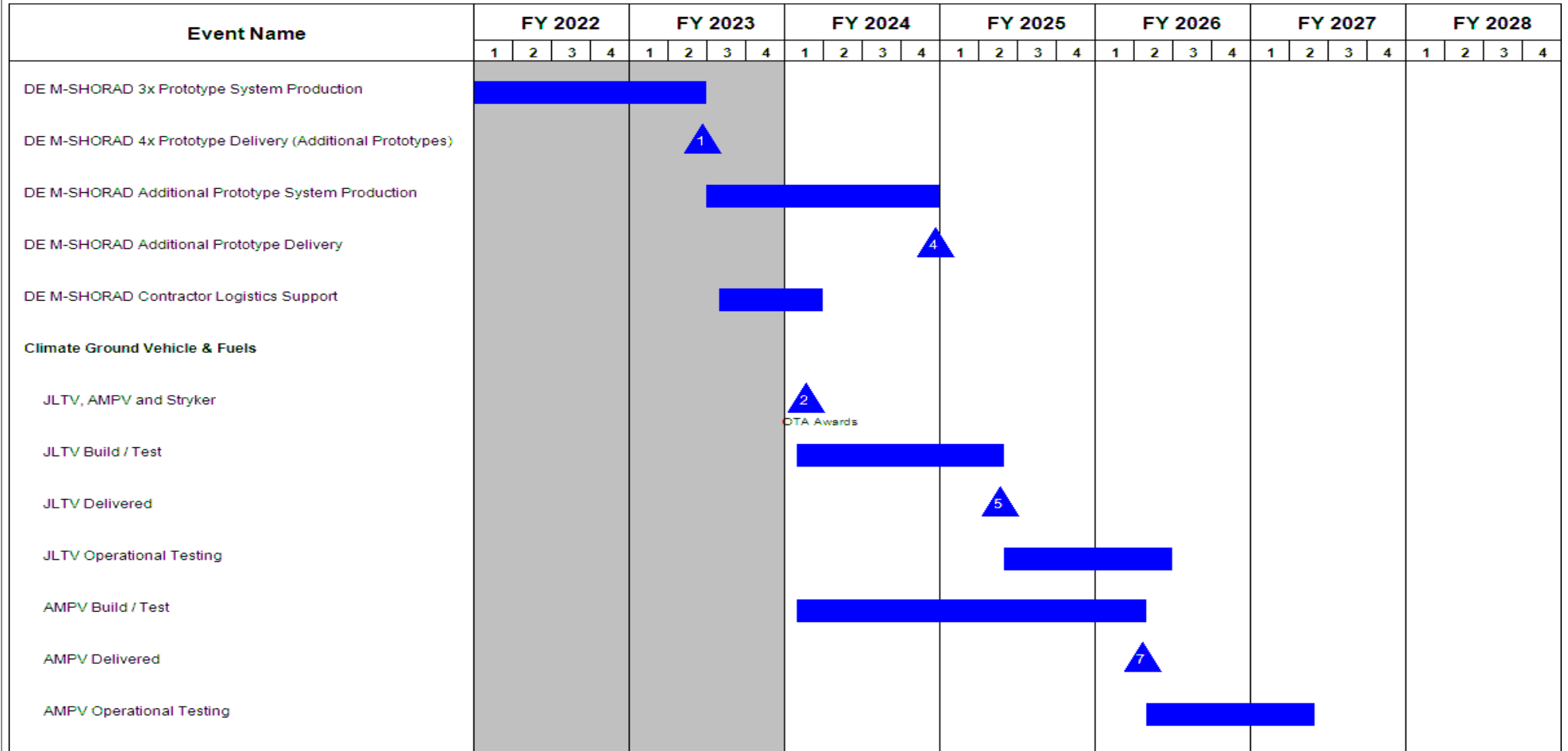
2040 / 5

R-1 Program Element (Number/Name)

PE 0605054A / Emerging Technology Initiatives

Project (Number/Name)

FI3 / Rapid Capability Development and Maturation



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)		Project (Number/Name)	
2040 / 5		PE 0605054A / Emerging Technology Initiatives		FI3 / Rapid Capability Development and Maturation	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Stryker Build / Test																												
Stryker Delivered																												
Stryker Operational Testing																												
HMMWV																												
HMMWV Build / Test																												
HMMWV Delivered																												
HMMWV Operational Testing																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	Project (Number/Name) F13 / Rapid Capability Development and Maturation	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DE M-SHORAD 3x Prototype System Production	1	2021	2	2023
DE M-SHORAD Combat Shoot Off	3	2021	3	2021
DE M-SHORAD 4x Prototype Delivery (Additional Prototypes)	2	2023	2	2023
DE M-SHORAD Additional Prototype System Production	3	2023	4	2024
DE M-SHORAD Additional Prototype Delivery	4	2024	4	2024
DE M-SHORAD Contractor Logistics Support	3	2023	1	2024
Climate Ground Vehicle & Fuels	1	2024	4	2026
JLTV, AMPV and Stryker	1	2024	1	2024
JLTV Build / Test	1	2024	2	2025
JLTV Delivered	2	2025	2	2025
JLTV Operational Testing	2	2025	2	2026
AMPV Build / Test	1	2024	2	2026
AMPV Delivered	2	2026	2	2026
AMPV Operational Testing	2	2026	2	2027
Stryker Build / Test	1	2024	2	2026
Stryker Delivered	2	2026	2	2026
Stryker Operational Testing	2	2026	2	2027
HMMWV	2	2024	2	2024
HMMWV Build / Test	2	2024	3	2025
HMMWV Delivered	3	2025	3	2025
HMMWV Operational Testing	4	2025	4	2026

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>				Project (Number/Name) FL7 / <i>Rapid Capability Support</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FL7: <i>Rapid Capability Support</i>	-	11.334	12.532	13.101	-	13.101	13.460	13.756	14.056	14.213	0.000	92.452
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds rapid prototyping and delivery of residual combat capability to enable the Army Modernization Priorities and the National Defense Strategy. These efforts include long range precision fires, air and missile defense, ground, aviation, Soldier, cyber, and command, control, communications, computers, intelligence, surveillance & reconnaissance (C4ISR) missions. The primary goal is to deliver experimental prototypes to a unit of action through a collaborative and accelerated acquisition process. Technologies will be demonstrated in relevant environments, performing tactical/operational scenarios. Efforts will focus on high-priority, threat-based projects with the intent to deliver an operationally effective capability in the near- and mid-terms. Efforts will include accelerated materiel development and competitive prototyping based on anticipated and emerging threats and opportunities. This Project provides the Army an improved mechanism to effectively confront emerging threats and advance America's military dominance in accordance with the National Defense Strategy. Efforts include development, acquisition, assessment, maturation, and transition of prototype technologies to acquisition programs in Directed Energy; Long Range Precision Fires; Air and Missile Defense; Cyber; Artificial Intelligence; Signals Intelligence (SIGINT); Unmanned Aerial Systems (UAS) and Counter UAS (C-UAS); Communications; Survivability; and other high priority emerging threats and opportunities as designated by the RCCTO Board of Directors. Funds may also allow for acceleration of critical Program of Record capabilities to counter urgent and emerging threats. Funding may also be used to acquire specialized expertise to execute an initiative.

The Army RCCTO expedites the fielding of critical combat materiel capabilities to the Warfighter to meet urgent needs and support the Army modernization strategy. RCCTO assesses Commercial-Off-The Shelf (COTS), Government Off-The- Shelf (GOTS), and Non-Developmental Item (NDI) (non-standard equipment) solutions for modification and/or integration to address changes in contested environments with enduring materiel solutions for forces deployed globally. RCCTO integrates prototypes and evaluates solutions to field residual combat capability to a unit of action and transition the capability to an acquisition program for production and sustainment.

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

	FY 2022	FY 2023	FY 2024
Title: Core Labor	11.334	12.532	13.101
Description: Funding is requested for Core Labor.			
FY 2023 Plans: These funds are used for Core Labor in support of rapid prototyping and delivery of residual combat capability to enable long range precision fires, air and missile defense, ground, aviation, Soldier, cyber and C4ISR missions.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) FL7 / <i>Rapid Capability Support</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
These funds will be used for Core Labor in support of rapid prototyping and delivery of residual combat capability to enable long range precision fires, air and missile defense, ground, aviation, Soldier, cyber and C4ISR missions. <i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Increase due to adjustments in wages.			
Accomplishments/Planned Programs Subtotals		11.334	12.532
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
N/A			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives						Project (Number/Name) FL7 / Rapid Capability Support			
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Core Labor	TBD	RCCTO : Fort Belvoir VA, Huntsville AL and APG	10.555	11.334		12.532		13.101		-		13.101	0.000	47.522	-
Subtotal			10.555	11.334		12.532		13.101		-		13.101	0.000	47.522	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			10.555	11.334		12.532		13.101		-		13.101	0.000	47.522	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023																					
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives								Project (Number/Name) FL7 / Rapid Capability Support																			
Event Name										FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
										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
Core Labor																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives	Project (Number/Name) FL7 / Rapid Capability Support	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Core Labor	1	2022	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity	R-1 Program Element (Number/Name)											
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	PE 0605143A / Biometrics Enabling Capability (BEC)											
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	4.326	11.091	0.000	0.000	0.000	7.623	0.000	0.000	0.000	0.000	23.040
BX5: Biometrics Enabling Capability (BEC)	-	4.326	11.091	-	-	-	7.623	-	-	-	0.000	23.040

A. Mission Description and Budget Item Justification

Biometrics Enabling Capability 1 (BEC 1) provides 24/7 operational support enabling time sensitive missions requiring near real time biometrics identification of known and/or suspected threat actors worldwide in support of Joint All Domain Operations (JADO). The automated and manual biometrics matching allows the Warfighter to accurately identify and detain those responsible for conducting espionage, sabotage, terrorist operations and other coercive actions against US forces and partner nations across the globe.

Justification: No RDT&E funding required in FY24

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	4.326	11.091	0.000	-	0.000
Current President's Budget	4.326	11.091	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605143A / Biometrics Enabling Capability (BEC)				Project (Number/Name) BX5 / Biometrics Enabling Capability (BEC)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BX5: Biometrics Enabling Capability (BEC)	-	4.326	11.091	-	-	-	7.623	-	-	-	0.000	23.040
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Biometrics Enabling Capability 1 (BEC 1), provides 24/7 operational support enabling time-sensitive missions requiring near real-time biometric identification of known and/or suspected threat actors worldwide in support of Joint-All-Domain-Operations (JADO). The automated and manual biometrics matching allows the Warfighter to accurately identify and detain those responsible for conducting espionage, sabotage, terrorist operations and other coercive actions against US forces and partner nations across the globe.

Justification: No RDT&E funding required in FY24

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

	FY 2022	FY 2023	FY 2024
Title: Initiate BEC 1 as a New Start in FY22; Support the development and integration of the Capability Drop #1 requirements; Moves capability to the Cloud and adds voice-matching capability Description: Biometrics Enabling Capability 1 (BEC 1) provides 24/7 operational support enabling time sensitive missions requiring near real time biometrics identification of known and/or suspected threat actors worldwide in support of Joint All Domain Operations (JADO). The automated and manual biometrics matching allows the Warfighter to accurately identify and detain those responsible for conducting espionage, sabotage, terrorist operations and other coercive actions against US forces and partner nations across the globe. FY 2023 Plans: FY23 funding will support completion of the development and integration of the Capability Drop #1 requirements; Moves capability to the Cloud and adds voice-matching capability, improves scalability, flexibility, and cyber defenses. FY 2023 to FY 2024 Increase/Decrease Statement: No additional RDT&E funding required in FY24	4.326	10.686	-
Title: SBIR/STTR Transfer Description: Funding transferred in accordance with Title 15 USC 638. FY 2023 Plans:	-	0.405	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605143A / <i>Biometrics Enabling Capability (BEC)</i>	Project (Number/Name) BX5 / <i>Biometrics Enabling Capability (BEC)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC 638.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638.			
Accomplishments/Planned Programs Subtotals		4.326	11.091
			-
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy The BEC 1 IS-CDD includes incremental development using three separate capability drops. All three capability drops are envisioned to be natural capability enhancements to the BEC 1 biometrics capabilities based primarily on commercial technological advancements. BEC 1 Capability Drop 1 is on schedule to be deployed not later than 4QFY24.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army													Date: March 2023		
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605143A / Biometrics Enabling Capabi lity (BEC)				Project (Number/Name) BX5 / Biometrics Enabling Capability (BEC)					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
BEC Increment 1	C/CPIF	Leidos LLC. : Fairmont, West VA	-	4.326	Jan 2022	10.686	Feb 2023	-		-		-	0.000	15.012	-
Subtotal			-	4.326		10.686		-		-		-	0.000	15.012	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.405	Oct 2022	-		-		-	0.000	0.405	-
Subtotal			-	-		0.405		-		-		-	0.000	0.405	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	4.326		11.091		-		-		-	0.000	15.417	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605143A / Biometrics Enabling Capabi lity (BEC)		Project (Number/Name) BX5 / Biometrics Enabling Capability (BEC)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Initiate BEC 1 as a New Start in FY22	1																											
BEC 1 MS B	2																											
BEC 1 Contract Award			3																									
BEC 1 Development																												
BEC 1 Sustainment																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605143A / Biometrics Enabling Capabi lity (BEC)	Project (Number/Name) BX5 / Biometrics Enabling Capability (BEC)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Initiate BEC 1 as a New Start in FY22	1	2022	1	2022
BEC 1 MS B	1	2022	1	2022
BEC 1 Contract Award	3	2022	3	2022
BEC 1 Development	4	2022	4	2024
BEC 1 Sustainment	4	2024	4	2033

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	14.835	22.439	36.970	-	36.970	1.609	1.007	1.018	1.029	0.000	78.907
BY6: Key Management Infrastructure Development	-	14.835	22.439	36.970	-	36.970	1.609	1.007	1.018	1.029	0.000	78.907

A. Mission Description and Budget Item Justification

This Program Element (PE) is a key enabler of the Army Modernization Priorities in support of Communication Security (COMSEC).

This PE funds the development and test of the Next Generation Load Device - Medium (NGLD-M) to conduct the Army's key fill mission by issuing, filling, and managing Cryptographic keys to both legacy and future Key Management Infrastructure (KMI) aware End-Cryptographic Units (ECUs). This effort is an Acquisition Category III (ACAT III) Program of Record (POR). COMSEC is governed by the Chairman of the Joint Chiefs of Staff Instruction (CJCSA) 6510. In order to ensure Warfighters continue to have secured communications (i.e., encrypted data and voice), Army communications systems are required to support modern cryptographic capabilities by implementing modern algorithms. These efforts are consistent with Strategic Planning Guidance (SPG).

FY2024 funding accelerates the development of the NGLD-M program which replaces the legacy Simple Key Loader (SKL). NGLD-M adds capability of cryptographic re-programmability, over the network keying, and is upgradable to NSA's Cryptographic Modernization 2 (CM2) algorithms. Funding supports the NGLD-M developmental effort for two vendors to develop and test their hardware and software solutions.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	15.397	22.439	6.716	-	6.716
Current President's Budget	14.835	22.439	36.970	-	36.970
Total Adjustments	-0.562	0.000	30.254	-	30.254
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.562	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	30.254	-	30.254

Change Summary Explanation

Fiscal Year 2024 (FY24) funding increase accelerates the development of the NGLD-M program which replaces the legacy Simple Key Loader (SKL). NGLD-M adds capability of cryptographic re-programmability, over the network keying, and is upgradable to NSA's Cryptographic Modernization 2 (CM2) algorithms.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium				Project (Number/Name) BY6 / Key Management Infrastructure Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BY6: Key Management Infrastructure Development	-	14.835	22.439	36.970	-	36.970	1.609	1.007	1.018	1.029	0.000	78.907
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

As part of the Army's Key Management Infrastructure (KMI) implementation, the Next Generation Load Device - Medium (NGLD-M) is an Acquisition Category III (ACAT III) Program of Record (POR) and modernized load device that will replace legacy AN/PYQ-10A and AN/PYQ-10A(C) (Army), which is commonly referred to as the Simple Key Loader (SKL). The NGLD-M will receive, store, manage, and transfer electronic key through the network to be loaded into communication devices such as radios and satellites to secure the network. The NGLD-M requires RDT&E investment to develop and test the hardware and software solutions. Without this technology Warfighters are required to manually receive their cryptographic products by traveling to COMSEC account locations (which may not be co-located) and manually filling their devices.

FY2024 funding supports the NGLD-M developmental effort for two vendors to establish a developmental baseline and conduct developmental and operational testing of their hardware and software solutions.

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

	FY 2022	FY 2023	FY 2024
Title: NGLD-M Development and NSA Certification	13.680	20.310	26.721
Description: The Next Generation Load Device - Medium (NGLD-M) will conduct the Army's key fill mission by issuing, filling, and managing Cryptographic keys to both legacy and future KMI aware End-Cryptographic Units (ECUs). This technology requires RDT&E investment to meet the requirements outlined in the NGLD Capability Production Document (CPD).			
FY 2023 Plans: Continue NGLD-M development to finalize the physical and functional characteristics of the NGLD-M configuration items and establish Government configuration control of the design at the Critical Design Review (CDR). At CDR, The Government will receive pre-production development models to support Highly Accelerated Life Testing for system reliability testing, End Cryptographic Unit interoperability testing, and other developmental testing. Additionally, the NGLD-M configuration will undergo a Risk Management Framework Security Control Assessment.			
FY 2024 Plans: Continue NGLD-M development and testing to obtain NSA Certification for both vendors. Security Verification Test (SVT) and Physical Configuration Audits (PCA) will be used with both vendors to verify that products meet cryptographic and protective alarms requirements and specifications IAW NSA IASRD.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605144A / <i>Next Generation Load Device - Medium</i>	Project (Number/Name) BY6 / <i>Key Management Infrastructure Development</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
The increase is due to NGLD-M Development and NSA Certification entering into the production phase.			FY 2024
Title: Program Management Support Description: This funds matrixed support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort. FY 2023 Plans: FY 2023 funds matrixed support to include Acquisition Program Manager (APM), and Software Engineer Program Management support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort. FY 2024 Plans: FY 2024 funds matrixed support to include Acquisition Program Manager (APM), and Software Engineer Program Management support from Combat Capabilities Development Command (CCDC) Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance (C5ISR) Center to assist with the NGLD-M development effort. FY 2023 to FY 2024 Increase/Decrease Statement: The increase is due to the additional Program Management Support activities associated with entering into the production phase.		1.155	1.752
Title: Developmental Test & Evaluation Support Description: NGLD-M developmental test and evaluation support efforts. FY 2023 Plans: FY 2023 funds developmental test and evaluation support efforts to include End Cryptographic Unit (ECU) interoperability testing, environmental testing, Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions (TEMPEST), and NSA Testing. FY 2024 Plans: FY 2024 funds developmental test and evaluation support efforts to include End Cryptographic Unit (ECU) interoperability testing, environmental testing, Telecommunications Electronics Materials Protected from Emanating Spurious Transmissions (TEMPEST), and NSA Testing. FY 2023 to FY 2024 Increase/Decrease Statement:		-	0.377
			7.739

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium				Project (Number/Name) BY6 / Key Management Infrastructure Development				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
FY24 Test & Evaluation costs increase due to two Developmental Tests (DT) and two Operational Tests (OT) required to meet Milestone C.												
Accomplishments/Planned Programs Subtotals										14.835	22.439	36.970
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• 0303140A: Information Systems Security Program	15.680	17.209	15.323	-	15.323	17.786	17.807	17.998	18.200	Continuing	Continuing	
• B96004: KEY MANAGEMENT INFRASTRUCTURE	78.283	75.541	72.289	-	72.289	31.524	31.699	28.697	24.050	0.000	342.083	
• B96016: NEXT GENERATION LOAD DEVICE- MEDIUM	-	-	0.000	-	0.000	60.800	61.097	64.142	68.241	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
Aspects of the Next Generation Load Device - Medium (NGLD-M) may include commercially availability solutions and/or interfaces, but development is required to integrate these solutions into a device that meets the rigors of NSA certification and the Capability Production Document (CPD) requirements. There is no commercially driven market for NSA certified load devices that meet the requirements identified in the NGLD Family CPD. The NGLD-M Acquisition Strategy supports a multiple award contract strategy for development, production, and sustainment. These requirements ensure secure communications by requiring the NGLD-M to provide specific tamper protections, limit electromagnetic radiation to prevent adversarial detection of the system, among others outlined within the Information Assurance Security Requirements Document. The Milestone Decision Authority issued a Materiel Development Decision (MDD) Acquisition Decision Memorandum (ADM) on 14 March 2019 that designated the NGLD-M as an ACAT III Program of Record (PoR).												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium				Project (Number/Name) BY6 / Key Management Infrastructure Development					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management Support	C/CPFF	CCDC C5ISR S&TCD : APG, MD	-	1.155	Nov 2021	1.752	Apr 2023	2.510	Feb 2024	-		2.510	0.000	5.417	-
Subtotal			-	1.155		1.752		2.510		-		2.510	0.000	5.417	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
NGLD-M Development	C/CPFF	CCDC C5ISR S&TCD, NIWC-Pacific : APG, MD; San Diego, CA	-	13.680	Nov 2021	20.310	Apr 2023	26.721	Feb 2024	-		26.721	0.000	60.711	-
Subtotal			-	13.680		20.310		26.721		-		26.721	0.000	60.711	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Evaluation	C/CPFF	CCDC C5ISR S&TCD : APG, MD	-	-		0.377	Apr 2023	7.739	Feb 2024	-		7.739	0.000	8.116	-
Subtotal			-	-		0.377		7.739		-		7.739	0.000	8.116	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	14.835		22.439		36.970		-		36.970	0.000	74.244	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium		Project (Number/Name) BY6 / Key Management Infrastructure Development	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
NGLD-M Development																												
NGLD-M Testing																												
NGLD-M Development, Production, Sustainment Contract																												
NGLD-M Milestone C																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605144A / Next Generation Load Device - Medium	Project (Number/Name) BY6 / Key Management Infrastructure Development	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
NGLD-M Development	4	2021	1	2025
NGLD-M Testing	4	2023	2	2031
NGLD-M Development, Production, Sustainment Contract	4	2021	4	2031
NGLD-M Milestone C	4	2024	4	2024

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army Date: March 2023

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605145A / Medical Products and Support Systems Development							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	0.927	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.927
CD6: Medical Products and Support Systems Development	-	0.927	-	-	-	-	-	-	-	-	0.000	0.927

A. Mission Description and Budget Item Justification

This Program Element (PE) funds the Civilian Authorized Salaries and other operational requirements for the non-Army Management Headquarters Activity (non-AMHA) Research, Development, Test, and Evaluation (RDT&E) functions incident to the local operation and management of the Medical Command support at the United States (U.S.) Army Medical Research and Development Command (USAMRDC).

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	0.962	0.000	0.000	-	0.000
Current President's Budget	0.927	0.000	0.000	-	0.000
Total Adjustments	-0.035	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.035	-			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605145A / Medical Products and Support Systems Development				Project (Number/Name) CD6 / Medical Products and Support Systems Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CD6: Medical Products and Support Systems Development	-	0.927	-	-	-	-	-	-	-	-	0.000	0.927
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides funding for authorized civilian workforce performing medical research, development, acquisition management and oversight that support the medical research, development, test, and evaluation (RDTE) programs at the United States Army Medical Research and Development Command (USAMRDC), Fort Detrick, Maryland to: (1) perform planning, programming, and budgeting; (2) manage resources; and (3) ensure compliance with United States Food and Drug Administration (FDA) and other regulatory and safety requirements. It also provides for continued operations of contracting and acquisition management functions performed in support of the USAMRDC Medical RDTE Program.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Title: Civilian Authorized Salaries and Other Operational Requirements Description: Funding is provided to the USAMRDC for Medical Research Development Acquisition (RDA) Management and Oversight to include the payroll of civilians as well as nominal operating expense. Expertise helps establish and maintain the capabilities that Army medicine needs to sustain life, limb, and eyesight for our warfighters. Civilian labor performs centralized management of Medical RDA (many areas required by law and/or regulation) including animal & human research protections, health and safety compliance, environmental management, and U.S. Food and Drug Administration (FDA) regulatory compliance, legal support (including intellectual property protection), quality assurance, contracting services, personnel management, and planning, programming, and budgeting, and execution management. Funding also supports the Army's portion of the Special Immunization Program that protects individuals engaged in infectious disease research if exposed to pathogens or toxins.	0.927	-	-
Accomplishments/Planned Programs Subtotals	0.927	-	-

C. Other Program Funding Summary (\$ in Millions)
N/A

Remarks

D. Acquisition Strategy
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605145A / Medical Products and Support Systems Development				Project (Number/Name) CD6 / Medical Products and Support Systems Development					
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Civilian Salary and Other Requirements	TBD	USAMRDC : Fort Detrick, MD	0.919	0.927		-		-		-		-	0.000	1.846	-
Subtotal			0.919	0.927		-		-		-		-	0.000	1.846	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			0.919	0.927		-		-		-		-	0.000	1.846	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

[illegible]

2040 / 5

[illegible]

PE 0605145A / Medical Products and Support Systems Development

Project (Number/Name)	Start Date	End Date	Duration (Days)	Project Manager	Status	Notes
101	2023-01-01	2023-01-15	14	John Doe	Completed	Project completed successfully.
102	2023-01-16	2023-02-01	16	Jane Smith	In Progress	Project is currently in progress.
103	2023-02-02	2023-02-15	13	John Doe	Completed	Project completed successfully.
104	2023-02-16	2023-03-01	15	Jane Smith	In Progress	Project is currently in progress.
105	2023-03-02	2023-03-15	13	John Doe	Completed	Project completed successfully.
106	2023-03-16	2023-03-31	15	Jane Smith	In Progress	Project is currently in progress.
107	2023-04-01	2023-04-15	14	John Doe	Completed	Project completed successfully.
108	2023-04-16	2023-05-01	15	Jane Smith	In Progress	Project is currently in progress.
109	2023-05-02	2023-05-15	13	John Doe	Completed	Project completed successfully.
110	2023-05-16	2023-05-31	15	Jane Smith	In Progress	Project is currently in progress.

CD6 / Medical Products and Support Systems Development

[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605145A / Medical Products and Support Systems Development	Project (Number/Name) CD6 / Medical Products and Support Systems Development

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Civilian Salary and Other Requirements	1	2021	4	2022

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					PE 0605148A I Tactical Intel Targeting Access Node (TITAN) EMD							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	54.972	108.987	132.136	-	132.136	160.716	49.883	36.804	40.533	0.000	584.031
BY5: Tactical Intelligence Targeting Access Node EMD	-	54.972	108.987	132.136	-	132.136	160.716	49.883	36.804	40.533	0.000	584.031

A. Mission Description and Budget Item Justification

The Tactical Intelligence Targeting Access Node (TITAN) is a key enabler of the Army Modernization Priorities in support of Army Cross Functional Teams. TITAN is a scalable and expeditionary intelligence ground station that supports commanders across the entire Multi-Domain Operations (MDO)/Joint All Domain Operations (JADO) battlefield framework with capabilities tailored to echelon. TITAN leverages Space, High Altitude, Aerial and Terrestrial layer sensors to provide targetable data to fires networks as well as multi-discipline intelligence support to targeting and Situation Awareness/Situation Understanding (SA/SU) in support of mission command. TITAN will initiate development and prototyping of Artificial Intelligence/Machine Learning (AI/ML) platforms (i.e., Project Linchpin) and leverage Critical Radio Frequency (RF) technologies as they become available.

TITAN is the future Army Intelligence, Surveillance, and Reconnaissance (ISR) ground station that will consolidate the sensor processing capabilities in the current Distributed Common Ground System-Army (DCGS-A) Operational-Intelligence Ground Station (OGS), Tactical-Intelligence Ground Station (TGS), the Advanced Miniaturized Data Acquisition System Dissemination Vehicle (ADV) and the Remote Ground Terminal (RGT). Additionally, TITAN will have the access and sensor tasking or control capabilities of the future Tactical Space Layer assets, National assets, the Multi-Domain Sensing Systems (MDSS) as well as commercial overhead sensors. Consequently, the TITAN ground station will be able to conduct deep sensing operations with the abilities to Task, Collect, Process, Exploit, and Disseminate (TCPED) information from Space, High Altitude, Aerial, and Terrestrial Layer sensors in support of Long Range Precision Fires (LRPF) operations.

The total cost of the TITAN Middle Tier of Acquisition (MTA) effort is \$486 million RDTE from FY22 to FY26. The TITAN program is fully funded across the Future Years Defense Program.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605148A I Tactical Intel Targeting Access Node (TITAN) EMD			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	54.972	58.087	36.013	-	36.013
Current President's Budget	54.972	108.987	132.136	-	132.136
Total Adjustments	0.000	50.900	96.123	-	96.123
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	50.900			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	96.123	-	96.123
Change Summary Explanation					
Funding increases of \$96,123K in FY24 align program resources with MTA Rapid Prototyping requirements.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD				Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BY5: Tactical Intelligence Targeting Access Node EMD	-	54.972	108.987	132.136	-	132.136	160.716	49.883	36.804	40.533	0.000	584.031
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

TITAN directly addresses the U.S. Army Combined Arms Center's (USACAC) Multi-Domain Operations (MDO) gap #1: Lack of echelons above corps (EAC) multi-domain deep sensing, analysis, and processing, exploitation and dissemination (PED) for indications & warning (I&W) and anti-access/area denial (A2/AD) targeting. Furthermore, TITAN indirectly addresses MDO Gap 2: No theater detect, decide, deliver, assess (D3A) and convergence of Long Range Precision Fires (LRPF) to disintegrate A2/AD and MDO Gap #3: Lack of EAC LRPF capacity to dis-integrate A2/AD and shape the deep fight. TITAN supports these MDO gaps by providing the sensor data receipt and control, analysis, exploitation, and dissemination functions needed to enable LRPF.

The FY24 RDTE Dollars in the amount of \$132.136M will fund the continued Development, Integration, and Testing of three production-representative TITAN prototype systems. Funding will integrate high altitude, aerial and terrestrial sensor data feeds. Funding will integrate TENCAP-developed Space-Ground Component Kit (SGCK). Resources fund updates, integration, accreditation, & testing of new capabilities resulting from new sensor feeds and emerging technologies. Support includes Developmental and Soldier touchpoints to test-fix-test capabilities. Funding will also provide for the development and prototyping of the Artificial Intelligence/ Machine Learning Operations Platform (Project Linchpin).

The total cost of the TITAN Middle Tier of Acquisition (MTA) effort is \$486 million RDTE from FY22 to FY26. The TITAN program is fully funded across the Future Years Defense Program.

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

	FY 2022	FY 2023	FY 2024
Title: Project Management	4.872	9.263	11.182
Description: Funds needed to execute system development and integration activities, deliver acquisition and logistics documentation, perform system cyber security, accreditation and Human Systems Integration (HSI) efforts.			
FY 2023 Plans: Funds program support for Development and Integration of up to two TITAN prototype systems. Funds updates, integration, and accreditation of capabilities for sensor processing, exploitation and dissemination in support of targeting.			
FY 2024 Plans: Funds program support for Development and Integration of up to three TITAN production representative prototype systems. Funds updates, integration, and accreditation of capabilities for sensor processing, exploitation and dissemination in support of targeting.			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605148A / <i>Tactical Intel Targeting Access Node (TITAN) EMD</i>	Project (Number/Name) BY5 / <i>Tactical Intelligence Targeting Access Node EMD</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
FY24 increase is representative of the additional PM/SE requirements associated with System Development and Integration and Prototyping efforts.			FY 2024
Title: System Development and Integration Description: Funds development and integration activities of three production-representative TITAN prototype systems. Integrates system SW baseline and HW system architecture and interfaces. Integrates high altitude, aerial and terrestrial data feeds onto TITAN platform. Integration of TENCAP's SGCK to allow access to commercial, National and Tactical Space Layer capabilities. FY 2023 Plans: Funds continued Development, Integration, of two production-representative TITAN prototype systems. Integrates high altitude, aerial and terrestrial sensor data feeds. Integrates space ground component kit. Funds updates, integration, and accreditation of new capabilities resulting from new sensor feeds and emerging technologies FY 2024 Plans: Funds continued Development and Integration for a total of three production-representative TITAN prototype systems. Integrates high altitude, aerial and terrestrial sensor data feeds. Integrates space ground component kit. Funds updates, integration, and accreditation of new capabilities resulting from new sensor feeds and emerging technologies. FY 2023 to FY 2024 Increase/Decrease Statement: FY24 decrease in cost element is due to the establishment of additional dedicated cost elements for the TITAN variants and support costs separated from engineering development and integration requirements.		46.243	58.825
Title: Test Activities Description: Supports Developmental and Operational Testing activities for four production-representative TITAN prototype systems in support of system production decision. Funds all T&E events required by Army Test Community, including multiple soldier touch points. FY 2023 Plans: Funds continued Testing of two production-representative TITAN prototype systems. Funds testing of new capabilities resulting from new sensor feeds and emerging technologies. FY 2024 Plans:		3.857	9.060

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD	Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Funds continued Technical and Developmental Testing (TT/DT) of TITAN Advanced and adding testing of Basic prototype systems. (Cooperative Vulnerability Identification, Adversarial Cybersecurity Developmental Test, Electromagnetic Interference/ Electromagnetic Compatibility (EMI/EMC) TEMPEST and Environmental Testing) FY 2023 to FY 2024 Increase/Decrease Statement: FY24 increase is representative of the additional requirements associated with the increased testing and operational assessment.				
Title: TITAN Advanced - Prototype Description: Funds hardware and software associated with the development of one Advanced TITAN Variant throughout the Prototype Maturation Phase. FY 2023 Plans: Acquisition of Satellite Ground Component Kits, Data Links/communication equipment and vehicles for the TITAN Advanced during Maturation Phase due to long lead time. FY 2024 Plans: Funds hardware and software associated with the development of one Advanced TITAN Variant throughout the Prototype Maturation Phase. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase due to anticipated award of Prototype Maturation Phase OTA at the beginning of FY24.		-	25.731	31.635
Title: TITAN Basic - Prototype Description: Funds hardware and software associated the development of Basic TITAN Variants throughout the Prototype Maturation Phase. FY 2023 Plans: Acquisition of vehicles and Data Links/communication equipment for the TITAN Basic during Maturation Phase due to long lead time. FY 2024 Plans: Funds hardware and software associated the development of two Basic TITAN Variants throughout the Prototype Maturation Phase. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase due to anticipated award of Prototype Maturation Phase OTA at the beginning of FY24.		-	9.444	20.295
Title: Support to Initial Prototypes		-	-	20.518

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605148A / <i>Tactical Intel Targeting Access Node (TITAN) EMD</i>	Project (Number/Name) BY5 / <i>Tactical Intelligence Targeting Access Node EMD</i>	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Description: Funds support requirements and activities associated with TITAN prototypes during Rapid Prototyping to included New Equipment Training, SW Licensing, initial prototype spares and repair parts, contractor logistics support, etc. FY 2024 Plans: Funds support requirements and activities associated with TITAN prototypes during Rapid Prototyping to included New Equipment Training, SW Licensing, initial prototype spares and repair parts, contractor logistics support, etc. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase due to establishment of cost element for efforts beginning in FY24.			
Title: Development and Prototyping of Artificial Intelligence/ Machine Learning Operations Platform Description: Fund initial establishment of secure and trusted MLOPS environment for rapid and continuous delivery of AI/ML models optimized to work on various configurations. Fund maturation of existing technology that needs minor enhancements to meet Army needs. This includes AI/ML algorithms that will transition to TITAN from various programs across the DoD and IC and need to be tuned for Army use cases. FY 2024 Plans: Fund initial prototyping activity, industry days and market research for the establishment of secure and trusted MLOPS environment for rapid and continuous delivery of AI/ML models optimized to support multiple operational environments. FY 2023 to FY 2024 Increase/Decrease Statement: FY24 increase represents the advancement of AI/ML integration capabilities through the establishment of Project Linchpin.	-	-	5.213
Accomplishments/Planned Programs Subtotals	54.972	108.987	132.136

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BY4: <i>Tactical Intelligence Targeting Access Node</i>	28.347	0.863	10.626	-	10.626	14.308	14.121	4.099	4.145	0.000	76.509
• K57311: <i>TITAN GROUND STATION</i>	-	-	0.000	-	0.000	-	268.608	221.750	335.982	0.000	826.340

Remarks
0604037A BY4 supports efforts for Critical Radio Frequency (RF) technologies; and to integrate Space-Based Intelligence, Surveillance, and Reconnaissance (ISR) capabilities into the TITAN Program of Record (PoR).

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD	Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD

D. Acquisition Strategy

The TITAN program acquisition strategy is to leverage Middle-Tier of Acquisition (MTA) for Rapid Prototyping (RP). This strategy allows the program to rapidly develop and field a capability that addresses gaps for multi-domain operations. TITAN's MTA RP approval in 3QFY22 was based on an Abbreviated CDD (A-CDD) with an Army Requirements Oversight Council (AROC) decision, which was approved in 1QFY22. The capabilities will be refined through soldier touchpoints and demonstrations/exercises and inform final TITAN requirements and Concept of Operations (CONOPS). Demonstrating the objective capability in an operational environment will inform a decision point to transition to an MTA Rapid Fielding (RF) effort or tailored Milestone C (MS C) for production. TITAN's open-system architecture approach ensures the system will be tailorable and scalable, with the ability to provide increased intelligence capabilities, additional sensor data and processing throughput over time to keep pace with new technology and changing threat.

An Other Transaction Authority (OTA) contract was awarded under the 10 U.S.C. 2371b and the 2016 National Defense Authorization Act (NDAA), Section 815, for TITAN Rapid Prototyping. This innovative approach enables acceleration of the TITAN Ground Station capabilities to the Warfighter. The TITAN OTA approach is a multi-phased contract vehicle designed to scope each phase separately based on maturing requirements and informed by risk reduction efforts in prior phases. The initial phase, Ground Station Modernization, was competitive risk-reduction effort between two vendors to build system-level designs and mature a Software (SW) baseline. The Competitive Prototyping Phase (CPP) was awarded in 3QFY22 and is focused on competitive prototyping between both vendors. The CPP includes further SW baseline refinement to ensure functionality and then begin Hardware (HW) integration within a shelter and on a representative vehicle platform for the Advanced variant. At the conclusion of Competitive Prototyping, both vendors will be evaluated against technical feasibility and ability to meet TITAN requirements, which will inform up-select to one vendor. The selected vendor will move on to the final prototyping phase, Prototype maturation, which includes increasing capability of their prototypes to inform final TITAN requirements and support transition decision out MTA RP to MTA RF or MS C. Multiple Soldier Touchpoints and demonstration of capability in the operational force, to ensure usability and inform requirements and CONOPS, will highlight the OTA phases for Rapid Prototyping. The TITAN program includes two variants, Advanced and Basic, with Advanced featuring direct downlink (DDL) access to space data and enhanced storage capabilities, and Basic tailored for lower echelons and more expeditionary. Future FAR-based contracts will support both production and sustainment.

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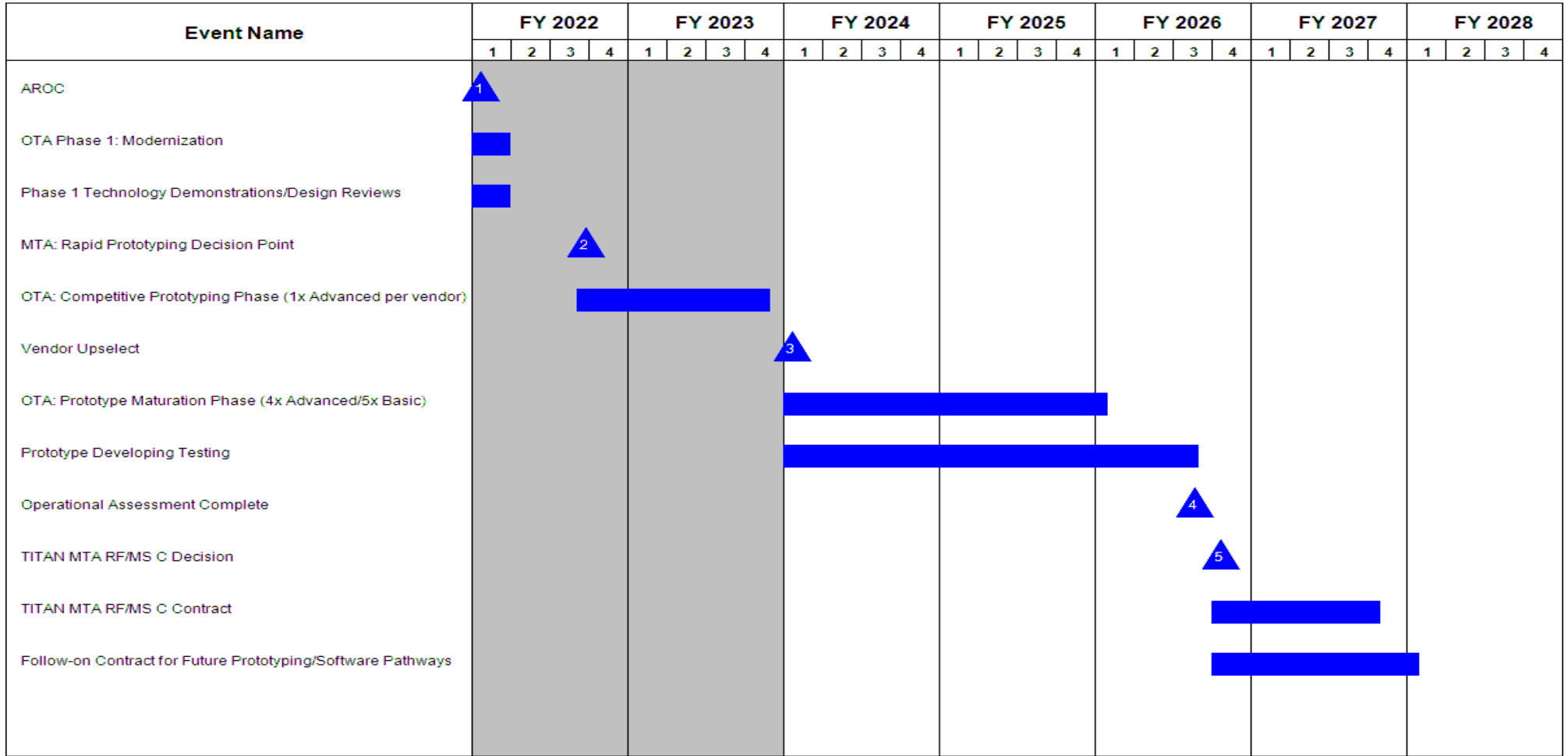
Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD				Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Project Management	C/FP	Various : APG and Contractor Facility	-	4.872	Dec 2021	9.263	Jan 2023	11.182	Jan 2024	-		11.182	Continuing	Continuing	Continuing
Subtotal			-	4.872		9.263		11.182		-		11.182	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Development and Integration	C/FP	Various : APG, Ft. Bragg, Ft. Hood JBLM,, YPG, CTR FAC (TBD)	-	46.243	Oct 2021	58.825	Jan 2023	34.233	Jan 2024	-		34.233	Continuing	Continuing	Continuing
TITAN Advanced - Prototype	C/FP	TBD : APG, Ft. Bragg, Ft. Hood JBLM,, YPG, CTR FAC (TBD)	-	-		28.675	Apr 2023	31.635	Nov 2023	-		31.635	Continuing	Continuing	Continuing
TITAN Basic - Prototype	C/FP	TBD : APG, Ft. Bragg, Ft. Hood JBLM,, YPG, CTR FAC (TBD)	-	-		6.500	Apr 2023	20.295	Nov 2023	-		20.295	Continuing	Continuing	Continuing
Support to Prototypes	C/Various	TBD : APG, Ft. Bragg, JBLM,, YPG, CTR FAC (TBD)	-	-		-		20.518	Jan 2024	-		20.518	Continuing	Continuing	Continuing
Development and Prototyping of Artificial Intelligence/ Machine Learning Operations Platform	C/CPFF	TBD : APG, CTR FAC	-	-		-		5.213	Jan 2024	-		5.213	Continuing	Continuing	Continuing
Subtotal			-	46.243		94.000		111.894		-		111.894	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD						Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD			
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test Activities	MIPR	Various : APG, YPG, WSMR, Ft Hood, Ft. Bragg, (OT LOC TBD)	-	3.857	Jan 2022	5.724	Jan 2023	9.060	Jan 2024	-		9.060	Continuing	Continuing	Continuing
Subtotal			-	3.857		5.724		9.060		-		9.060	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	54.972		108.987		132.136		-		132.136	Continuing	Continuing	N/A
Remarks Increases include one additional Basic variant, increased vendor engineering efforts, increased PM/SE efforts, initial spares, software licensing, increased testing, New Equipment Training (NET), and contractor logistics support (CLS).															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD		Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605148A / Tactical Intel Targeting Access Node (TITAN) EMD	Project (Number/Name) BY5 / Tactical Intelligence Targeting Access Node EMD	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MDD	2	2020	2	2020
Analysis of Alternatives	3	2020	1	2021
AoA SAG	1	2021	1	2021
AROC	1	2022	1	2022
OTA Phase 1: Modernization	1	2021	1	2022
Phase 1 Technology Demonstrations/Design Reviews	1	2021	1	2022
MTA: Rapid Prototyping Decision Point	3	2022	3	2022
OTA: Competitive Prototyping Phase (1x Advanced per vendor)	3	2022	4	2023
Vendor Upselect	1	2024	1	2024
OTA: Prototype Maturation Phase (4x Advanced/5x Basic)	1	2024	1	2026
Prototype Developing Testing	1	2024	3	2026
Operational Assessment Complete	3	2026	3	2026
TITAN MTA RF/MS C Decision	4	2026	4	2026
TITAN MTA RF/MS C Contract	4	2026	4	2027
Follow-on Contract for Future Prototyping/Software Pathways	4	2026	1	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity					R-1 Program Element (Number/Name)							
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					PE 0605203A / Army System Development & Demonstration							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	122.175	143.616	81.657	-	81.657	79.131	84.552	80.479	78.092	0.000	669.702
BR3: Army System Development & Demonstration	-	122.175	143.616	81.657	-	81.657	79.131	84.552	80.479	78.092	0.000	669.702

A. Mission Description and Budget Item Justification

The Army System Development & Demonstration budget line includes multiple efforts across the Army's Battlefield Operational Systems necessary to support projects in engineering and manufacturing development for use on programs that have not received approval for full-rate. System performance is near or at planned operational system levels.

Projects are characterized by mature system development, integration, demonstration to support Milestone C decisions, conducting live fire test and evaluation, and initial operational test and evaluation of production representative articles.

Selected programs within this budget line will exhibit a logical progression of program phases, development and production funding within the FYDP, consistent with the Department's full funding policy.

B. Program Change Summary (\$ in Millions)	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	122.175	119.516	145.744	-	145.744
Current President's Budget	122.175	143.616	81.657	-	81.657
Total Adjustments	0.000	24.100	-64.087	-	-64.087
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	24.100			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-64.087	-	-64.087

Change Summary Explanation

FY24 reflects adjustments for System Demonstration and Validation activities.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605205A I Small Unmanned Aerial Vehicle (SUAV) (6.5)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.192	6.530	31.284	-	31.284	24.542	19.909	13.706	13.744	Continuing	Continuing
BR7: Small Unmanned Aircraft System (6.5)	-	2.192	6.530	31.284	-	31.284	24.542	19.909	13.706	13.744	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Rucksack Portable Unmanned Aircraft System (RPUAS) Family of Small Unmanned Aircraft System (FoSUAS) provides battalion and below ground maneuver elements with critical situational awareness and enhanced force protection. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data. Other compatible receivers, such as the One System Remote Video Terminal and appropriately equipped manned platforms may also receive the FoSUAS products.

The RPUAS FoSUAS provides the battalion and below ground maneuver elements with an organic, on-demand, asset to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data.

The RPUAS FoSUAS includes a combination of three separate hand-launched mission specific configurable aircraft that do not require an improved launch/recovery. The three separate mission specific configurable Unmanned Aircraft (UA) are the Short Range Reconnaissance (SRR), the Medium Range Reconnaissance (MRR), and the Long Range Reconnaissance (LRR). In addition to the aircraft, the system contains ground control equipment, which includes an interoperable handheld ground control station (H-GCS) which incorporates the Tactical Open Government Owned Architecture (TOGA). The FoSUAS mission specific capability for MRR will utilize existing RQ-11 systems. The SRR capability utilizes RQ-28A SRR for first generation and is prototyping the second generation air vehicle FY2022-FY2025. The LRR capability is in planning and will begin development in FY2024.

The total cost of the Short Range Reconnaissance (SRR) Middle Tier of Acquisition effort is \$30 million of RDT&E on from FY20 to FY25. The SRR program is fully funded across the Future Years Defense Program.

FY 2024 Research, Development, Test, and Evaluation (RDTE) Base funding of \$31.284 million to meet Capabilities Production Document (CPD) Increment II Block II related requirements. Specifically, to conduct SRR Tranche 2 system development, integration, testing and evaluation, and LRR system development, integration, testing and evaluation. FY 2024 is the first year of allocation of 6.5 funding for LRR.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.275	6.530	9.254	-	9.254
Current President's Budget	2.192	6.530	31.284	-	31.284
Total Adjustments	-0.083	0.000	22.030	-	22.030
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.083	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	22.030	-	22.030
Change Summary Explanation					
Increase in FY2024 of \$22.030 million is for system development efforts for LRR and continuation of efforts for SRR.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)				Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BR7: Small Unmanned Aircraft System (6.5)	-	2.192	6.530	31.284	-	31.284	24.542	19.909	13.706	13.744	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Rucksack Portable Unmanned Aircraft System (RPUAS) Family of Small Unmanned Aircraft System (FoSUAS) provides battalion and below ground maneuver elements with critical situational awareness and enhanced force protection. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data. Other compatible receivers, such as the One System Remote Video Terminal and appropriately equipped manned platforms may also receive the FoSUAS products.

The RPUAS FoSUAS provides the battalion and below ground maneuver elements with an organic, on-demand, asset to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data.

The RPUAS FoSUAS includes a combination of three separate hand-launched mission specific configurable aircraft that do not require an improved launch/recovery. The three separate mission specific configurable Unmanned Aircraft (UA) are the Short Range Reconnaissance (SRR), the Medium Range Reconnaissance (MRR), and the Long Range Reconnaissance (LRR). In addition to the aircraft, the system contains ground control equipment, which includes an interoperable handheld ground control station (H-GCS) which incorporates the Tactical Open Government Owned Architecture (TOGA). The FoSUAS mission specific capability for MRR will utilize existing RQ-11 systems. The SRR capability utilizes RQ-28A SRR for first generation and is prototyping the second generation air vehicle FY2022-FY2025. The LRR capability is in planning and will begin development in FY2024.

The total cost of the Short Range Reconnaissance (SRR) Middle Tier of Acquisition effort is \$30 million of RDT&E on from FY20 to FY25. The SRR program is fully funded across the Future Years Defense Program.

Justification: FY 2024 Research, Development, Test, and Evaluation (RDT&E) Base funding of \$31.284 million to meet Capabilities Production Document (CPD) Increment II Block II related requirements. Specifically, to conduct SRR Tranche 2 system development, integration, testing and evaluation, and LRR system development, integration, testing and evaluation. FY 2024 is the first year of allocation of 6.5 funding for LRR.

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

	FY 2022	FY 2023	FY 2024
Title: Systems Engineering Program Management	0.120	0.307	1.685
Description: Systems Engineering Program Management support for SRR development and demonstration efforts.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605205A / <i>Small Unmanned Aerial Vehicle (SUAV) (6.5)</i>	Project (Number/Name) BR7 / <i>Small Unmanned Aircraft System (6.5)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Systems Engineering and Program Management support for SRR development and demonstration efforts.			
FY 2024 Plans: Systems Engineering and Program Management support for SRR and LRR development and demonstration efforts.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding supports effort directly contributed with Engineering and demonstration.			
Title: SRR System Development and Integration Description: SRR Development Engineering efforts.		1.331	3.720
FY 2023 Plans: Development of SRR air vehicle and complete system integration.			
FY 2024 Plans: Development and system integration of SRR air vehicle.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding supports SRR air vehicle and complete system integration.			
Title: LRR System Development and Integration Description: LRR Development Engineering efforts.		-	-
FY 2024 Plans: Development and system integration of LRR air vehicle.			19.545
FY 2023 to FY 2024 Increase/Decrease Statement: This is a new effort in FY24			
Title: SRR Developmental Test and Evaluation Description: Test and Evaluation efforts for SRR System Development.		0.741	2.265
FY 2023 Plans: Efforts to conduct testing and evaluation of mature SRR prototype system.			
FY 2024 Plans: Efforts to conduct testing and evaluation of mature SRR prototype system.			
FY 2023 to FY 2024 Increase/Decrease Statement:			3.399

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)				Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024
Increase in funding is to support efforts around SRR air vehicle and complete system testing.											
Title: LRR Development Test and Evaluation									-	-	1.300
Description: Test and Evaluation efforts for LRR System Development.											
FY 2024 Plans: Efforts to conduct testing and evaluation of LRR prototype system.											
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in FY2024 is funding for LRR System Testing.											
Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR)									-	0.238	-
Description: Funding transferred in accordance with Title 15 USC §638											
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638											
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638											
Accomplishments/Planned Programs Subtotals									2.192	6.530	31.284
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BR6: Small Unmanned Aircraft System (6.4)	0.892	1.425	5.144	-	5.144	1.796	1.799	1.818	1.839	0.000	14.713
• A00010: SMALL UNMANNED AIRCRAFT SYSTEM	16.005	-	0.000	-	0.000	-	-	-	-	0.000	16.005
• A12511: SHORT RANGE RECONNAISSANCE	-	10.598	20.769	-	20.769	20.937	20.550	20.534	20.492	Continuing	Continuing
• A12513: LONG RANGE RECONNAISSANCE	-	-	0.000	-	0.000	-	-	50.400	76.420	Continuing	Continuing
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)	Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)

D. Acquisition Strategy

The Short Range Reconnaissance utilizes Middle Tier Acquisition pathway for rapid prototyping. The Medium Range Reconnaissance is in sustainment. The Long Range Reconnaissance will complete an Acquisition Shaping Panel in FY 2023.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)				Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Engineering Program Management (SEPM)	Various	Various : Various	0.603	0.120		0.307	Oct 2022	1.685	Oct 2023	-		1.685	Continuing	Continuing	Continuing
Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR)	TBD	TBD : TBD	-	-		0.238	Sep 2023	-		-		-	0.000	0.238	-
Subtotal			0.603	0.120		0.545		1.685		-		1.685	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SRR Development Engineering	Various	ACC Redstone : Redstone Arsenal	3.972	1.331	Jun 2022	3.720	Jan 2023	5.355	Jan 2024	-		5.355	Continuing	Continuing	Continuing
LRR Development Engineering	Various	ACC Redstone : Redstone Arsenal, AL	-	-		-		19.545	Feb 2024	-		19.545	Continuing	Continuing	Continuing
Subtotal			3.972	1.331		3.720		24.900		-		24.900	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SRR Test and Evaluation	Various	ACC Redstone : Redstone Arsenal	1.205	0.741	Aug 2022	2.265	Aug 2023	3.399	Aug 2024	-		3.399	Continuing	Continuing	Continuing
LRR Test and Evaluation	Various	ACC Redstone : Redstone Arsenal, AL	-	-		-		1.300	May 2024	-		1.300	Continuing	Continuing	Continuing
Subtotal			1.205	0.741		2.265		4.699		-		4.699	Continuing	Continuing	N/A

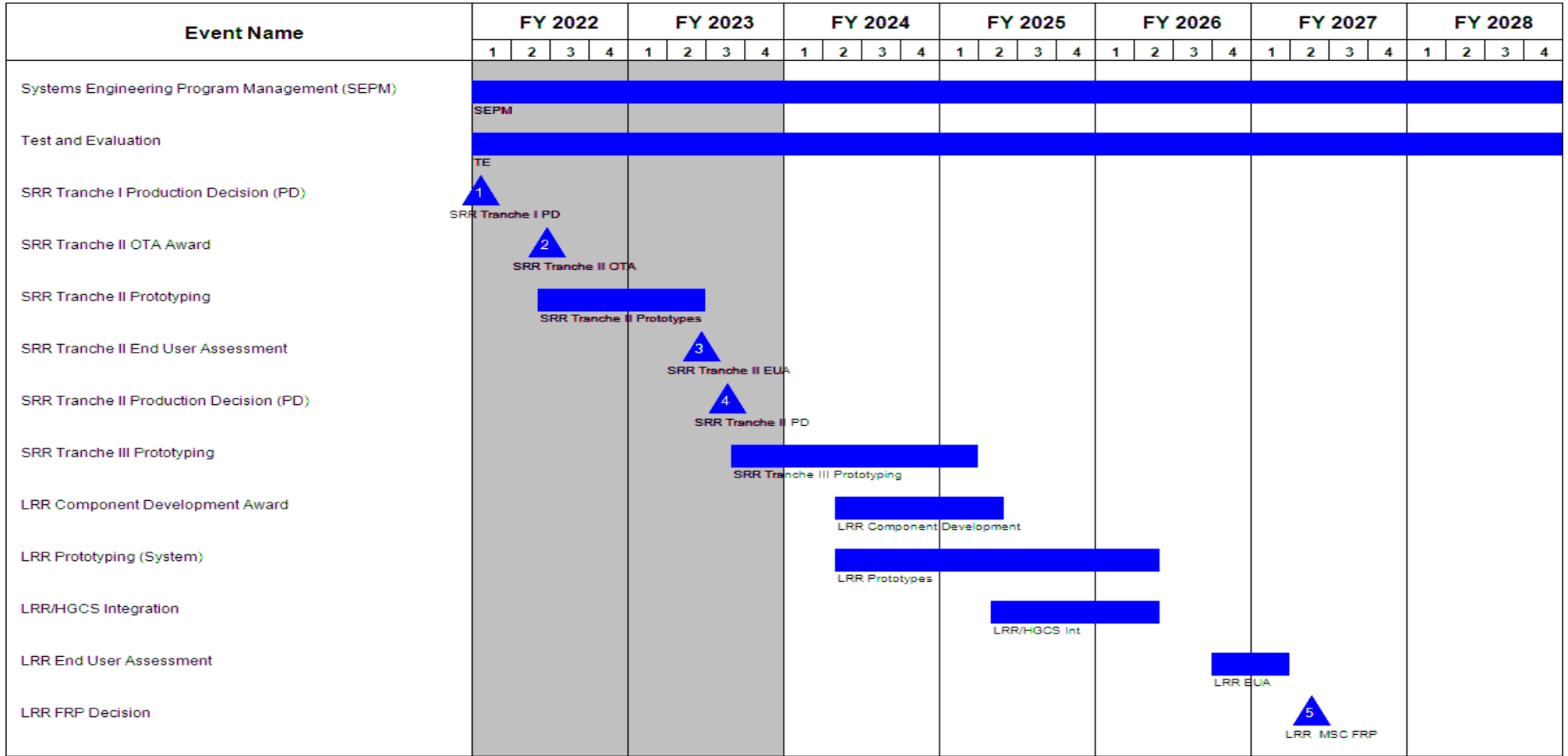
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023			
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)				Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)					
		Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		5.780	2.192		6.530		31.284		-		31.284	Continuing	Continuing	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)		Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605205A / Small Unmanned Aerial Vehicle (SUAV) (6.5)	Project (Number/Name) BR7 / Small Unmanned Aircraft System (6.5)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tactical Open Government Owned Architecture Development	4	2014	4	2014
Tactical Open Government Architecture Test Event 2	3	2015	3	2015
Systems Engineering Program Management (SEPM)	2	2018	4	2028
SRR Tranche I Other Transactional Agreements (OTA) Award	3	2019	3	2019
SRR Tranche I Prototyping	3	2019	4	2020
Test and Evaluation	4	2018	4	2028
SRR/(HGCS) Integration	2	2018	4	2020
SRR Tranche I End User Assessment	4	2020	4	2020
SRR Tranche I Production Decision (PD)	1	2022	1	2022
SRR Tranche II OTA Award	2	2022	2	2022
SRR Tranche II Prototyping	2	2022	2	2023
SRR Tranche II End User Assessment	2	2023	2	2023
SRR Tranche II Production Decision (PD)	3	2023	3	2023
SRR Tranche III Prototyping	3	2023	1	2025
LRR Component Development Award	2	2024	2	2025
LRR Prototyping (System)	2	2024	2	2026
LRR/HGCS Integration	2	2025	2	2026
LRR End User Assessment	4	2026	1	2027
LRR FRP Decision	2	2027	2	2027

Note

Schedule events shown prior to Fiscal Year (FY) 2021 are for informational purposes only.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605206A I CI and HUMINT Equipment Program-Army (CIHEP-A)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	2.170	0.000	2.170	0.000	0.000	0.000	0.000	0.000	2.170
DG3: CI and HUMINT Equipment Program-Army (CIHEP-A)	-	-	-	2.170	-	2.170	-	-	-	-	0.000	2.170

Note

CI and HUMINT Equipment Program-Army (CIHEP-A) is a new start in FY 2024.

A. Mission Description and Budget Item Justification

The Counterintelligence (CI) / Human Intelligence (HUMINT) Equipment Program - Army (CIHEP-A) is a modernization program to provide CI and HUMINT collectors a full set of expeditionary capabilities to answer Commanders' intelligence requirements and protect the force. CIHEP-A is intended to be a scalable and modular equipping program which includes but is not limited to: Computing systems from the Joint common hardware Mounted Family of Computer Systems; Capability to connect to/utilize alternate sources of power; Communications package that provides Beyond Line of Sight systems; Mission support package that enables management of teams, and downward reinforcement of teams with advanced collection and security equipment; and Team support package that provides CI and HUMINT teams with required capabilities to conduct their respective functions.

CIHEP-A is a New Start program for FY24. The \$2.170M in RDT&E will be used to acquire sufficient equipment for nine packages to perform integration with the tactical network and perform evaluations with soldiers in the ability of the Commercial off the Shelf (COTS) and Government off the Shelf (GOTS) components to meet mission requirements.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	2.170	-	2.170
Total Adjustments	0.000	0.000	2.170	-	2.170
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	2.170	-	2.170

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605206A / CI and HUMINT Equipment Program-Army (CIHEP-A)
<div>Change Summary Explanation</div> <div>The CIHEP-A program is a New Start for FY24.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605206A / CI and HUMINT Equipment Program-Army (CIHEP-A)				Project (Number/Name) DG3 / CI and HUMINT Equipment Program-Army (CIHEP-A)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DG3: CI and HUMINT Equipment Program-Army (CIHEP-A)	-	-	-	2.170	-	2.170	-	-	-	-	0.000	2.170
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

CI and HUMINT Equipment Program-Army (CIHEP-A) is a new start within the CI and HUMINT Equipment Program-Army (CIHEP-A) program in FY 2024.

A. Mission Description and Budget Item Justification

The Counterintelligence (CI) and Human Intelligence (HUMINT) Equipment Program - Army (CIHEP-A) is a modernization program to provide CI and HUMINT collectors a full set of capabilities to answer Commanders' intelligence requirements and protect the force. CIHEP-A enables CI and HUMINT Soldiers to collect and report critical human-derived information across the anticipated operational environments from tactical to strategic levels to provide Commanders with timely, accurate, and precise awareness they need to plan, fight, and win decisively across all domains. The CIHEP-A is planned to be a scalable and modular equipping program which includes: Computing systems from the Joint common hardware Mounted Family of Computer Systems; Capability to connect to/utilize alternate sources of power; Communications package that provides for both Line of Sight and Beyond Line of Sight systems; Mission support package that enables management of teams, and downward reinforcement of teams with advanced collection and security equipment; and Team support package that provides CI and HUMINT teams with required capabilities to conduct their respective functions.

The \$2.170M request in FY24 will initiate the new start CIHEP-A program through the acquisition of initial equipment sets for soldier touchpoints. These touchpoints will be used to assess use of both Commercial Off the Shelf and Government Off the Shelf equipment to meet intelligence collection requirements; enhance both inter-team and intra-team communications; movement of critical intelligence information within the target operational environments; and assessment of training needs to develop a cost-effective new equipment training program.

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

	FY 2022	FY 2023	FY 2024
Title: Equipment Acquisition / Integration, Soldier touchpoints, NET development and Program Management.	-	-	2.170
Description: Provides funding for acquisition of initial equipment packages to conduct soldier touchpoints, tactical network integration, and initiation of new equipment training (NET) development and program management.			
FY 2024 Plans: Acquisition of nine packages for tactical network integration, soldier touchpoints and development of new equipment training			
FY 2023 to FY 2024 Increase/Decrease Statement:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605206A / CI and HUMINT Equipment Program-Army (CIHEP-A)	Project (Number/Name) DG3 / CI and HUMINT Equipment Program-Army (CIHEP-A)	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
CIHEP-A is a New Start for FY24			
Accomplishments/Planned Programs Subtotals		-	2.170
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
CIHEP-A is a New Start in FY24. No other program funding has been allocated at this time.			
D. Acquisition Strategy			
The CIHEP-A program is planned to be an ACAT IV effort following the Major Capabilities Acquisition (MCA) pathway. It will leverage existing contract vehicles and Associated Support Items of Equipment (ASIOE) sources for the Commercial off the Shelf (COTS) and Government off the Shelf (GOTS) equipment. FY24 is planned to be for program initiation and soldier touchpoints to finalize a package configuration.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023					
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605206A / CI and HUMINT Equipment Program-Army (CIHEP-A)						Project (Number/Name) DG3 / CI and HUMINT Equipment Program-Army (CIHEP-A)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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		
Program planning and management	TBD	To Be Determined : To Be Determined	-	-		-		0.550	Oct 2023	-		0.550	0.000	0.550	-		
Subtotal			-	-		-		0.550		-		0.550	0.000	0.550	N/A		
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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		
Equipment Procurement, Integration and Demonstration	TBD	To Be Determined : To Be Determined	-	-		-		1.620	Feb 2024	-		1.620	0.000	1.620	-		
Subtotal			-	-		-		1.620		-		1.620	0.000	1.620	N/A		
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals			-	-		-		2.170		-		2.170	0.000	2.170	N/A		
Remarks																	

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PE 0605206A: *CI and HUMINT Equipment Program-Army (CI...*
Army

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PE 0605206A / CI and HUMINT Equipment
Program-Army (CIHEP-A)

DG3 / CI and HUMINT Equipment Program-Army (CIHEP-A)

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605206A / CI and HUMINT Equipment Program-Army (CIHEP-A)	Project (Number/Name) DG3 / CI and HUMINT Equipment Program- Army (CIHEP-A)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Program planning and management	1	2024	4	2024
Equipment Procurement and Integration	2	2024	4	2024
Soldier Touchpoints	4	2024	1	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605216A / Joint Targeting Integrated Command and Coordination Suite (JTIC2S)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	0.000	0.000	9.290	0.000	9.290	0.000	0.000	0.000	0.000	0.000	9.290
EFA: Joint Target Integrated Cmd & Coordination Suite	-	-	-	9.290	-	9.290	-	-	-	-	0.000	9.290

Note
Joint Targeting Integrated Command and Coordination Suite (JTIC2S) is a new start in FY 2024.

This is a New Start in FY24

A. Mission Description and Budget Item Justification

This funding line directly aligns to the Army Long Range Precision Fires and Network modernization priorities.

The Joint Targeting Integrated Command and Coordination Suite (JTIC2S) software solution will provide critical fires/targeting capability for joint and organic Army fire support management and a joint fires/ targeting common operational picture (COP) for joint and coalition partners, as well as at echelon for target development. JTIC2S will replace the currently fielded legacy Joint Automated Deep Operations Coordination System (JADOCS), which is approaching end of useful life and is facing obsolescence issues due to outdated software architecture and code. JTIC2S will replace the JADOCS capability and will enable commanders to functionally integrate targeting efforts in a federated method. Military service branches at echelon will utilize the functions within JTIC2S for a synchronized targeting tactical picture with Army and Joint Fires COP to support Joint All Domain Command and Control (JADC2) and Multi Domain Operations (MDO) against a near-peer adversary. JTIC2S development efforts begin in FY24.

FY24 funding in the amount of \$9.290 million will support the development of the JTIC2S Minimal Viable Product (MVP), to include maturation and integration of Science & Technology (S&T) products and containerized legacy JADOCS capabilities. The MVP is the first phase and builds the foundation for the JTIC2S capability.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605216A I Joint Targeting Integrated Command and Coordination Suite (JTIC2S)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	0.000	0.000	-	0.000
Current President's Budget	0.000	0.000	9.290	-	9.290
Total Adjustments	0.000	0.000	9.290	-	9.290
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	9.290	-	9.290
Change Summary Explanation					
New start in FY24.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605216A / Joint Targeting Integrated C ommand and Coordination Suite (JTIC2S)				Project (Number/Name) EFA / Joint Target Integrated Cmd & Coordination Suite			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
EFA: Joint Target Integrated Cmd & Coordination Suite	-	-	-	9.290	-	9.290	-	-	-	-	0.000	9.290
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Joint Target Integrated Cmd & Coordination Suite is a new start within the Joint Targeting Integrated Command and Coordination Suite (JTIC2S) program in FY 2024.

A. Mission Description and Budget Item Justification

This funding line directly aligns to the Army Long Range Precision Fires and Army Network modernization priorities.

The Joint Targeting Integrated Command and Coordination Suite (JTIC2S) software solution will provide critical fires/targeting capability for joint and organic Army fire support management and a joint fires/ targeting common operational picture (COP) for joint and coalition partners, as well as at echelon for target development. JTIC2S will replace the currently fielded legacy Joint Automated Deep Operations Coordination System (JADOCS), which is approaching end of useful life and is facing obsolescence issues due to outdated software architecture and code. JTIC2S will replace the JADOCS capability and will enable commanders to functionally integrate targeting efforts in a federated method. Military service branches at echelon will utilize the functions within JTIC2S for a synchronized targeting tactical picture with Army and Joint Fires COP to support Joint All Domain Command and Control (JADC2) and Multi Domain Operations (MDO) against a near-peer adversary. JTIC2S development efforts begin in FY24.

FY24 funding in the amount of \$9.249 million will support the development of the JTIC2S Minimal Viable Product (MVP), to include maturation and integration of Science & Technology (S&T) products and containerized legacy JADOCS capabilities. The MVP is the first phase and builds the foundation for the JTIC2S capability.

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

	FY 2022	FY 2023	FY 2024
Title: Development	-	-	7.790
FY 2024 Plans: Conduct development efforts in support of the JTIC2S Minimal Viable Product, including the maturation and integration of several Science & Technology (S&T) products, as well as efforts to the harvest, containerize and integrate key legacy JADOCS capabilities.			
FY 2023 to FY 2024 Increase/Decrease Statement: This is a New Start in FY24.			
Title: System Engineering/Management	-	-	1.500
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605216A / <i>Joint Targeting Integrated Command and Coordination Suite (JTIC2S)</i>	Project (Number/Name) EFA / <i>Joint Target Integrated Cmd & Coordination Suite</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Will provide Matrix and Contractor/SETA support to PMO for all aspects of the program including requirements decomposition, software development efforts, system engineering, logistics and business management support.			
FY 2023 to FY 2024 Increase/Decrease Statement: This is a New Start in FY24.			
Accomplishments/Planned Programs Subtotals		-	9.290
C. Other Program Funding Summary (\$ in Millions) N/A			
Remarks			
D. Acquisition Strategy <p>The Joint Targeting Integrated Command and Coordination Suite (JTIC2S) requirement was validated by the Common Operating Environment (COE) Configuration Steering Board (CSB) in April 2022 under the COE Information System-Initial Capability Document, Command Post Computing Environment (CPCE) Requirements Definition Package (RDP), Capability Drop 5 (CD5). JTIC2S is a software only program that will replace the legacy Joint Automated Deep Operations Coordination System (JADOCS) and provide a data-centric targeting capability that will meet increasing Joint interoperability demands, additional data types, and emerging artificial intelligence/machine learning capabilities to enable joint and coalition targeting support to Joint All Domain Command and Control (JADC2) and Multi Domain Operations (MDO).</p> <p>To support program initiation in FY 2024, JTIC2S underwent Acquisition Shaping Panel reviews with the Deputy for Acquisition and Systems Management (DASM) in Jun and Dec 2022. After these stakeholder engagements, the DASM approved the use of the Major Capability Acquisition (MCA) pathway and delegation of Milestone Decision Authority (MDA) to Program Executive Office Command, Control and Communications-Tactical. The MDA will approve the Materiel Development Decision and the program will initiate development and integration efforts in FY 2024.</p> <p>The JTIC2S program will leverage the investment of numerous Science and Technology efforts and legacy JADOCS capabilities to deliver a Minimal Viable Product (MVP), which will be matured through follow-on software development epics to be fielded on an annual basis.</p>			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)					Project (Number/Name)				
2040 / 5						PE 0605216A / Joint Targeting Integrated Command and Coordination Suite (JTIC2S)					EFA / Joint Target Integrated Cmd & Coordination Suite				
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management Support (Matrix)	TBD	Various : APG, MD	-	-		-		0.688	Oct 2023	-		0.688	0.000	0.688	-
Program Management Support (SETA)	PO	CACI : APG, MD	-	-		-		0.812	Oct 2023	-		0.812	0.000	0.812	-
Subtotal			-	-		-		1.500		-		1.500	0.000	1.500	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Development	C/TBD	TBD : TBD	-	-		-		7.790	Oct 2023	-		7.790	0.000	7.790	-
Subtotal			-	-		-		7.790		-		7.790	0.000	7.790	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		-		9.290		-		9.290	0.000	9.290	N/A
Remarks															
Joint Targeting Integrated Command and Coordination Suite (JTIC2S) is a new start in FY 2024.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023												
Appropriation/Budget Activity 2040 / 5									R-1 Program Element (Number/Name) PE 0605216A / Joint Targeting Integrated Command and Coordination Suite (JTIC2S)								Project (Number/Name) EFA / Joint Target Integrated Cmd & Coordination Suite											
Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
JTIC2S Software Development Effort (Minimal Viable Product)																												
JTIC2S MVP Developmental/Operational Testing (DT/OT)																												
JTIC2S MVP Fielding Decision																												
Follow-on JTICS Software Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605216A / Joint Targeting Integrated C ommand and Coordination Suite (JTIC2S)	Project (Number/Name) EFA / Joint Target Integrated Cmd & Coordination Suite	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JTIC2S Software Development Effort (Minimal Viable Product)	1	2024	1	2025
JTIC2S MVP Developmental/Operational Testing (DT/OT)	1	2025	3	2025
JTIC2S MVP Fielding Decision	4	2025	4	2025
Follow-on JTICS Software Development	1	2025	4	2028

Note
Joint Targeting Integrated Command and Coordination Suite (JTIC2S) is a new start in FY 2024.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605224A / <i>Multi-Domain Intelligence</i>							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	9.313	6.008	41.003	-	41.003	38.696	39.427	39.847	40.292	0.000	214.586
CK4: <i>Intelligence Apps and Integration (MIP)</i>	-	9.313	6.008	23.697	-	23.697	38.696	39.427	39.847	40.292	0.000	197.280
DD8: <i>Army Intelligence Data Platform (AIDP)</i>	-	-	-	8.899	-	8.899	-	-	-	-	0.000	8.899
DD9: <i>Geospatial Intelligence (GEOINT)</i>	-	-	-	8.407	-	8.407	-	-	-	-	0.000	8.407

A. Mission Description and Budget Item Justification

Multi-Domain Intelligence (MDI) is the Army Intelligence Enterprise's overarching modernization framework that drives Military Intelligence (MI) modernization priorities to field a ready Army Intelligence team supporting Mission Command against all threats in Multi-domain Operations (MDO) by 2028. The MDI framework will enable intelligence professionals to execute the intelligence cycle and associated doctrinal functions with increased speed, precision, and accuracy in both competition and conflict. The framework's emphasis on modernizing sensors, enhancing data management practices, and advancing analytical tradecraft through technology will support commanders' ability to make sound, timely decisions, placing friendly forces in a position of decisive advantage.

The Intelligence Applications and Integration (Intel Apps) Program is a software-centric, hardware agnostic ACAT III Program that will provide the Next Generation intelligence capabilities aligned to the National Defense Strategy and Multi-Domain Operations by enabling intelligence professionals to work through the intelligence cycle with increased speed, precision and accuracy. The Intel Apps Program will synchronize applications (including All Source, Information Collection, Weather effects, Intelligence Support to Targeting, and Single Intelligence capabilities (HUMINT, SIGINT, IMINT)) to be integrated into a Cloud environment, the Command Post Computing Environment (CPCE), or any dedicated hardware platform, thus eliminating redundant, stove-piped, and resource intensive applications.

The MDI funding will be used to enable Capability Drop 2 (CD2)/Army Intelligence Data Platform (AIDP) to incorporate user feedback in a Continuous Integration/Continuous Deployment (CI/CD) environment by transitioning from traditional JCIDS acquisition to the Software Acquisition Pathway. This environment will also implement a Development Security Operations (DEVSECOPS)) approach for generating user feedback into system enhancements/improvements.

The MDI funding will also be used for the modernization of Geospatial capabilities currently being used in the Army by purchasing the latest and most effective hardware and software available. The emphasis will be on establishing an Enterprise-level capability, the Army Integrated Geospatial Enterprise Capability (AIGEC). The Army will be focused on leveraging commercial items and proven technology to the maximum extent possible as the methods to provide capabilities in the fastest and most efficient means possible.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605224A / Multi-Domain Intelligence			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	9.313	19.911	41.870	-	41.870
Current President's Budget	9.313	6.008	41.003	-	41.003
Total Adjustments	0.000	-13.903	-0.867	-	-0.867
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-13.903			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.867	-	-0.867
Change Summary Explanation					
Decreased funding to support higher Army priorities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CK4: Intelligence Apps and Integration (MIP)	-	9.313	6.008	23.697	-	23.697	38.696	39.427	39.847	40.292	0.000	197.280
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Intelligence Applications and Integration (Intel Apps) Program is a software-centric, hardware agnostic, ACAT III Program that will provide the Next Generation intelligence capabilities aligned to the National Defense Strategy and Multi-Domain Operations by enabling intelligence professionals to work through the intelligence cycle with increased speed, precision and accuracy. The Intel Apps Program will synchronize applications (including All Source, Information Collection, Weather effects, Intelligence Support to Targeting, Geospatial Intelligence (GEOINT) and Signals Intelligence (SIGINT)) into a Cloud environment, with Command Post Computing Environment (CPCE), or any dedicated platform, across all Army echelons, thus eliminating redundant, stove-piped, and resource-intensive applications.

The FY24 funds in the amount of \$23.697 million will focus on the development and testing of the Weather Operational Effects (Apps 3) and Information Collection Management (Apps 4), Operational Testing of Apps 1 & 2, All Source II and Intel Support to Targeting, and Market Research of subsequent applications.

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

	FY 2022	FY 2023	FY 2024
Title: Intelligence Applications and Integration	9.313	6.008	6.464
Description: Provide Next Generation intelligence capabilities. Initiate activities for Apps 7 and 8 Market Research. Each application is on a two year cycle, therefore by year 2+ and every year beyond there will be overlap between released applications.			
FY 2023 Plans: Testing of the All Source and Intelligence Support to Targeting applications and initiate necessary Market Research for future Intelligence Applications.			
FY 2024 Plans: Development of the Information Collection Management and Weather Operational Effects applications, Operational Testing of Apps 1 & 2 (All Source II and Intel Support to Targeting) and the necessary Market Research for future Intelligence Applications.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in FY2024 funding to account for additional tasks in the portfolio such as development and testing of the increasing number of intelligence applications.			
Title: Intelligence Apps 1 & 2 Integration	-	-	8.263

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence	Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)	

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Description: Provide Next Generation intelligence capabilities.			
FY 2024 Plans: Integration of Targeting and All Source applications.			
FY 2023 to FY 2024 Increase/Decrease Statement: New effort initiation.			
Title: Intelligence Apps 3 & 4	-	-	8.970
FY 2024 Plans: Initiate development of Apps 3 & 4			
FY 2023 to FY 2024 Increase/Decrease Statement: Start new efforts for next Intelligence Applications			
Accomplishments/Planned Programs Subtotals	9.313	6.008	23.697

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• K26111: INTELLIGENCE APPLICATIONS	-	-	32.729	-	32.729	-	-	-	-	0.000	32.729

Remarks

D. Acquisition Strategy

The acquisition strategy is to acquire the Intelligence Applications by procuring commercial products available from the marketplace, or leveraging capabilities from Agencies' and Functional Managers' standard software, or using matured intelligence capabilities from Science and Technology initiatives for integration onto the CPCE infrastructure. Based upon Market Research for the first four software applications, the government identified that commercial items will be procured via competitive contracts. Market Research for SIGINT and GEOINT will indicate whether commercial items are available or whether the Government will initiate a separate development activity. In order to meet military maturity and DoD standards, these applications will require additional modification, integration and testing support.

Most importantly, the Government is developing a government managed/open standards Application Program Interface (API) document to support the interoperability between these applications and other components within the Army's Multi-Domain Intelligence enterprise, to include the Capability Drop 1 (CD1), Capability Drop 2 (CD2)/Army Intelligence Data Platform (AIDP), and the Tactical Intelligence Targeting Access Node (TITAN) system.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence						Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)			
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management	Option/CPFF	QED : APG, MD	-	0.745	Dec 2021	0.272	Dec 2022	1.486	Dec 2023	-		1.486	0.000	2.503	-
Subtotal			-	0.745		0.272		1.486		-		1.486	0.000	2.503	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Engineering/SME Support	Option/CPFF	BOOZ ALLEN HAMILTON : APG, MD	-	3.968	Dec 2021	0.752	Dec 2022	5.341	Dec 2023	-		5.341	0.000	10.061	-
Information Assurance/Risk Management	Option/CPFF	BOOZ ALLEN HAMILTON : APG, MD	-	0.500	Dec 2021	0.112	Dec 2022	1.468	Dec 2023	-		1.468	0.000	2.080	-
Subtotal			-	4.468		0.864		6.809		-		6.809	0.000	12.141	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Training Development	RO	C5ISR : APG, MD	-	0.900	Dec 2021	0.132	Mar 2023	1.705	Mar 2024	-		1.705	0.000	2.737	-
Integration effort into CPCE	RO	C5ISR : APG, MD	-	1.950	Dec 2021	2.613	Mar 2023	2.131	Mar 2024	-		2.131	0.000	6.694	-
Information Collection (application 3)	TBD	TBD : TBD	-	-		-		5.280	Jan 2024	-		5.280	0.000	5.280	-
Weather Operational Effects (application 4)	TBD	TBD : TBD	-	-		-		3.730	Jan 2024	-		3.730	0.000	3.730	-
Subtotal			-	2.850		2.745		12.846		-		12.846	0.000	18.441	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023					
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)							
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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		
Test and Evaluation			MIPR	ATEC : APG, MD	-	1.250	Jun 2022	2.127	Mar 2023	2.556	Mar 2024	-		2.556	0.000	5.933	-
Subtotal				-	1.250		2.127		2.556		-		2.556	0.000	5.933	N/A	
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals			-	9.313		6.008		23.697		-		23.697	0.000	39.018	N/A		
Remarks																	

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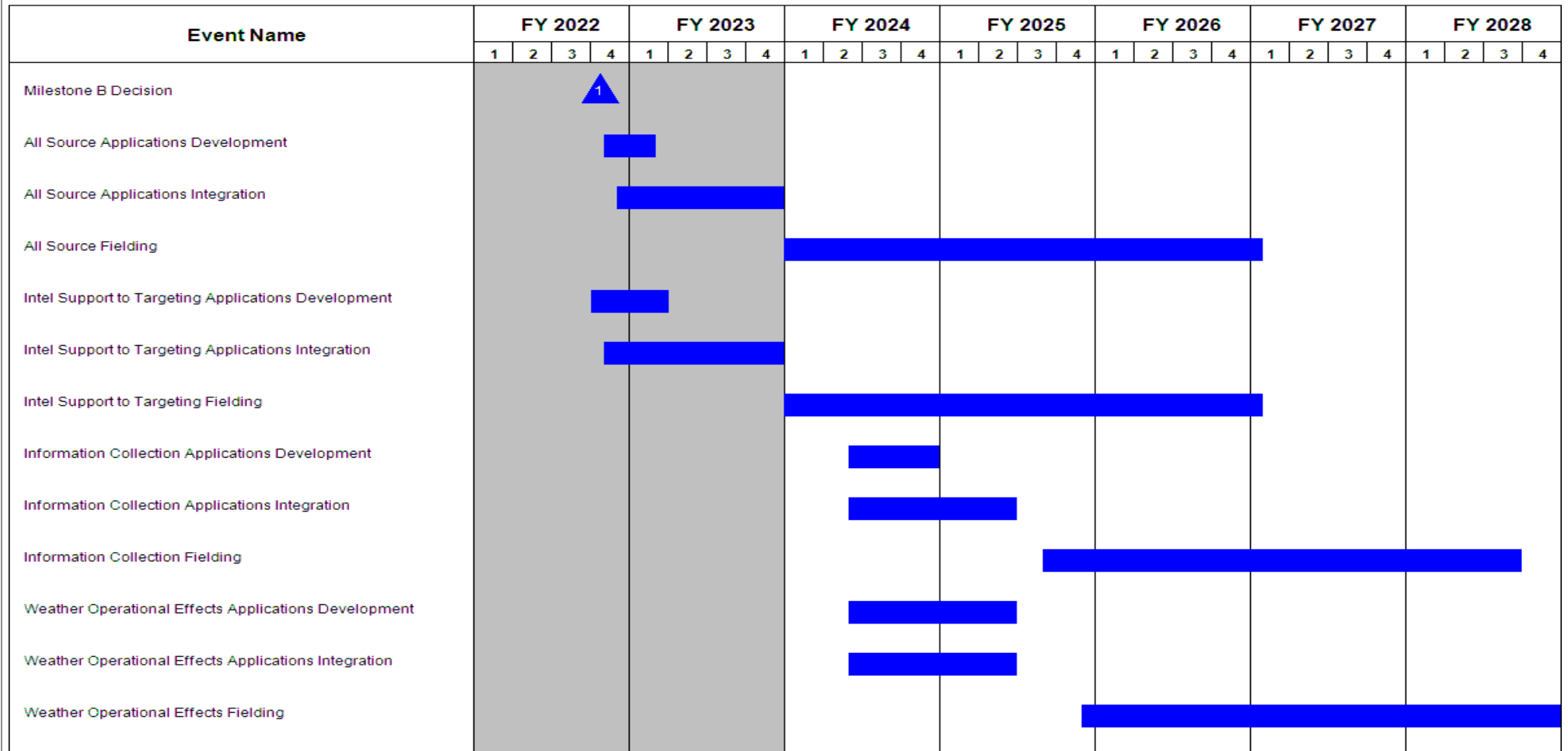
Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0605224A / Multi-Domain Intelligence

Project (Number/Name)
CK4 / Intelligence Apps and Integration (MIP)



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence		Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Geospatial Intelligence (GEOINT) Applications Development																												
GEOINT Integration																												
GEOINT Fielding																												
Signals Intelligence (SIGINT) Applications Development																												
SIGINT Integration																												
SIGINT Fielding																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence	Project (Number/Name) CK4 / Intelligence Apps and Integration (MIP)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision	2	2021	2	2021
Milestone B Decision	4	2022	4	2022
All Source Applications Development	4	2022	1	2023
All Source Applications Integration	4	2022	4	2023
All Source Fielding	1	2024	1	2027
Intel Support to Targeting Applications Development	4	2022	1	2023
Intel Support to Targeting Applications Integration	4	2022	4	2023
Intel Support to Targeting Fielding	1	2024	1	2027
Information Collection Applications Development	2	2024	4	2024
Information Collection Applications Integration	2	2024	2	2025
Information Collection Fielding	3	2025	3	2028
Weather Operational Effects Applications Development	2	2024	2	2025
Weather Operational Effects Applications Integration	2	2024	2	2025
Weather Operational Effects Fielding	4	2025	4	2028
Geospatial Intelligence (GEOINT) Applications Development	4	2024	2	2025
GEOINT Integration	4	2024	4	2025
GEOINT Fielding	2	2026	2	2029
Signals Intelligence (SIGINT) Applications Development	2	2025	4	2025
SIGINT Integration	2	2025	2	2026
SIGINT Fielding	3	2026	3	2029

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) DD8 / Army Intelligence Data Platform (AIDP)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DD8: Army Intelligence Data Platform (AIDP)	-	-	-	8.899	-	8.899	-	-	-	-	0.000	8.899
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Realigned program effort within the existing Program Element 0605224A (Multi-Domain Intelligence) from project CK4 (Intelligence Apps and Integration (MIP)) to delineate support for the Army Intelligence Data Platform (AIDP) requirement.

A. Mission Description and Budget Item Justification

The Army Intelligence Data Platform (AIDP), also known as Distributed Common Ground System - Army (DCGS-A) Capability Drop 2 (CD2) is a commercial item acquisition to modernize the Army Intelligence Data Enterprise with data warehousing and advanced analytical capabilities. AIDP is operated by the Army's Intelligence Security Command (INSCOM) and uses AIDP for the Army Intelligence and Security Enterprise (AISE). AIDP provides the Army Enterprise capabilities hosted in the Cloud that supports specific functionality such as Data Ingestion (Bringing data into the system), Data Persistence (Storing data within the system), Data Egress (Sharing data with other systems), Normalization (Ensuring data is in a standardized form and format), Deduplication and Correlation (Combining data based on rules or duplication), and Advanced Analytics such as Geospatial Feasibility, Course of Action Projection, and Pattern Discovery and Detection. The AIDP RDTE funding will be used to develop and test Develop Security Operations (DEVSECOPS) system enhancements and soldier driven workflow improvements to the AIDP software.

The FY24 funds in the amount of \$8.899 million will focus on the continued development, integration, and testing of the Army Intelligence Data Platform (AIDP).

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

	FY 2022	FY 2023	FY 2024
Title: Army Intelligence Data Platform (AIDP)	-	-	8.899
Description: Proven technology capabilities			
FY 2024 Plans: Leverage proven technology as a means of providing capabilities in the fastest and most efficient means possible.			
FY 2023 to FY 2024 Increase/Decrease Statement: Realigned program effort within the existing Program Element 655224 from project CK4 to delineate support for the Army Intelligence Data Platform (AIDP) requirement.			
Accomplishments/Planned Programs Subtotals	-	-	8.899

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence	Project (Number/Name) DD8 / Army Intelligence Data Platform (AIDP)	

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• K26444: ARMY INTELLIGENCE DATA PLATFORM (AIDP) (CD2)	-	-	17.464	-	17.464	-	-	-	-	0.000	17.464

Remarks

D. Acquisition Strategy

The acquisition strategy is to leverage already commercially acquired software as the foundation for AIDP and make changes/add enhancements via multiple activities. These activities will include utilization of government owned/developed code and Firm -Fixed Price Engineering Change Proposals with the current AIDP Software vendor with integration via the Continuous Integration/Continuous Deployment (CI/CD) DEVSECOPS methodology. This will enable CD2/AIDP to incorporate user feedback in a CI/CD environment by transitioning from traditional JCIDS acquisition to the flexible/agile acquisition strategy such as the Software Acquisition Pathway (SWP).

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) DD8 / Army Intelligence Data Platform (AIDP)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
PM Support	TBD	PM Office; QED; Matrix : APG, MD	-	-		-		0.800	Oct 2023	-		0.800	0.000	0.800	-
Subtotal			-	-		-		0.800		-		0.800	0.000	0.800	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Intelligence Data Platform	Option/ CPFF	ACC, APG : APG, MD	-	-		-		5.349	Mar 2024	-		5.349	0.000	5.349	-
Subtotal			-	-		-		5.349		-		5.349	0.000	5.349	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Integration Support	TBD	TBD : APG, MD	-	-		-		1.250	Nov 2023	-		1.250	0.000	1.250	-
Subtotal			-	-		-		1.250		-		1.250	0.000	1.250	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Evaluation	TBD	ATEC : APG, MD	-	-		-		1.500	Jan 2024	-		1.500	0.000	1.500	-
Subtotal			-	-		-		1.500		-		1.500	0.000	1.500	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		-		8.899		-		8.899	0.000	8.899	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army							Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence		Project (Number/Name) DD8 / Army Intelligence Data Platform (AIDP)				
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

[illegible]

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[illegible]

PE 0605224A / Multi-Domain Intelligence

Project (Number/Name)	Start Date	End Date	Duration (Days)	Project Manager	Status	Notes
101	2023-01-01	2023-01-15	14	John Doe	Completed	Project completed successfully.
102	2023-01-16	2023-02-01	16	Jane Smith	In Progress	Project is currently in progress.
103	2023-02-02	2023-02-15	13	John Doe	On Hold	Project is on hold due to resource availability.
104	2023-02-16	2023-03-01	15	Jane Smith	Planned	Project is planned for the future.
105	2023-03-02	2023-03-15	13	John Doe	Completed	Project completed successfully.
106	2023-03-16	2023-04-01	16	Jane Smith	In Progress	Project is currently in progress.
107	2023-04-02	2023-04-15	13	John Doe	On Hold	Project is on hold due to resource availability.
108	2023-04-16	2023-05-01	15	Jane Smith	Planned	Project is planned for the future.
109	2023-05-02	2023-05-15	13	John Doe	Completed	Project completed successfully.
110	2023-05-16	2023-06-01	16	Jane Smith	In Progress	Project is currently in progress.

DD8 / Army Intelligence Data Platform (AIDP)

[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence	Project (Number/Name) DD8 / Army Intelligence Data Platform (AIDP)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development Security Operations (DEVSECOPS) activities on contract	2	2024	1	2026
Continuous Testing Activities	2	2023	2	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DD9: Geospatial Intelligence (GEOINT)	-	-	-	8.407	-	8.407	-	-	-	-	0.000	8.407
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Realigned program effort within the existing Program Element 0605224A (Multi-Domain Intelligence) from project CK4 (Intelligence Apps and Integration (MIP)) to delineate support for the Army Integrated Geospatial Enterprise Capability (AIGEC) requirement.

A. Mission Description and Budget Item Justification

The Army Integrated Geospatial Enterprise Capability (AIGEC) is the singular set of modernized Geospatial requirements that will fold into the enduring Geospatial Workstation Tactical Server Infrastructure (GWS/TSI) and subsequent platforms. AIGEC requirements were approved in November 2021 by the 2-Star Common Operating Environment (COE) Configuration Steering Board (SCB). Funding for AIGEC advances the Geospatial Engineers ability to perform the functions of Generation, Management, Analysis & Dissemination (GMAD) of geospatial data as described in Army Technical Publication (ATP) 3-34.80. AIGEC capabilities provide the ability to meet all COE Information System Capability Description Document (IS-CDD) and Command Post Computing Environment (CPCE) Requirements Definition Package (RDP) geospatial requirements. AIGEC requirements include: generating data to fill the gaps in the Theater Geospatial Database (TGD) and Standard Sharable Geospatial Foundation (SSGF); managing the data to support the Multi Domain Operations Common Operational Picture; analyzing the terrain in support of the MDMP with predictive analysis, providing actionable information products such as the COO for IPB; and disseminating geospatial data and information via web services and hardcopy publishing.

The FY24 funds in the amount of \$8.407 million will support the development, integration and testing of Army Integrated Geospatial Enterprise Capability (AIGEC).

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

	FY 2022	FY 2023	FY 2024
Title: Army Integrated Geospatial Enterprise Capability (AIGEC)	-	-	8.407
Description: Effort reflects the modernization of Army Geospatial capability across all echelons.			
FY 2024 Plans: Initiate efforts for the AIGEC program modernization.			
FY 2023 to FY 2024 Increase/Decrease Statement: Realigned program effort within the existing Program Element 655224 from project CK4 to delineate support for the Army Integrated Geospatial Enterprise Capability (AIGEC) requirement.			
Accomplishments/Planned Programs Subtotals	-	-	8.407

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• K26222: GEOSPATIAL INTELLIGENCE	-	-	12.460	-	12.460	-	-	-	-	0.000	12.460
Remarks											
D. Acquisition Strategy											
The acquisition strategy is to acquire AEGIC by procuring or utilizing commercial products available from the market place, or leveraging capabilities from Agencies' and Functional Managers' standard software or using matured capabilities from Science and Technology initiatives. Market Research will indicate whether commercial items are available or whether the Government will initiate a separate development activity. In order to meet military maturity and DoD standards.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence				Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management Support	MIPR	PM Office; Matrix : APG, MD	-	-		-		0.800	Oct 2023	-		0.800	0.000	0.800	-
Subtotal			-	-		-		0.800		-		0.800	0.000	0.800	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Integrated Geospatial Enterprise Capability (AIGEC)	Option/ CPFF	ACC, APG : APG, MD	-	-		-		4.857	Mar 2024	-		4.857	0.000	4.857	-
Subtotal			-	-		-		4.857		-		4.857	0.000	4.857	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Integration Support	TBD	TBD : APG, MD	-	-		-		1.250	Jan 2024	-		1.250	0.000	1.250	-
Subtotal			-	-		-		1.250		-		1.250	0.000	1.250	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Evaluation	MIPR	ATEC : APG, MD	-	-		-		1.500	Jan 2024	-		1.500	0.000	1.500	-
Subtotal			-	-		-		1.500		-		1.500	0.000	1.500	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		-		8.407		-		8.407	0.000	8.407	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army							Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence		Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)			
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Remarks									

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army												Date: March 2023					
Appropriation/Budget Activity 2040 / 5								R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence						Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)			

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Materiel Development Decision								1																				
Milestone B Decision									2																			
AIGEC Development																												
AIGEC Integration and Test																												
AIGEC Fielding																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605224A / Multi-Domain Intelligence	Project (Number/Name) DD9 / Geospatial Intelligence (GEOINT)

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Materiel Development Decision	4	2023	4	2023
Milestone B Decision	2	2024	2	2024
AIGEC Development	2	2024	1	2025
AIGEC Integration and Test	4	2024	2	2025
AIGEC Fielding	2	2025	1	2026

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605225A / <i>SIO Capability Development</i>							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	22.713	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	22.713
CB7: <i>SIO Capability Development</i>	-	22.713	-	-	-	-	-	-	-	-	0.000	22.713

A. Mission Description and Budget Item Justification

Program provides critical classified, continuous, rapid evolutionary development of offensive cyberspace capabilities intended to project power in and through the cyberspace domain. Capabilities also provide deliberate, authorized, response actions which are taken external to the Department of Defense Information Network (DODIN) to defeat ongoing or imminent threats. Authorities are provided under Title 10, United States Code Section 394. In FY20 and FY21, the details of this program were reported in accordance with Title 10, United States Code, Section 119(a)(1). In FY22, the transition to an evolved set of technical solutions, controlled at appropriate security classification levels, will enable application against a broader set of Title 10 operational needs and requirements for the program.

B. Program Change Summary (\$ in Millions)	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	22.713	0.000	0.000	-	0.000
Current President's Budget	22.713	0.000	0.000	-	0.000
Total Adjustments	0.000	0.000	0.000	-	0.000
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605225A / SIO Capability Development				Project (Number/Name) CB7 / SIO Capability Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CB7: SIO Capability Development	-	22.713	-	-	-	-	-	-	-	-	0.000	22.713
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Program provides critical classified, continuous, rapid evolutionary development of offensive cyberspace capabilities intended to project power in and through cyberspace. Capabilities also provide deliberate, authorized, response actions which taken external to the Department of Defense Information Networks (DODIN) to defeat ongoing or imminent threats. Authorities are provided under Title 10, United States Code Section 394. In FY20 and FY21, the details of this program were reported in accordance with Title 10, United States Code, Section 119(a)(1). The transition from Title 10 allows for a broader set of requirements for the program.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
Title: Special Information Operations	22.713	-	-
Accomplishments/Planned Programs Subtotals	22.713	-	-

C. Other Program Funding Summary (\$ in Millions)

N/A

Remarks

D. Acquisition Strategy

Special Information Operations (SIO) funds provide for agile development, integration, and ongoing Army capability testing of advanced technologies and systems to pace the rapidly evolving cyber threat environment during Joint All Domain Operations and support multi-domain soldier test points. The Army Capability Manager-Cyber manages validated Army requirements for operationally relevant capabilities, which are refined and driven by an annual Commanding General (CG) Army Cyber Command prioritization memorandum. Program Executive Office Intelligence, Electronic Warfare & Sensors (PEO IEW&S) then uses Budget Activity (BA) 6.5 RDT&E to manage evolution of these required efforts through classified system development and integration into Army Programs of Record (POR)s and Quick Reaction Capabilities (QRC)s. This strategy ensures these capabilities remain viable and operationally focused through multiple budget cycles, significantly increasing successful transitions to recipient Army Cyber warfighting forces.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605225A / SIO Capability Development				Project (Number/Name) CB7 / SIO Capability Development					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Engineers and Technical Assistance	Option/ CPFF	MAG Aerospace : Aberdeen, MD	-	12.713	Jul 2022	-		-		-		-	0.000	12.713	-
Subtotal			-	12.713		-		-		-		-	0.000	12.713	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
DA Gov Travel, Office Costs	Option/ CR	USACE : Baltimore, MD	-	1.000		-		-		-		-	0.000	1.000	-
Program Support Costs	TBD	Multiple MIPRS and Functional Support Agreements : Hanover, MD	-	5.000	Jun 2022	-		-		-		-	0.000	5.000	-
Subtotal			-	6.000		-		-		-		-	0.000	6.000	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Special Information Operations Cyber Capability Testing	TBD	Various : Multiple	-	4.000	Jan 2022	-		-		-		-	0.000	4.000	-
Subtotal			-	4.000		-		-		-		-	0.000	4.000	N/A
			Prior Years	FY 2022	FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	22.713		-		-		-		-	0.000	22.713	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0605225A / SIO Capability Development

Project (Number/Name)

CB7 / SIO Capability Development

[illegible]

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605225A / SIO Capability Development	Project (Number/Name) CB7 / SIO Capability Development	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Classified Cyber Capabilities Development	3	2020	4	2023
Classified Cyber Capabilities Testing	2	2021	4	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605231A I Precision Strike Missile (PrSM)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	181.574	259.506	272.786	-	272.786	238.657	238.938	241.485	244.117	0.000	1,677.063
CO3: Precision Strike Missile (PrSM)	-	181.574	259.506	272.786	-	272.786	238.657	238.938	241.485	244.117	0.000	1,677.063

A. Mission Description and Budget Item Justification

Precision Strike Missile (PrSM) funding line is directly aligned to the Army Long Range Precision Fires Modernization Priority.

PrSM is the Army's next generation surface-to-surface missile that replaces and improves upon Army Tactical Missile System (ATACMS) capabilities. The mission of PrSM is to attack/neutralize/suppress/destroy targets using missile delivered indirect precision fires. PrSM will provide Joint Force Commanders with a 24/7, all-weather capability to attack critical and time sensitive area and point targets including threat air defense, missile launchers, command and control centers, assembly/staging areas and high payoff targets at all depths of the multi-domain battlefield. PrSM will counter the enemy's ability to conduct combat maneuver and air defense operations. The PrSM program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. These efforts include integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

PrSM requirements include: threshold max range of 400 kilometers (km), specified lethality against the designated target set, a Launch Pod Missile Container (LPMC) that holds two missiles, survivability in a threat environment, and compatibility with the existing launcher platforms (M270A2 Multiple Launch Rocket System (MLRS) and M142 High Mobility Artillery Rocket System (HIMARS)). PrSM will meet cluster and Insensitive Munition (IM) requirements and is designed with an open system approach that provides the capability for future growth to counter new and emerging threats. Increment 2's mission is to attack critical time sensitive moving maritime or relocated land targets. Future PrSM increments will provide increased lethality against hardened targets and extend range capability.

FY 2024 Base dollars in the amount of \$272.786 million supports continuation of PrSM Increment 1 Engineering and Manufacturing Development (EMD) and efforts to develop and integrate an Increment 2 prototype.

Increment 1 EMD activities include system level ground, safety, and flight testing. PrSM will also conduct missile software testing and integration with the Advanced Field Artillery Tactical Data System (AFATDS). On-going PrSM model and simulation efforts will serve to validate and verify system requirements. EMD design and test efforts support a robust and thorough flight test schedule.

Increment 2 integrates the Science & Technology (S&T) seeker into the PrSM Increment 1 missile. Increment 2 activities include transitioning the U.S. Army Combat Capabilities Development Command (DEVCOM) Aviation & Missile Center (AvMC) S&T seeker to the PrSM program of record. The FY 2024 focus is on meeting an Army Futures Command Directed Requirement for an FY 2027 Early Operational Capability (EOC). These activities include an Initial Design Review (IDR), Design Verification Testing (DVT), Preliminary Design Review (PDR), launcher software integration, and hardware in the loop activities. These events are in preparation for the PrSM Increment 2 demonstration flight tests that begin 4Q FY 2024.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605231A / Precision Strike Missile (PrSM)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	188.452	259.506	237.566	-	237.566
Current President's Budget	181.574	259.506	272.786	-	272.786
Total Adjustments	-6.878	0.000	35.220	-	35.220
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-6.878	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	35.220	-	35.220
Change Summary Explanation					
An adjustment of \$35.220 million to FY 2024 Base was made to support Increment 2 development and prototype testing.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605231A / Precision Strike Missile (Pr SM)				Project (Number/Name) CO3 / Precision Strike Missile (PrSM)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CO3: Precision Strike Missile (PrSM)	-	181.574	259.506	272.786	-	272.786	238.657	238.938	241.485	244.117	0.000	1,677.063
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Precision Strike Missile (PrSM) funding line is directly aligned to the Army Long Range Precision Fires Modernization Priority.

PrSM is the Army's next generation surface-to-surface missile that replaces and improves upon Army Tactical Missile System (ATACMS) capabilities. The mission of PrSM is to attack/neutralize/suppress/destroy targets using missile delivered indirect precision fires. PrSM will provide Joint Force Commanders with a 24/7, all-weather capability to attack critical and time sensitive area and point targets including threat air defense, missile launchers, command and control centers, assembly/staging areas and high payoff targets at all depths of the multi-domain battlefield. PrSM will counter the enemy's ability to conduct combat maneuver and air defense operations. The PrSM program is a component of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. These efforts include integration with an evolving common fires mission command, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.

PrSM requirements include: threshold max range of 400 kilometers (km), specified lethality against the designated target set, a Launch Pod Missile Container (LPMC) that holds two missiles, survivability in a threat environment, and compatibility with the existing launcher platforms (M270A2 Multiple Launch Rocket System (MLRS) and M142 High Mobility Artillery Rocket System (HIMARS)). PrSM will meet cluster and Insensitive Munition (IM) requirements and is designed with an open system approach that provides the capability for future growth to counter new and emerging threats. Increment 2's mission is to attack critical time sensitive moving maritime or relocated land targets. Future PrSM increments will provide increased lethality against hardened targets and extend range capability.

FY 2024 Base dollars in the amount of \$272.786 million supports continuation of PrSM Increment 1 Engineering and Manufacturing Development (EMD) and efforts to develop and integrate an Increment 2 prototype.

Increment 1 EMD activities include system level ground, safety, and flight testing. PrSM will also conduct missile software testing and integration with the Advanced Field Artillery Tactical Data System (AFATDS). On-going PrSM model and simulation efforts will serve to validate and verify system requirements. EMD design and test efforts support a robust and thorough flight test schedule.

Increment 2 integrates the Science & Technology (S&T) seeker into the PrSM Increment 1 missile. Increment 2 activities include transitioning the U.S. Army Combat Capabilities Development Command (DEVCOM) Aviation & Missile Center (AvMC) S&T seeker to the PrSM program of record. The FY 2024 focus is on meeting an Army Futures Command Directed Requirement for an FY 2027 Early Operational Capability (EOC). These activities include an Initial Design Review (IDR), Design Verification Testing (DVT), Preliminary Design Review (PDR), launcher software integration, and hardware in the loop activities. These events are in preparation for the PrSM Increment 2 demonstration flight tests that begin 4Q FY 2024.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605231A / <i>Precision Strike Missile (PrSM)</i>	Project (Number/Name) CO3 / <i>Precision Strike Missile (PrSM)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Title: Increment 1: Engineering and Manufacturing Development (EMD) Description: EMD activities to develop the Army's next generation missile capability that doubles volume of fire, meets range requirements by exceeding 400km, provides required lethality for both point and area targets, ensures survivability, meets cluster munition policy requirements, and provides an open system approach. PrSM provides field artillery units with a deep-strike capability while supporting Brigade, Division, Corps, Army, Theater, Joint and Coalition forces in full, limited, or expeditionary operations. FY 2023 Plans: The PrSM program will complete sub-system component testing and continue execution EMD with system qualification and ground and flight tests to support production of EOC missile deliveries planned for deployment at the end of FY 2023. Government developed launcher software and contractor developed missile software integration efforts will update the tactical software solution into Advanced Field Artillery Tactical Data System (AFATDS). PrSM will continue investment in M-Code A-PNT compliance efforts. PrSM will execute Production Qualification flight testing beginning in 4Q FY 2023. FY 2024 Plans: The program will continue PQT flight testing in FY 2024 and focus on system level hardware/software integration, performance and safety. PQT-5 flight test will be a Limited User Test (LUT) (2 missile flight) in 2Q FY 2024. Upon successful completion of the LUT, PrSM will staff a request for Urgent Materiel Release (UMR). After the LUT the program will shift focus to integration with the M270A2 launcher and the new Common Fire Control System (CFCS). Additional effort will focus on hardware builds and training material in preparation for (10) Initial Operational Test & Evaluation (IOT&E) flight tests occurring in early FY 2025. FY 2023 to FY 2024 Increase/Decrease Statement: The \$13.226 million decrease from FY 2023 to FY 2024 reflects the program completing qualification flight testing and finalizing launcher/missile software development on both platforms in support of operational testing in FY 2025.		132.347	167.628	154.402
Title: Increment 2 Integration Description: Activities to integrate Science and Technology (S&T) seeker technology into PrSM Increment 1 will result in an Increment 2 missile. FY 2023 Plans: FY 2023 funding supports the continued long lead hardware procurement and Development & Demonstration D&D activities necessary to transition the Science & Technology (S&T) seeker technology into the PrSM program of record. This includes continued DEVCOM AvMC engineering support to PrSM form fit activities, conduct of a System Requirements Review (SRR), conduct of a System Functional Review (SFR), and continued PrSM form factoring design activities by the prime contractor. This		49.227	82.406	118.384

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army							Date: March 2023				
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0605231A / <i>Precision Strike Missile (PrSM)</i>			Project (Number/Name) CO3 / <i>Precision Strike Missile (PrSM)</i>					
B. Accomplishments/Planned Programs (\$ in Millions)											
<p>work is necessary in order to begin integration of the S&T seeker into the PrSM Increment 1 baseline missile beginning in FY 2024.</p> <p>FY 2024 Plans: FY 2024 activities focus on meeting an Army Futures Command Directed Requirement of an FY 2027 Early Operational Capability (EOC). These activities include an Initial Design Review (IDR), Design Verification Testing (DVT), launcher software integration, and hardware in the loop activities. The FY 2024 events are in preparation for the PrSM Increment 2 demonstration flight tests that begin 4Q FY 2024.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: In FY 2024, PrSM Increment 2 RDTE scope increases by \$35.978 million due to the prime contractor and U.S. Army Combat Capabilities Development Command (DEVCOM) Aviation & Missile Center (AvMC) seeker integration activities.</p>							FY 2022	FY 2023	FY 2024		
<p>Title: FY 2023 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.</p>							-	9.472	-		
Accomplishments/Planned Programs Subtotals							181.574	259.506	272.786		
C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• C29600: <i>PRECISION STRIKE MISSILE (PRSM)</i>	166.130	162.876	384.071	-	384.071	476.026	501.086	603.077	603.057	0.000	2,896.323
Remarks											
D. Acquisition Strategy In 2017, the program was designated as Acquisition Category 1B. In 2018, Army leaders directed PrSM to accelerate the program and provide an Early Operational Capability (EOC) by FY 2023. The program awarded an Enhanced TMRR (E-TMRR) contract to reduce risk, conduct prototype flight-testing and conduct several Engineering and Manufacturing Development (EMD) activities to accelerate development. In 2020, Army senior leaders approved program acceleration using a single											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605231A / <i>Precision Strike Missile (PrSM)</i>	Project (Number/Name) CO3 / <i>Precision Strike Missile (PrSM)</i>
<p>vendor. The program is executing E-TMRR as a sole-source effort to demonstrate threshold program requirements and complete sub-assembly qualification activities. The contractor has conducted six (6) successful flight tests to date and is conducting sub-assembly qualification tests while establishing a pilot production line.</p> <p>The program received Milestone B approval in FY 2021 and awarded an EMD and initial EOC contract. The program is executing to begin delivering EOC missiles in FY 2023. Once the program begins delivering missiles, the program will utilize PQT flight test assets to qualify the production line before conducting a Production Readiness Review (PRR). The PRR will confirm the production line is qualified to support production of EOC and Initial Operational Test and Evaluation missiles. EOC missiles are contracted ahead of a Milestone C decision (FY 2025).</p> <p>In January 2021, the Army Requirements Oversight Council (AROC) validated the PrSM Increment 2 Capabilities Development Document (CDD) Annex A. Additionally on 6 July 2022, the Commanding General Army Futures Command signed a Directed Requirement for PrSM Increment 2 missiles. The Directed Requirement requires the delivery of Early Operational Capability (EOC) missiles beginning in FY 2027. In FY 2022 the program awarded a Broad Agency Announcement contract vehicle contract vehicle to transition seeker technology from Development Command (DEVCOM) into PrSM for Increment 2. The DEVCOM seeker will demonstrate in FY 2023. Success of this demonstration will inform final design and integration into PrSM Increment 2. PrSM Increment 2 prototype testing begins in 4QFY24 and will demonstrate TRL-6 by FY 2026. In November 2022, the Army Acquisition Executive determined that the Increment 2 program will follow the Major Capability Acquisition (MCA) Pathway.</p> <p>The Army has prioritized PrSM Increment 4 (extended range with seeker) ahead of PrSM Increment 3 (Modular Payload).</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army													Date: March 2023		
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605231A / Precision Strike Missile (Pr SM)				Project (Number/Name) CO3 / Precision Strike Missile (PrSM)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 : RSA, AL	-	5.442	Apr 2022	4.642	Apr 2023	5.972	Apr 2024	-		5.972	0.000	16.056	-
FY 2023 SBIR/STTR Transfer	Various	TBD : TBD	-	-		9.472		-		-		-	0.000	9.472	-
Subtotal			-	5.442		14.114		5.972		-		5.972	0.000	25.528	N/A
Remarks RSA - Redstone Arsenal, Alabama															
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
PrSM Increment 1 EMD - 1 Vendor (Lockheed Martin)	SS/FFP	LMMFCS : Grand Prairie, TX	-	114.068	Jan 2022	126.207	Jan 2023	108.339	Jan 2024	-		108.339	0.000	348.614	-
PrSM Increment 2 - 1 Vendor (Lockheed Martin)	SS/CPIF	LMMFCS : Grand Prairie, TX	-	20.825	Oct 2021	46.416	Oct 2022	75.486	Oct 2023	-		75.486	0.000	142.727	-
PrSM Increment 2 Seeker Integration	MIPR	DEVCOM AvMC : RSA, AL	-	22.134	Dec 2021	23.514	Dec 2022	27.438	Dec 2023	-		27.438	0.000	73.086	-
Development Engineering Support	MIPR	AMCOM/DEVCOM AvMC : RSA, AL	-	5.134	Nov 2021	11.083	Nov 2022	8.442	Nov 2023	-		8.442	0.000	24.659	-
Increment 1 - Software Development	MIPR	S3I : RSA, AL	-	-		9.981	Feb 2023	6.151	Feb 2024	-		6.151	0.000	16.132	-
Increment 2 - Software Development	MIPR	S3I : RSA, AL	-	-		1.500	Feb 2023	3.336	Feb 2024	-		3.336	0.000	4.836	-
A-PNT	MIPR	DEVCOM AvMC : RSA, AL	-	-		9.999	Dec 2022	13.148	Dec 2023	-		13.148	0.000	23.147	-
Software Development	MIPR	S3I : RSA, AL	-	5.252	Feb 2022	-		-		-		-	0.000	5.252	-
Subtotal			-	167.413		228.700		242.340		-		242.340	0.000	638.453	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605231A / Precision Strike Missile (Pr SM)						Project (Number/Name) CO3 / Precision Strike Missile (PrSM)			
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Remarks AMCOM - Aviation and Missile Command; A-PNT - Assured-Position, Navigation and Timing; DEVCOM AvMC - U.S. Army Combat Capabilities Development Command Aviation & Missile Command; LMMFCS - Lockheed Martin Missiles and Fire Control System; RSA - Redstone Arsenal, Alabama; S3I - Systems Simulation, Software and Integration; TX - Texas															
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SETA Support	SS/T&M	Various; Competitive SETA Contract Award in Aug 2021 : RSA, AL	-	4.169	Dec 2021	5.574	Dec 2022	6.240	Dec 2023	-		6.240	0.000	15.983	-
Subtotal			-	4.169		5.574		6.240		-		6.240	0.000	15.983	N/A
Remarks RSA - Redstone Arsenal, AL; SETA - Systems Engineering and Technical Assistance															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Increment 1 - Test Support	MIPR	WSMR; RTC : WSMR,NM; RSA, AL; VSF, CA	-	-		8.718	Dec 2022	14.484	Dec 2023	-		14.484	0.000	23.202	-
Increment 2 - Test Support	MIPR	WSMR; RTC : WSMR,NM; RSA, AL; EAFB, FL	-	-		2.400	Dec 2022	3.750	Dec 2023	-		3.750	0.000	6.150	-
Test Support	MIPR	WSMR; RTC : WSMR,NM; RSA, AL	-	4.550	Dec 2021	-		-		-		-	0.000	4.550	-
Subtotal			-	4.550		11.118		18.234		-		18.234	0.000	33.902	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army													Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605231A / Precision Strike Missile (PrSM)					Project (Number/Name) CO3 / Precision Strike Missile (PrSM)					
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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	
Remarks RTC - Redstone Test Center; RSA - Redstone Arsenal, Alabama; WSMR, NM - White Sands Missile Range, New Mexico; VSFB - Vandenberg Space Force Base, California; EAFB - Eglin Air Force Base, Florida																
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			-	181.574		259.506		272.786		-		272.786	0.000	713.866	N/A	
Remarks																

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

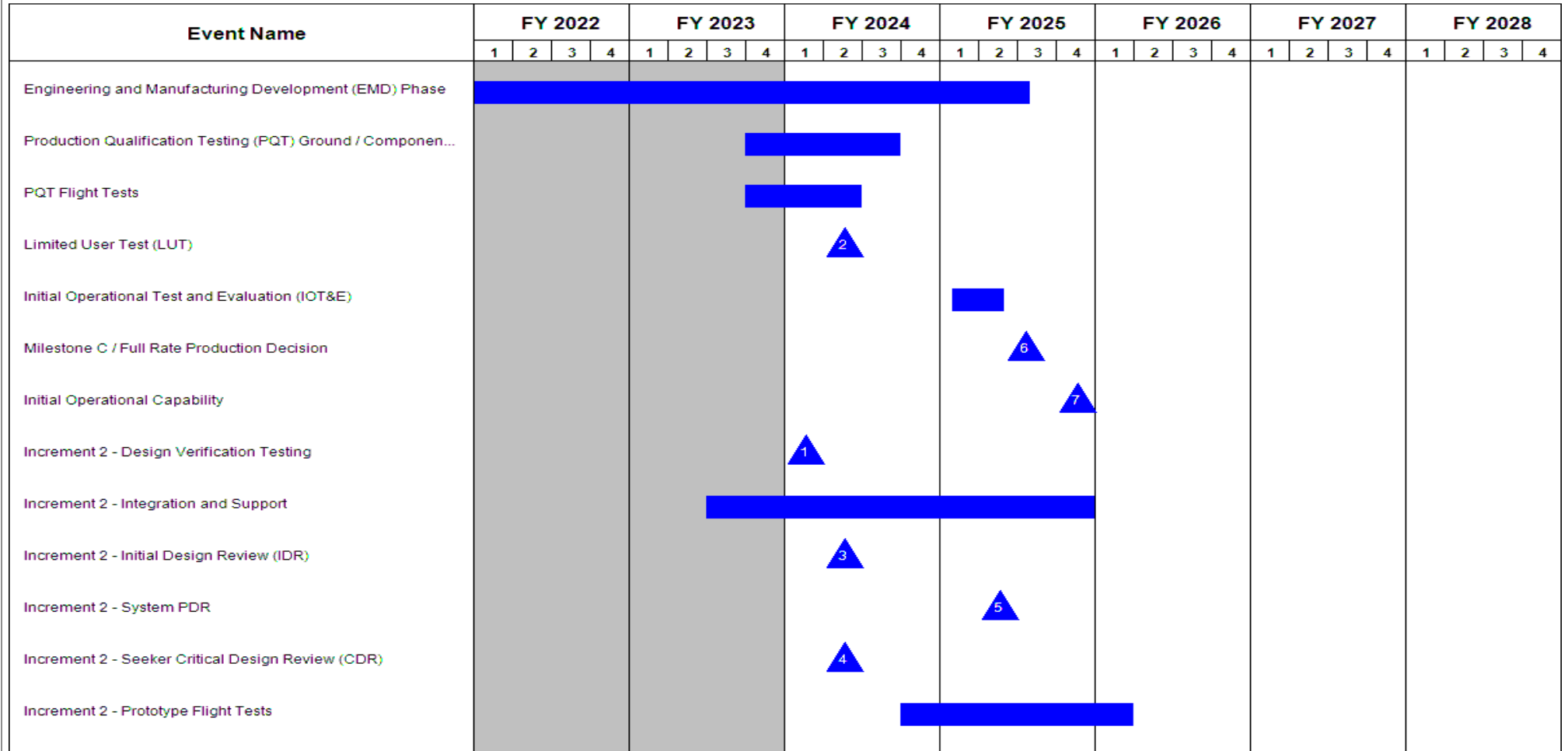
2040 / 5

R-1 Program Element (Number/Name)

PE 0605231A / Precision Strike Missile (PrSM)

Project (Number/Name)

CO3 / Precision Strike Missile (PrSM)



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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023												
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0605231A / Precision Strike Missile (PrSM)								Project (Number/Name) CO3 / Precision Strike Missile (PrSM)										
Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Increment 2 - System CDR																				8								
Increment 2 - ATEC User Demo																							9					
Increment 2 - EOC 1 Capability																								10				

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605231A / <i>Precision Strike Missile (PrSM)</i>	Project (Number/Name) CO3 / <i>Precision Strike Missile (PrSM)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technology Maturation and Risk Reduction (TMRR) Phase	1	2020	4	2021
Milestone B	4	2021	4	2021
Engineering and Manufacturing Development (EMD) Phase	1	2022	3	2025
Production Qualification Testing (PQT) Ground / Component / Safety	4	2023	3	2024
PQT Flight Tests	4	2023	2	2024
Limited User Test (LUT)	2	2024	2	2024
Initial Operational Test and Evaluation (IOT&E)	1	2025	2	2025
Milestone C / Full Rate Production Decision	3	2025	3	2025
Initial Operational Capability	4	2025	4	2025
Increment 2 - Design Verification Testing	1	2024	1	2024
Increment 2 - Integration and Support	3	2023	4	2025
Increment 2 - Initial Design Review (IDR)	2	2024	2	2024
Increment 2 - System PDR	2	2025	2	2025
Increment 2 - Seeker Critical Design Review (CDR)	2	2024	2	2024
Increment 2 - Prototype Flight Tests	4	2024	1	2026
Increment 2 - System CDR	4	2026	4	2026
Increment 2 - ATEC User Demo	3	2027	3	2027
Increment 2 - EOC 1 Capability	4	2027	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army</i> / BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	107.404	633.499	900.920	-	900.920	367.153	229.781	144.870	149.236	0.000	2,532.863
HX2: <i>Hypersonic Weapon (LRHW)</i>	-	107.404	633.499	900.920	-	900.920	367.153	229.781	144.870	149.236	0.000	2,532.863

Note

Funds BA 5 Long Range Hypersonic Weapon (LRHW) activities managed by the Program Executive Office Missiles and Space (PEO MS) as a follow-on of the BA 4 activities from the Rapid Capabilities and Critical Technologies Office (RCCTO) under PE 0604182A Long-Range Hypersonic Weapon.

A. Mission Description and Budget Item Justification

This funding supports the fielding of critical enabling technologies and capabilities that address near-term, and mid-term threats and is directly aligned to the Army Long Range Precision Fires modernization priority.

This includes the development and prototype fielding of the LRHW to defeat Anti Access/Area Denial (A2/AD) capabilities, suppress adversary Long Range Fires, and engage other high payoff/time critical targets. The Army is working collaboratively with the Navy in the development of the LRHW.

The LRHW system consists of the All Up Rounds (AUR) with canister (AUR+C) which includes the Common Hypersonic Glide Body (CHGB) with the Navy 34.5 inch booster, the Battery Operations Center (BOC) for command and control (C2), and the Transporter Erector Launcher (TEL). An LRHW Battery contains 8 AUR+C, 1 BOC, and 4 TELs each carrying 2 AUR+C. Additionally, the LRHW will use a modified version of an existing C2 network, the Advanced Field Artillery Tactical Data System (AFATDS).

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	111.473	633.499	944.768	-	944.768
Current President's Budget	107.404	633.499	900.920	-	900.920
Total Adjustments	-4.069	0.000	-43.848	-	-43.848
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.069	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-43.848	-	-43.848

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605232A / Hypersonics EMD	
<div>Change Summary Explanation</div> <div>Decrease in FY 2024 funding request from Previous President's Budget to Current President's Budget to support higher priorities within the Air and Missile Defense portfolio</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605232A / Hypersonics EMD				Project (Number/Name) HX2 / Hypersonic Weapon (LRHW)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
HX2: Hypersonic Weapon (LRHW)	-	107.404	633.499	900.920	-	900.920	367.153	229.781	144.870	149.236	0.000	2,532.863
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funds BA 5 Long Range Hypersonic Weapon (LRHW) activities managed by the Program Executive Office Missiles and Space (PEO MS) as a follow-on of the BA 4 activities from the Rapid Capabilities and Critical Technologies Office (RCCTO) under PE 0604182A Long Range Hypersonic Weapon.

A. Mission Description and Budget Item Justification

This funding supports the fielding of critical enabling technologies and capabilities that address near-term, and mid-term threats and is directly aligned to the Army Long Range Precision Fires modernization priority.

This includes the development and prototype fielding of the LRHW to defeat Anti Access/Area Denial (A2/AD) capabilities, suppress adversary Long Range Fires , and engage other high payoff/time critical targets. The Army is working collaboratively with the Navy in the development of the LRHW.

The LRHW system consists of the All Up Rounds (AUR) with canister (AUR+C) which includes the Common Hypersonic Glide Body (CHGB) with the Navy 34.5 inch booster, the Battery Operations Center (BOC) for command and control (C2), and the Transporter Erector Launcher (TEL). An LRHW Battery contains 8 AUR+C, 1 BOC, and 4 TELs each carrying 2 AUR+C. Additionally, the LRHW will use a modified version of an existing C2 network, the Advanced Field Artillery Tactical Data System (AFATDS).

FY 2024 Base funding in the amount of \$900.920M provides for incremental funding of AUR+C, test activities, and integration of Technology Insertions.

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

	FY 2022	FY 2023	FY 2024
Title: Long Range Hypersonic Weapon	-	479.810	-
Description: Funding is provided for planning, prototype manufacturing, testing and delivery of the Long Range Hypersonic Weapon and consists of four lines of effort:			
CHGB with TPS Development, purchase of hardware, integration, assembly, test and delivery of the Common Hypersonic Glide Body (CHGB) system for the All Up Round and Canister (AUR+C). Remain technologically capable to support CHGB production for requiring services.			
All Up Round and Canister (AUR+C)			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>		Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
<p>Technology development, purchase of hardware, integration, assembly, test and delivery of the All Up Round and Canister (AUR+C).</p> <p>Ground Support Equipment (GSE) Provides for planning and integration efforts for LRHW GSE, LRHW technology development and deployment, and additional training development (enhances existing and incorporates detailed operator and maintainer skills). Designs training aid devices, simulations, and simulator in accordance with the system training plan. Develops the overall Systems Integration and training for the All Up Round and Canister (AUR+C) for the LRHW program.</p> <p>Test and Evaluation Test and evaluation includes test planning, execution and analysis of Joint Flight Campaigns (JFC) and Army operational and developmental tests. Also provides required support for environmental testing.</p> <p>FY 2023 Plans: FY 2023 Base funds continue transition efforts for the LRHW prototype battery from RCCTO to PEO MS as a POR. Supports further development and demonstration of LRHW system components and training; purchases basic load and reload All Up Rounds and Canisters (AUR+C); designs reload trailers; enhances training in accordance with system training plan; performs logistics analysis required for materiel release; and provides resources to stand up a PEO MS project office.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease from FY 2023 to FY 2024 is due to breaking efforts out into greater detail in the following R-2A cost categories.</p>					
<p>Title: All Up Round and Canister (AUR+C)</p> <p>Description: All Up Round and Canister (AUR+C) Technology development, purchase of hardware, integration, assembly, test and delivery of the All Up Round and Canister (AUR+C).</p> <p>FY 2024 Plans: FY 2024 Base provides incremental funding for AUR+C Inert Training canisters and begins delivery of first articles. Continues incremental funding of Battery 2 (BTY2) AUR+C basic load tactical rounds and AUR+C tactical reload rounds for BTY1 and BTY2. Continues incremental funding of test/training/certification rounds for Joint Flight Campaign #5 (JFC5) and JFC6 events. Begins incremental funding of test/training/certification rounds for JFC7. Provides for prime contractor support of test planning and execution. Purchases spare AUR+C subsystems and assemblies in support of the LRHW Life Cycle Sustainment program. Purchases AUR+C Simulators for missile-in-the-loop future technology development and integration.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>			-	-	354.740

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>	Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Funding increase from FY 2023 to FY 2024 is due to splitting out the Long Range Hypersonic Weapon Planned Program shown in FY 2023 into multiple elements in FY 2024 to provide increased fidelity as the program matures. There is an increase in AUR + C Planned Program from FY 2023 related to purchase of reload missiles.			
Title: Common Hypersonic Glide Body (CHGB) Description: CHGB with TPS Development, purchase of hardware, integration, assembly, test and delivery of the Common Hypersonic Glide Body (CHGB) system for the All Up Round and Canister (AUR+C). Remain technologically capable to support CHGB production for requiring services. FY 2024 Plans: FY 2024 Base funds continue the development of the LRHW CHGB. Supports further development and demonstration of LRHW system components and training; prime contractor support of Ground and Flight (Joint Flight Campaign) testing and overall system integration of Technology Insertions. Incrementally funds CHGBs for basic load and reload AUR+C and test/training/certification AUR+Cs. Enhances training in accordance with system training plan. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase from FY 2023 to FY 2024 is due to splitting out the Long Range Hypersonic Weapon Planned Program shown in FY 2023 into multiple elements in FY 2024 to provide increased fidelity as the program matures. The CHGB + TPS Planned Program increase from FY 2023 is driven by purchasing CHGBs for reload missiles.		-	-
			358.680
Title: Ground Support Equipment (GSE) Description: Provides for planning and integration efforts for LRHW GSE, LRHW technology development and deployment, and additional training development (enhances existing and incorporates detailed operator and maintainer skills). Designs training aid devices, simulations, and simulator in accordance with the system training plan. Develops the overall Systems Integration and training for the All Up Round and Canister (AUR+C) for the LRHW program. FY 2024 Plans: FY 2024 Base funds continue the development of the LRHW battery GSE. Supports further development and demonstration of LRHW system components, to include training enhancements and prime contractor support for Ground and Flight test planning and execution. This funding also supports the operational maintainability of fielded equipment and implements changes to GSE resulting from test activities. FY 2023 to FY 2024 Increase/Decrease Statement:		-	-
			5.930

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>	Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Funding increase from FY 2023 to FY 2024 is due to splitting out the Long Range Hypersonic Weapon Planned Program shown in FY 2023 into multiple elements in FY 2024 to provide increased fidelity as the program matures. The GSE Planned Program element has a decrease from FY 2023 as the program shifts out of development and into a production phase.			
Title: Test and Evaluation Description: Test and Evaluation Test and evaluation includes test planning, execution and analysis of Joint Flight Campaigns (JFC) and Army operational and developmental tests. Also provides required support for environmental testing. FY 2024 Plans: FY 2024 Base funds continue the testing cycle with Joint Flight Campaigns (JFC) 5. JFC-5 requirements include the final planning, data collection infrastructure, and full execution of the test to include soldier TDY and LRHW system transportation costs. FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase from FY 2023 to FY 2024 is due to splitting out the Long Range Hypersonic Weapon Planned Program shown in FY 2023 into multiple elements in FY 2024 to provide increased fidelity as the program matures. The test cost increases from FY 2023 due to the transition from PE 0604182A to this PE as the program transitions from RCCTO to PEO MS.		-	62.380
Title: System Engineering/Program Management Description: Includes the Government PM's office (civilian, SETA, and matrix personnel) to support RDT&E efforts. This encompasses overall planning, direction, and control of the definition, development, and production of the system/program, including functions of logistics engineering and integrated logistics support. FY 2023 Plans: FY 2023 Plans continue transition efforts for the LRHW prototype Battery from RCCTO to PEO MS as a Program of Record (POR). Stands up project office, supports further analysis and assessments for development and demonstration of LRHW system components and training. Continues logistics analysis required for the POR. And supports continued integration of technical insertions. FY 2024 Plans: FY 2024 supports further analysis and assessments for development and demonstration of LRHW system components and training. Continues logistics analysis required for material release and sustainment and supports continued integration of Technical Insertions (TIs). FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease from FY 2023 to FY 2024 is due to a ramp down in the TI integration efforts.		-	130.566
Title: Training/Evaluation/Certification Hardware - Live AUR+C and Training Canisters		101.920	-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>				Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
Description: Purchase live AUR+C components and training canisters to support LRHW training, evaluation, certification, and delivery.												
Title: Development Engineering/Studies										5.484	-	-
Description: Continues analysis for determination required to produce data required documentation for fielded equipment.												
Title: FY 2023 SBIR/STTR Transfer										-	23.123	-
Description: Funding transferred in accordance with Title 15 USC §638.												
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.												
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.												
Accomplishments/Planned Programs Subtotals										107.404	633.499	900.920
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• 0604182A: <i>Hypersonics</i>	305.406	238.168	43.435	-	43.435	-	-	-	-	0.000	587.009	
• C72111: <i>LONG-RANGE</i>	-	249.285	156.821	-	156.821	1,016.519	723.571	380.811	295.083	Continuing	Continuing	
<i>HYPERSONIC WEAPON (LRHW)</i>												
Remarks												
D. Acquisition Strategy												
The Army will field two additional Hypersonic Weapons System Batteries with residual operational capability no later than FY 2025 and FY 2027, respectively. These Battery Level assets are part of the Long Range Fires Battalion in support of Multi-domain Operations.												
The Army is purchasing AUR+Cs from the Navy's Conventional Prompt Strike (CPS) contract with Lockheed Martin. Battery 2 AUR+Cs will be purchased with RDT&E incremental funding and transition to Procurement funding for Battery 3, in alignment with the Navy CPS strategy. Additional AUR+Cs will be purchased with RDT&E incremental funding to support annual Joint Flight Campaign test/training events. The Army provides the CHGB as Government Furnished Equipment to the Navy CPS contracts through a sole source Other Transaction Authority agreement to Dynetics.												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605232A / Hypersonics EMD	Project (Number/Name) HX2 / Hypersonic Weapon (LRHW)
<p>Funding in this Research, Development, Testing and Evaluation (RDT&E) Program Element will also be utilized to conduct test events, integrate planned technology insertions (TIs) to provide additional capabilities to the initially fielded system, and to upgrade system software.</p> <p>The Ground Support Equipment (GSE) for Batteries 2 and 3 will be procured with Missile Procurement, Army funding. The GSE procurement is planned to be executed utilizing a Middle Tier Rapid Fielding acquisition pathway and a FAR-based contract awarding in FY 2023.</p> <p>System acquisition management will transition from the Rapid Capabilities and Critical Technologies Office (RCCTO) to Program Executive Office Missiles and Space (PEO MS) across FY 2023 and FY 2024. As a result, program management, systems engineering, and logistics will be shifting to PEO MS managed funding lines.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army													Date: March 2023		
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605232A / Hypersonics EMD				Project (Number/Name) HX2 / Hypersonic Weapon (LRHW)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
LRHW Program Management and Operations Support	Various	Various : Various	-	5.484	Dec 2021	12.496	Dec 2022	50.680	Oct 2023	-		50.680	Continuing	Continuing	-
AUR+C: OGA	Various	Project Office Support : Huntsville, AL	-	-		1.340	Mar 2023	2.200	Jan 2024	-		2.200	0.000	3.540	-
CHGB: OGA	Various	Project Office Support : Huntsville, AL	-	-		14.940	Nov 2022	6.770	Jan 2024	-		6.770	0.000	21.710	-
GSE: OGA	Various	Project Office Support : Huntsville, AL	-	-		9.040	Feb 2023	5.930	Jan 2024	-		5.930	0.000	14.970	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		23.123	Feb 2023	-		-		-	0.000	23.123	-
Subtotal			-	5.484		60.939		65.580		-		65.580	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Development Engineering/ Studies	C/CPFF	Various : Various	-	4.881	Jan 2022	-		-		-		-	Continuing	Continuing	-
Development Engineering/ Hardware	C/Various	Various : Various	-	97.039	Mar 2022	-		-		-		-	Continuing	Continuing	-
Systems Engineering	C/Various	Various : Various	-	-		118.070	Feb 2023	68.510	Jan 2024	-		68.510	0.000	186.580	-
CHGB: Dynetics Technical Solutions (DTS)	SS/CPFF	Dynetics Technical Solutions : Huntsville, AL	-	-		71.420	Jan 2023	259.610	Oct 2023	-		259.610	0.000	331.030	-
TPS: Dynetics	C/CPFF	Dynetics : Huntsville, AL	-	-		60.210	Mar 2023	92.300	Dec 2023	-		92.300	0.000	152.510	-
AUR+C: Lockheed Martin	SS/CPIF	Lockheed Martin : Courtland, AL	-	-		320.060	Nov 2022	352.540	Nov 2023	-		352.540	0.000	672.600	-
Subtotal			-	101.920		569.760		772.960		-		772.960	Continuing	Continuing	N/A

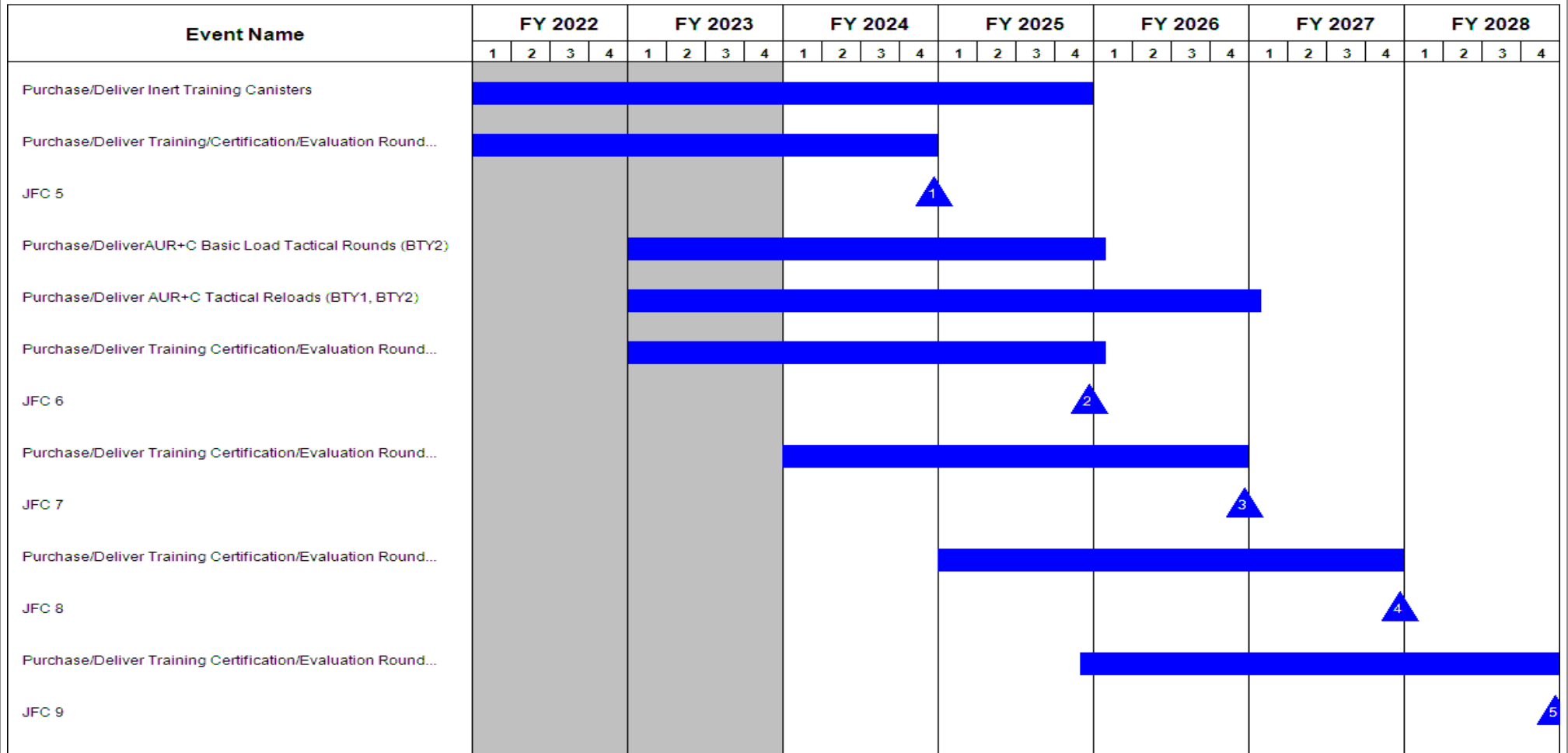
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605232A / Hypersonics EMD				Project (Number/Name) HX2 / Hypersonic Weapon (LRHW)					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Remarks Systems Engineering Cost Element includes integration of planned Technology Insertions.															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Developmental Test	MIPR	Various : Various	-	-		2.800	Dec 2022	58.270	Nov 2023	-		58.270	Continuing	Continuing	-
Government Test Support	Various	Various : Huntsville, AL	-	-		-		4.110	Nov 2023	-		4.110	0.000	4.110	-
Subtotal			-	-		2.800		62.380		-		62.380	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	107.404		633.499		900.920		-		900.920	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>	Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>
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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0605232A / Hypersonics EMD

Project (Number/Name)	Start Date	End Date	Status	Manager	Budget (USD)	Actual Cost (USD)	Progress (%)	Risks	Notes
101/Alpha	2023-01-15	2023-03-31	Completed	J. Doe	150,000	148,500	100	Low	Exceeded budget by 1.5%
102/Beta	2023-02-01	2023-05-15	In Progress	A. Smith	220,000	180,000	82	Medium	Minor delays in procurement
103/Gamma	2023-03-10	2023-06-30	On Hold	M. Chen	90,000	0	0	High	Waiting for client approval
104/Delta	2023-04-01	2023-07-31	Planned	S. Kim	180,000	0	0	Medium	Initial planning phase
105/Epsilon	2023-05-01	2023-08-31	Not Started	L. Garcia	110,000	0	0	Low	Resource allocation pending

HX2 / Hypersonic Weapon (LRHW)

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Purchase/Deliver Training Certification/Evaluation - JFC...																												
Purchase/Deliver AUR+C Spares and Repair Hardware																												
Purchase/Deliver AUR+C Simulators																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605232A / <i>Hypersonics EMD</i>	Project (Number/Name) HX2 / <i>Hypersonic Weapon (LRHW)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Purchase/Deliver Inert Training Canisters	1	2022	4	2025
Purchase/Deliver Training/Certification/Evaluation Round -JFC5	1	2022	4	2024
JFC 5	4	2024	4	2024
Purchase/Deliver AUR+C Basic Load Tactical Rounds (BTY2)	1	2023	1	2026
Purchase/Deliver AUR+C Tactical Reloads (BTY1, BTY2)	1	2023	1	2027
Purchase/Deliver Training Certification/Evaluation Rounds - JFC6	1	2023	1	2026
JFC 6	4	2025	4	2025
Purchase/Deliver Training Certification/Evaluation Rounds - JFC7	1	2024	4	2026
JFC 7	4	2026	4	2026
Purchase/Deliver Training Certification/Evaluation Rounds - JFC8	1	2025	4	2027
JFC 8	4	2027	4	2027
Purchase/Deliver Training Certification/Evaluation Rounds - JFC9	4	2025	4	2028
JFC 9	4	2028	4	2028
Purchase/Deliver Training Certification/Evaluation - JFC 10-11	1	2027	4	2028
Purchase/Deliver AUR+C Spares and Repair Hardware	1	2024	4	2028
Purchase/Deliver AUR+C Simulators	1	2024	4	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army</i> / BA 5: <i>System Development & Demonstration (SDD)</i>					R-1 Program Element (Number/Name) PE 0605233A / <i>Accessions Information Environment (AIE)</i>							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	16.177	10.088	27.361	-	27.361	27.942	29.138	25.325	11.699	0.000	147.730
CP8: <i>Accessions Information Environment (AIE)</i>	-	16.177	10.088	27.361	-	27.361	27.942	29.138	25.325	11.699	0.000	147.730

A. Mission Description and Budget Item Justification

AIE supports the Army recruiter's mission to find, manage, and enlist recruits. AIE aligns authorities, responsibilities, and resources for total Army accessions. It provides the Army's strength through its four missions: (1) Enlist Soldiers, (2) Commission Officers, (3) Fulfill In-Service requirements, and (4) Support and Sustain. AIE will replace 11 legacy systems and 33 modules of the active Accessions IT systems that have been in existence for over 30 years. Legacy accessions systems have experienced frequent outages and unstable performance, directly impairing the Army's ability to complete its recruiting mission. Successful implementation is of utmost priority for the enterprise.

AIE is a critical Army modernization effort to re-engineer the business processes for Army Accessions and to ensure the Army can acquire the best qualified talent, meet manning requirements, and complete readiness objectives. The delivery of AIE will provide an enterprise level capability for recruiting Army Soldiers across all components, enabling transparent and efficient workforce accessions. AIE is a COTS based information technology (IT) software system that will modernize the accessions environment (AE). Key AIE functions/core capabilities include lead generation & management, prospecting, interviewing, processing, pay & incentives, intelligence, marketing, training/leader development. AIE deployment will leverage an agile approach versus the standard waterfall method.

FY 2024 RDT&E funding supports iterative design configuration for the AIE solution including requirements analysis, program management support, business process reengineering, interface development, integration, cybersecurity, systems engineering, developer and test software licenses, test and evaluation, and ongoing analysis of potential alternatives to support solution requirements. AIE FY 2024 RDT&E funded activity is critical in that it supports the deployment of the AIE system to the first and second wave of recruiters.

In FY 2022, Accessions Information Environment's (AIE's) RDT&E funding line transitioned to PE 0605233A Accessions Information Environment (AIE), CP8: Accessions Information Environment (AIE). Prior to FY 2022, AIE's RDT&E PE was 0605013A Information Technology Development, FL9: Army Accessioning IT Development. AIE's OPA line also transitioned in FY 2022, from APE BE4164000 to B45015000.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605233A / Accessions Information Environment (AIE)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	16.790	13.647	13.636	-	13.636
Current President's Budget	16.177	10.088	27.361	-	27.361
Total Adjustments	-0.613	-3.559	13.725	-	13.725
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-3.559			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.613	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	13.725	-	13.725
Change Summary Explanation					
The increase in FY 2024 RDT&E is a result of a change to the AIE deployment and development timeline. AIE's deployment plan is now phased across FY 2024-FY 2028. FY 2024 will be focused on Wave 1 and 2 development and configuration of additional AIE core capabilities and deployment if the initial AIE capability to Wave 1 recruiters. AIE will be deployed using an agile methodology versus the traditional waterfall approach.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)				Project (Number/Name) CP8 / Accessions Information Environment (AIE)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CP8: Accessions Information Environment (AIE)	-	16.177	10.088	27.361	-	27.361	27.942	29.138	25.325	11.699	0.000	147.730
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

AIE supports the Army recruiter's mission to find, manage, and enlist recruits. AIE aligns authorities, responsibilities, and resources for total Army accessions. It provides the Army's strength through its four missions: (1) Enlist Soldiers, (2) Commission Officers, (3) Fulfill In-Service requirements, and (4) Support and Sustain. AIE will replace 11 legacy systems and 33 modules of the active Accessions IT systems that have been in existence for over 30 years. Legacy accessions systems have experienced frequent outages and unstable performance, directly impairing the Army's ability to complete its recruiting mission. Successful implementation is of utmost priority for the enterprise.

AIE is a critical Army modernization effort to re-engineer the business processes for Army Accessions and to ensure the Army can acquire the best qualified talent, meet manning requirements, and complete readiness objectives. The delivery of AIE will provide an enterprise level capability for recruiting Army Soldiers across all components, enabling transparent and efficient workforce accessions. AIE is a COTS based information technology (IT) software system that will modernize the accessions environment (AE). Key AIE functions/core capabilities include lead generation & management, prospecting, interviewing, processing, pay & incentives, intelligence, marketing, training/leader development. AIE deployment will leverage an agile approach versus the standard waterfall method.

FY 2024 RDT&E funding supports iterative design configuration for the AIE solution including requirements analysis, program management support, business process reengineering, interface development, integration, cybersecurity, systems engineering, developer and test software licenses, test and evaluation, and ongoing analysis of potential alternatives to support solution requirements. AIE FY 2024 RDT&E funded activity is critical in that it supports the deployment of the AIE system to the first and second wave of recruiters.

In FY 2022, Accessions Information Environment's (AIE's) RDT&E funding line transitioned to PE 0605233A Accessions Information Environment (AIE), CP8: Accessions Information Environment (AIE). Prior to FY 2022, AIE's RDT&E PE was 0605013A Information Technology Development, FL9: Army Accessioning IT Development. AIE's OPA line also transitioned in FY 2022, from APE BE4164000 to B45015000.

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

	FY 2022	FY 2023	FY 2024
Title: Accessions Information Environment (AIE)	16.177	9.720	27.361
Description: AIE will provide a fully integrated enterprise level COTS-based capability enabling transparency, efficiency and effectiveness of the accessions workforce to acquire the best-qualified talent to meet Army recruiting and accessions requirements. It will ultimately replace the current legacy Accessions IT systems that have been in existence for over 30 years, and which have experienced frequent outages and unstable performance since FY 2018.			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605233A / <i>Accessions Information Environment (AIE)</i>		Project (Number/Name) CP8 / <i>Accessions Information Environment (AIE)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
<p>Program awarded an Other Transaction Authority (OTA) Firm Fixed Price agreement in April 2019 with defined milestone payments based on technical performance achievements. In late FY 2022, program transitioned to a cost-plus fixed fee approach. Configuration of core capabilities will be ultimately deployed to 25,000+ end users. Through fact of life changes and performance of the solution provider, Wave 1 capability configuration has extended through FY 2024, utilizing current funding thresholds but adding future costs and schedule to complete full configuration of requirements.</p> <p>FY 2023 Plans: FY 2023 RDT&E funding supports iterative design configuration for AIE Solution, including requirements analysis, business process reengineering, interface development, integration, cybersecurity, systems engineering, developer and test software licenses, Test & Evaluation, program management support, and ongoing analysis of potential alternatives to support solution requirements. AIE FY 2023 RDT&E funded activity is critical in that it supports the deployment of the AIE system to the first wave 12,107 recruiters in FY 2024.</p> <p>FY 2024 Plans: FY 2024 RDT&E funding supports iterative design configuration for the AIE solution including requirements analysis, business process reengineering, interface development, integration, cybersecurity, systems engineering, developer licenses, test and evaluation, and program management support. Key FY24 activity includes finishing Wave 1 development, deploying the Wave 1 AIE system to the operational environment, and beginning development of Wave 2 capabilities in support of planned Wave 2 deployment. A breakout of the \$27.361 million FY 2024 Base RDT&E is shown below.</p> <p>Management Services - \$3.458 million - Funds program management support services contract. Includes AIE acquisition, schedule, systems engineering, cost, budget, programmatic, and all other support required to run AIE's program office.</p> <p>COTS Based Solution and Development - \$23.081 million - Funds to be used for development and configuration of the AIE system. Includes funding for OTA through solution provider, developer software as a service licenses, and all other direct work required to build the AIE capability.</p> <p>Cybersecurity (RMF, FedRAMP, ATO) - \$0.422 million - Funding required to ensure AIE meets Army cybersecurity requirements. Also funds support agreements to complete SCA-V assessments.</p> <p>Testing, Operational, and Developmental Support - \$0.400 million - Funds support agreements with Army test support partners (ATEC/JITC).</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement:</p>					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)				Project (Number/Name) CP8 / Accessions Information Environment (AIE)			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024
Increase in FY 2024 to account for AIE system development speed and meet deployment timeline goals. AIE is expected to replace 11 legacy systems and 33 modules that are operating at a minimal break/fix capability.											
Title: FY 2023 SBIR/STTR									-	0.368	-
Description: Funding transferred in accordance with Title 15 USC §638.											
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.											
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.											
Accomplishments/Planned Programs Subtotals									16.177	10.088	27.361
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• B45000: ACCESSIONS INFORMATION ENVIRONMENT (AIE)	39.635	-	4.198	-	4.198	39.682	45.413	-	-	0.000	128.928
• OMA - OMA/331715000/AIE: Sustainment Support	13.124	13.085	11.923	-	11.923	12.168	13.277	60.089	78.385	Continuing	Continuing
Remarks											
Note: Items referenced above correspond to the following data points: 1) B45000 represents new OPA line for planned execution FY 2022 - FY 2026 to support system fielding efforts and training. 2) OMA/33171500/AIE represents Other, Maintenance Army (OMA) execution FY 2022 - FY 2029.											
D. Acquisition Strategy											
AIE is following the tailored Acquisition process for Defense Business Systems (DBS) in accordance with DoD 5000.75 and is currently designated as a Business System Category (BCAT) I program. AIE is acquiring a COTS solution (application hosting and software as a service) to support the Army's Accessions Enterprise requirements. A competitive prototype contract was awarded on 30 April 2019 to execute the pilot phase.											
AIE has transitioned from a 5-wave deployment plan to a 4-wave deployment plan. The new acquisition approach uses an agile methodology.											
Description of Waves:											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605233A / <i>Accessions Information Environment (AIE)</i>	Project (Number/Name) CP8 / <i>Accessions Information Environment (AIE)</i>
<p>Wave 1 - Out of Service Enlisted Mission Wave 2 - In Service and Direct Commission Mission Wave 3 - ROTC Mission Wave 4 - AIE Support Functions and Cleanup Wave</p> <p>FY 2024 (Wave 1 (baseline capability) and 2) - Complete development of the AIE system in preparation for deployment to first wave of users. The AIE system will be deployed to a small group of pilot users in FY 2024, defects will be tracked and addressed, and additional key capabilities will be added to the system in FY 2024. Wave 1 to be deployed to operational environment (12,107 recruiters). The Wave 1 targeted user base includes US Army Recruiting Command (USAREC), Army National Guard (ARNG), and Center for Initial Military Training (CIMT).</p> <p>FY 2025 (Wave 2) - Development of the AIE system continues with addition of key Wave 2 capabilities (Pay & Incentives/Intelligence).</p> <p>FY 2026 (Waves 2 and 3) - Wave 2 to be deployed to operational environment (8,072 recruiters). The Wave 2 targeted user base includes US Army Recruiting Command (USAREC), Army National Guard (ARNG), and Center for Initial Military Training (CIMT). Development and configuration of key Wave 3 capabilities continues through FY26 (Training/Leader Development).</p> <p>FY 2027 (Wave 3 and 4) - Wave 3 to be deployed to operational environment (1,318 recruiters). The Wave 3 targeted user base includes USAREC Army Medical Department (AMEDD)/Special Operations Recruiting Battalion (SORB)/Chaplain (CHAP). Development and configuration of Wave 4 capabilities continues.</p> <p>FY 2028 (Wave 4) - Wave 4 to be deployed to operational environment. Wave 4 is a cleanup wave; any remaining requirements will be incorporated, and any remaining defects will be addressed. Wave 4 will be deployed to any other required users by the end of FY 2028, and it is estimated to be an additional 3,513 recruiters.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)				Project (Number/Name) CP8 / Accessions Information Environment (AIE)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
AIE - Management Services	C/FFP	Chenega Decision Services : Lorton, VA	-	0.770	Jun 2022	0.969	Jun 2023	3.458	Jun 2024	-		3.458	0.000	5.197	7.288
FY 2023 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.368		-		-		-	0.000	0.368	-
Subtotal			-	0.770		1.337		3.458		-		3.458	0.000	5.565	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
AIE - COTS Based Solution Configuration and Development	C/FFP	Booz Allen Hamilton : Herdon, VA	-	11.848	Apr 2022	6.257	Apr 2023	23.081	Nov 2023	-		23.081	0.000	41.186	75.510
Subtotal			-	11.848		6.257		23.081		-		23.081	0.000	41.186	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
AIE - Cybersecurity - RMF, FedRAMP, ATO	MIPR	AvMC SCA-V Support : TBD	-	1.579	Oct 2021	1.107	Oct 2022	0.422	Feb 2024	-		0.422	0.000	3.108	3.861
Subtotal			-	1.579		1.107		0.422		-		0.422	0.000	3.108	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
AIE - Testing, Operational and Developmental Support	MIPR	ATEC/JITC : Various	-	1.980	Jan 2022	1.387	Jan 2023	0.400	Dec 2023	-		0.400	0.000	3.767	15.929
Subtotal			-	1.980		1.387		0.400		-		0.400	0.000	3.767	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023			
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)				Project (Number/Name) CP8 / Accessions Information Environment (AIE)					
		Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals		-	16.177		10.088		27.361		-		27.361	0.000	53.626	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)		Project (Number/Name) CP8 / Accessions Information Environment (AIE)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	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				
Out of Service Enlisted Mission (Wave 1)	<div>Wave 1</div>								<div>Wave 2</div>								<div>Wave 3</div>								<div>Wave 4</div>							
In Service and Direct Commission Mission (Wave 2)																																
ROTC Mission (Wave 3)																																
AIE Support Functions and Cleanup Wave (Wave 4)																																
User Acceptance Test									<div>1</div> <div>UAT</div>																							
Acquisition ATP																	<div>2</div> <div>ACQ ATP</div>															
Limited Deployment ATP (LD ATP)																									<div>3</div> <div>LD ATP</div>							
Full Deployment (FD ATP)																									<div>4</div> <div>FD ATP</div>							
Capability Support ATP (CS ATP)																									<div>5</div> <div>Capability Support ATP</div>							
Capability Support & Enhancements																									<div>Capability Su</div>							

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605233A / Accessions Information Environment (AIE)	Project (Number/Name) CP8 / Accessions Information Environment (AIE)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Out of Service Enlisted Mission (Wave 1)	3	2019	4	2024
In Service and Direct Commission Mission (Wave 2)	1	2024	4	2026
ROTC Mission (Wave 3)	1	2026	4	2027
AIE Support Functions and Cleanup Wave (Wave 4)	2	2027	3	2028
User Acceptance Test	4	2023	4	2023
Acquisition ATP	4	2024	4	2024
Limited Deployment ATP (LD ATP)	1	2026	1	2026
Full Deployment (FD ATP)	2	2027	2	2027
Capability Support ATP (CS ATP)	3	2027	3	2027
Capability Support & Enhancements	3	2028	3	2038

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capability							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	-	5.016	348.855	-	348.855	432.806	285.303	183.125	62.620	0.000	1,317.725
CQ4: Mid-Range Capability	-	-	5.016	348.855	-	348.855	432.806	285.303	183.125	62.620	0.000	1,317.725
Note Activities performed in Program Element (PE) 0604135A (Strategic Mid-Range Fires) are transitioning from the Rapid Capabilities and Critical Technologies Office (RCCTO) to PEO Missiles and Space (PEO MS) in PE 0605235A (Strategic Mid-Range Capability). The PE 0605235A FY 2024 planned program continues activities and contracting actions started in PE 0604135A. Additionally, the program transitions funding for Tomahawk missiles from Research, Development, Testing & Evaluation (RDT&E) to Missile Procurement, Army in FY 2024 to align with the program's acquisition strategy.												
A. Mission Description and Budget Item Justification This funding line is directly aligned to the Army Long-Range Precision Fires Modernization Priority. The Mid-Range Capability (MRC) Prototype Weapon System leverages Joint Service technologies and integration of common hardware, software, and mutually supporting test events. MRC provides Ground Support Equipment (GSE) to include a Battery Operations Center (BOC) with support vehicles, launcher Payload Deployment System (PDS), and reload support to fire a mix of missiles capable of engaging targets at mid-range distances. The prototype MRC leverages existing SM-6 and Tomahawk technology to include command and control systems and missile variants to provide a responsive, highly accurate capability designed for high value targets. MRC is optimized for the penetration / dis-integration phase of Multi-Domain Operations (MDO) by defeating enemy Anti-Access / Area Denial (A2/AD) systems, enabling Combatant Commanders freedom of maneuver. Five MRC batteries will be developed and fielded; the initial prototype MRC battery will be developed and fielded by Rapid Capabilities and Critical Technologies Office (RCCTO) and four additional MRC batteries by Program Executive Office Missiles and Space (PEO MS) plus hardware support for additional capabilities including Defense of Guam. The first MRC prototype weapon system battery deliverable quantity is one residual combat capability consisting of four (4) launchers, BOC, reload support, and basic load of missiles consisting of eight (8) SM-6 Block 1A and eight (8) Tomahawk Block V to be fielded by RCCTO not later than 4Q FY2023 as the First Unit of Issue (FUI). Delivery of follow-on batteries and additional capabilities by PEO MS will occur annually thereafter. FY 2024 base funding in the amount of \$348.855 million continues alignment of RCCTO and PEO MS program transition activities started in FY 2023, culminating in FY 2024 with PEO MS as the Office of Primary Responsibility (OPR) responsible for meeting statutory and appropriate regulatory acquisition requirements. Base funding allows for developing, testing, evaluating, system engineering and integrating of system improvements while ensuring safe, suitable and sustainable operational fielding of the additional prototype batteries. Base funding also allows for purchasing and receiving hardware and materials to implement prototype fabrication, and to support component-level and system-level qualification. The PEO MS program funding continues fabrication, integration of new design requirements and technology insertions adding additional capabilities to the prototype batteries.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605235A / Strategic Mid-Range Capability			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	5.016	644.380	-	644.380
Current President's Budget	0.000	5.016	348.855	-	348.855
Total Adjustments	0.000	0.000	-295.525	-	-295.525
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-295.525	-	-295.525
Change Summary Explanation					
Program funding for munitions previously budgeted in PE 0605235A (Strategic Mid-Range Capability) was realigned to Missile Procurement, Army in FY 2024 to procure Tomahawk missiles to align with the program's acquisition strategy and to other Army priorities based on the current cost projections.					
Pacific Deterrence Initiative (PDI) funding increases from FY 2023 (\$5.016 million) to FY 2024 (\$40.177 million) to continue the rapid development effort for Mid-Range Capability.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023			
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capability				Project (Number/Name) CQ4 / Mid-Range Capability			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CQ4: Mid-Range Capability	-	-	5.016	348.855	-	348.855	432.806	285.303	183.125	62.620	0.000	1,317.725
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
Activities performed in Program Element (PE) 0604135A (Strategic Mid-Range Fires) are transitioning from the Rapid Capabilities and Critical Technologies Office (RCCTO) to PEO Missiles and Space (PEO MS) in PE 0605235A (Strategic Mid-Range Capability). The PE 0605235A FY 2024 planned program continues activities and contracting actions started in PE 0604135A. Additionally, the program transitions funding for Tomahawk missiles from Research, Development, Testing & Evaluation (RDT&E) to Missile Procurement, Army in FY 2024 to align with the program's acquisition strategy.												
A. Mission Description and Budget Item Justification												
This funding line is directly aligned to the Army Long-Range Precision Fires Modernization Priority. The Mid-Range Capability (MRC) Prototype Weapon System leverages Joint Service technologies and integration of common hardware, software, and mutually supporting test events. MRC provides Ground Support Equipment (GSE) to include a Battery Operations Center (BOC) with support vehicles, launcher Payload Deployment System (PDS), and reload support to fire a mix of missiles capable of engaging targets at mid-range distances. The prototype MRC leverages existing SM-6 and Tomahawk technology to include command and control systems and missile variants to provide a responsive, highly accurate capability designed for high value targets. MRC is optimized for the penetration / dis-integration phase of Multi-Domain Operations (MDO) by defeating enemy Anti-Access / Area Denial (A2/AD) systems, enabling Combatant Commanders freedom of maneuver. Five MRC batteries will be developed and fielded; the initial prototype MRC battery will be developed and fielded by Rapid Capabilities and Critical Technologies Office (RCCTO) and four additional MRC batteries by Program Executive Office Missiles and Space (PEO MS) plus hardware support for additional capabilities including Defense of Guam.												
The first MRC prototype weapon system battery deliverable quantity is one residual combat capability consisting of four (4) launchers, BOC, reload support, and basic load of missiles consisting of eight (8) SM-6 Block 1A and eight (8) Tomahawk Block V to be fielded by RCCTO not later than 4Q FY 2023 as the First Unit of Issue (FUI). Delivery of follow-on batteries and additional capabilities by PEO MS will occur annually thereafter.												
FY 2024 base funding in the amount of \$348.855 million continues alignment of Rapid Capability and Critical Technologies Office (RCCTO) and PEO MS program transition activities started in FY 2023, culminating in FY 2024 with PEO MS as the Office of Primary Responsibility (OPR) responsible for meeting statutory and appropriate regulatory acquisition requirements. Base funding allows for developing, testing, evaluating, system engineering and integrating of system improvements while ensuring safe, suitable and sustainable operational fielding of the additional prototype batteries. Base funding also allows for purchasing and receiving hardware and materials to implement prototype fabrication, and to support component-level and system-level qualification. The funding continues fabrication, integration of new design requirements and technology insertions adding additional capabilities to the prototype batteries.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Title: MRC Prototype Program Transition and Startup									-	4.833	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605235A / <i>Strategic Mid-Range Capabi</i> <i>lity</i>	Project (Number/Name) CQ4 / <i>Mid-Range Capability</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>Description: Program Executive Office Missiles and Space (PEO MS) develops agreements, decision points, acquisition strategies and plans which documents the transition of the Rapid Capabilities and Critical Technologies Office (RCCTO) prototype Mid-Range Capability (MRC) to a Programs of Record, thus aligning the Defense Management process and Secretary of the Army guidance for completing and fielding MRC equipment. The MRC Ground Support Equipment (GSE) leverages Joint Service technologies and integration of common hardware, software, and mutually supporting test events. This includes the Battery Operations Center (BOC), launcher Payload Deployment System (PDS), prime movers, trailers, generators, cabling, and support vehicles. The MRC BOC houses the federated Command and Control systems which enable the capability to fire a mix of missiles. The MRC Launcher PDS stows and fires a mix of missile types to include SM-6 and Tomahawk missiles capable of flying at various speeds and altitudes for engage desired targets at range. Additional missiles may integrate into the MRC GSE to meet capability needs to include Defense of Guam.</p> <p>FY 2023 Plans: This effort funds program support costs necessary to prepare program acquisition, budget/cost, contract, prototype technology transition, and product support documentation. Provides for follow-on prototype development, acquisition, affordability, and risk reduction activities for batteries 2 - 5.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 decrease is a result of Mid-Range Capability (MRC) Battery procurement transitioned to Program Executive Office Missiles and Space (PEO MS) from Rapid Capabilities and Critical Technologies Office (RCCTO).</p>			
<p>Title: FY 2023 SBIR/STTR Tranfer</p> <p>Description: Funding transferred in accordance with Title 15 USC 638.</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC 638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC 638.</p>		-	0.183
<p>Title: Mid-Range Capability Prototype Program</p> <p>FY 2024 Plans: The FY 2024 Base funding in the amount of \$348.855 million funds the fabrication, integration of design requirements, and test and evaluation for the Mid-Range Capabilities (MRC) Ground Support Equipment (GSE) and to enable completion and fielding of the prototype Battery 2. Base funding allows for integration of design requirements and evaluation of MRC GSE required characteristics to ensure safe and effective operational fielding of the prototype Batteries 2, 3, and 4. Funds the Original</p>		-	348.855

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capability				Project (Number/Name) CQ4 / Mid-Range Capability			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024
Equipment Manufacturer's (OEM) effort to purchase hardware and materials and receive Government Furnished Equipment (GFE) to fabricate and to support component-level and system-level qualification for MRC GSE.											
Base funding also allows for the System Engineering and Program Management of integration across military branches to include the OEM contractor and Other Government Agencies (OGA) in order to ensure a common MRC GSE. Funding provides for the Government and Contractor coordination required to perform systems engineering for system integration and check out, verify cybersecurity requirements, manage software development, verify transportation requirements, and plan and execute test and evaluation events to support fielding. This funding allows for developing, testing, evaluating, systems engineering and integrating of system improvements while ensuring safe, suitable and sustainable operational fielding of the MRC GSE solution through Technology Insertion Points adding additional capabilities to the prototype batteries. Additional integration efforts include improved communications, rapid reloading, improved mobility, weight reduction, M-Code implementation, software development, cyber security, transportability and locality-based enhancements. Provides Systems Engineering and Government Program Management required to deliver the prototype battery to a combat unit.											
FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 increase fully transitions the Mid-Range Capability (MRC) Battery procurement to Program Executive Office Missiles and Space (PEO MS) from Rapid Capabilities and Critical Technologies Office (RCCTO) to continue rapid prototyping. This effort continues transition of the MRC program from RCCTO to PEO MS with PEO MS assuming the responsibility for program management, systems engineering, integration, manufacturing, assembly, test evaluation, and product support planning for Battery 2, 3 and 4.											
Accomplishments/Planned Programs Subtotals									-	5.016	348.855
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• C81214: TOMAHAWK AND TOMAHAWK MISSION PLANNING CENTER (TMP	-	-	169.519	-	169.519	96.296	56.510	265.156	375.674	0.000	963.155
Remarks											
D. Acquisition Strategy											
The Mid-Range Capability (MRC) project starts transition from Rapid Capabilities and Technologies Office (RCCTO) to Program Executive Office Missiles and Space (PEO MS) in FY 2023 and completes transition in FY 2024. PEO MS will execute the Army Acquisition Executive approved acquisition strategy to support Program of Record requirements, acquisition pathway, systems engineering, and contracting decisions. The effort supports Army pre- and post-acquisition strategy decision											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capabi lity	Project (Number/Name) CQ4 / Mid-Range Capability
<p>points in FY2023 for Batteries 2-5. These include acquisition pathway determination, contract planning, requirements development / technology insertion, cost analysis, test planning, and lifecycle support planning. Based on SecArmy guidance and DOD 5000 authority, the effort leverages a variety of contract vehicles, including Other Transaction Authority Agreements to meet program continuation and system delivery requirements. The MRC program will continue developing, integrating, and fielding through transition of a RCCTO prototype Other Transaction Authority (pOTA), which was awarded to Lockheed Martin (LM) in November 2020. Additionally, PEO MS leverages the Navy, and U.S. Marine Corps (USMC) investments in weapon system development by utilizing existing contract vehicles to procure supporting items currently in production through a combination of Office of the Secretary of Defense (OSD) and Joint Service contracts. Using these contracts, the MRC project retains commonality in production, training, logistics, and sustainment with and the Navy.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capabi lity				Project (Number/Name) CQ4 / Mid-Range Capability					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management / Systems Engineering	Various	Various : Huntsville, AL: National Capitol Region	-	-		4.833	Nov 2022	10.145	Oct 2023	-		10.145	0.000	14.978	-
FY 2023 SBIR/STTR Transfer	TBD	Funding transferred in accordance with Title 15 USC 638 : Funding transferred in accordance with Title 15 US	-	-		0.183		-		-		-	0.000	0.183	-
Subtotal			-	-		5.016		10.145		-		10.145	0.000	15.161	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Original Equipment Manufacturer (OEM)	SS/CPFF	Various : Lockheed Martin	-	-		-		219.876	Jan 2024	-		219.876	0.000	219.876	-
Government Furnished Equipment (GFE)	Various	Various : Various	-	-		-		26.971	Dec 2023	-		26.971	0.000	26.971	-
Other Government Agencies (OGA)	Various	Various : Various	-	-		-		19.321	Jan 2024	-		19.321	0.000	19.321	-
Subtotal			-	-		-		266.168		-		266.168	0.000	266.168	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Cyber and Software	Various	Various : Various	-	-		-		32.534	Nov 2023	-		32.534	0.000	32.534	-
Transportation and Support	Various	Various : Various	-	-		-		16.942	Oct 2023	-		16.942	0.000	16.942	-
Subtotal			-	-		-		49.476		-		49.476	0.000	49.476	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capabi lity						Project (Number/Name) CQ4 / Mid-Range Capability			
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Evaluation	Various	Various : Various	-	-		-		23.066	Jan 2024	-		23.066	0.000	23.066	-
Subtotal			-	-		-		23.066		-		23.066	0.000	23.066	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		5.016		348.855		-		348.855	0.000	353.871	N/A
Remarks GFE includes trucks, trailers, cranes, generators, radios, communication equipment, navy electronics, missile handling equipment, storage containers.															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capabi lity		Project (Number/Name) CQ4 / Mid-Range Capability	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
MRC Prototype Transition Planning / MDD (Pathway) Support																												
Acquisition Pathway ADM																												
Test and Evaluation Planning / Execution																												
Product / Lifecycle Support Planning																												
Systems Engineering and Technology Insertion																												
Prototype Battery Equipment Hw/Sw Manufacturing and Assembly																												
Initial Systems Integration / Checkout																												
Battery 2 - 5 Material Release Development																												
Full Material Release																												
Battery 2 Prototype Testing and Fielding																												
Battery 3 Prototype Testing and Fielding																												
Battery 4 Prototype Testing and Fielding																												
Battery 5 Prototype Testing and Fielding																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0605235A / Strategic Mid-Range Capabi
lity

Project (Number/Name)

CQ4 / Mid-Range Capability

[illegible]

Note

Rapid Capabilities and Rapid Technologies (RCCTO) Program Element (PE) 0604135A /Strategic Mid-Range Fires was moved to PE 0605235A / Strategic Mid-Range Capability in FY 2024. PE 0605235A / Strategic Mid-Range Capability funding was partially reallocated to PE 0204229A / Tomahawk in FY 2024 and the out years.

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605235A / Strategic Mid-Range Capability	Project (Number/Name) CQ4 / Mid-Range Capability	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
MRC Prototype Transition Planning / MDD (Pathway) Support	1	2023	2	2023
Acquisition Pathway ADM	3	2023	3	2023
Test and Evaluation Planning / Execution	1	2023	4	2027
Product / Lifecycle Support Planning	3	2023	2	2024
Systems Engineering and Technology Insertion	4	2023	4	2027
Prototype Battery Equipment Hw/Sw Manufacturing and Assembly	1	2024	4	2027
Initial Systems Integration / Checkout	1	2024	4	2027
Battery 2 - 5 Material Release Development	1	2024	4	2027
Full Material Release	1	2028	1	2028
Battery 2 Prototype Testing and Fielding	3	2024	4	2024
Battery 3 Prototype Testing and Fielding	1	2025	2	2025
Battery 4 Prototype Testing and Fielding	1	2026	2	2026
Battery 5 Prototype Testing and Fielding	1	2027	2	2027
New Equipment Training	2	2024	3	2027
Battery 1 - 5 Contractor Logistics Support	1	2025	2	2028
Additional Capability Integration	2	2024	3	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605236A I Integrated Tactical Communications							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788
CQ1: Tactical Communication Network Evaluation (TCNE)	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788

A. Mission Description and Budget Item Justification

Integrated Tactical Network-Rapid Prototyping (ITN-RP) is directly aligned to the Army Network Modernization Strategy Line of Effort 1 (LOE 1) Unified Network; LOE 2, Common Operating Environment (COE), LOE 3, Interoperability; and LOE 4, Command Post Mobility and Survivability.

To deliver the network in support of Army2030 Multi Domain Operations, the Army outlined ITN Capability Sets (CS) in Fiscal Years 2021,2023,2025,2027 and 2029. In this end-to-end tactical network approach, each CS builds and improves off the previous iteration by leveraging the latest commercial technology with existing Program of Record solutions. The CS process is informed by synchronized experimentations, evaluations, and user feedback through developmental and operational tests. The ITN-RP mission represents the development phases of the Cap Sets.

The mission of ITN-RP is to deliver the network System of Systems (SoS) validation of the N-CFT's Design Goals for every Capability Set and equip operational units with residual prototype capability. ITN-RP will develop the system of systems (SoS) network architecture through continuous test and evaluation to include user/soldier feedback, lab-based risk reduction (LBRR), Field Based Risk Reduction (FBRR) and concept development. These events help to identify network gaps in formation types, mitigate risk and mature capabilities that are ready for SoS integration within the Integrated Tactical Network. ITN-RP will deliver network architectures that have been validated at a representative scale in an operational environment prior to fielding.

FY 2024 resources will be used to execute SoS architecture development through: engineering analysis, lab-based testing, cyber electromagnetic activities and an operational demonstration. Lab and field-based testing will address cyber vulnerabilities that reduce risk related to the integration of the system of system architecture.

The total cost of the Integrated Tactical Network (ITN) Middle Tier of Acquisition effort is \$76 million RDT&E from FY23 to FY28.?The ITN MTA is fully funded across the Future Years Defense Program.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605236A I Integrated Tactical Communications			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	0.000	12.447	7.737	-	7.737
Current President's Budget	0.000	12.447	22.901	-	22.901
Total Adjustments	0.000	0.000	15.164	-	15.164
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	15.164	-	15.164
Change Summary Explanation					
Increase due to testing in support of Capability Set System of Systems network baseline development to include: Electronic Warfare Operational Test, three Cyber Electro-Magnetic activities and a Operational Demonstration. Testing represents the only Army level System of Systems operational test for the Capability Sets.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605236A / Integrated Tactical Commun ications				Project (Number/Name) CQ1 / Tactical Communication Network Evaluation (TCNE)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CQ1: Tactical Communication Network Evaluation (TCNE)	-	-	12.447	22.901	-	22.901	7.624	7.334	7.201	7.281	0.000	64.788
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

In this end-to-end tactical network approach, each CS builds and improves off the previous iteration by leveraging the latest commercial technology with existing Program of Record solutions. The CS process is informed by synchronized experimentations, evaluations, and user feedback through developmental and operational tests. The ITN-RP mission represents the development phases of the Cap Sets.

The mission of ITN-RP is to deliver the network System of Systems (SoS) validation of the N-CFT's Design Goals for every Capability Set and equip operational units with residual prototype capability. ITN-RP will develop the system of systems (SoS) network architecture through continuous test and evaluation to include user/soldier feedback, lab-based risk reduction (LBRR), Field Based Risk Reduction (FBRR) and concept development. These events help to identify network gaps in formation types, mitigate risk and mature capabilities that are ready for SoS integration within the Integrated Tactical Network. ITN-RP will deliver network architectures that have been validated at a representative scale in an operational environment prior to fielding.

FY 2024 resources will be used to execute SoS architecture development through: engineering analysis, lab-based testing, cyber electromagnetic activities and an operational demonstration. Lab and field-based testing will address cyber vulnerabilities that reduce risk related to the integration of the system of system architecture.

The total cost of the Integrated Tactical Network (ITN) Middle Tier of Acquisition effort is \$76 million RDT&E from FY23 to FY28.?The ITN MTA is fully funded across the Future Years Defense Program.

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

	FY 2022	FY 2023	FY 2024
Title: Program Management Support	-	0.945	1.308
Description: Funding for this purchases SETA support for the ITN-RP program. Funding goes toward Program management, program execution, major events, reporting, funds execution, contract management, and logistical support. Includes participation in program planning and Integrated Product Team meetings.			
FY 2023 Plans: FY23 funds will provide overall management and oversight to implement ITN acquisition strategy and evaluation.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605236A / <i>Integrated Tactical Commun</i> <i>ications</i>	Project (Number/Name) CQ1 / <i>Tactical Communication Network</i> <i>Evaluation (TCNE)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
FY24 funds will provide overall management and oversight to implement ITN acquisition strategy and evaluation through additional testing events.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in personnel due to additive test events			
Title: Engineering Technical Support Description: Engineering & Technical Analysis Support FY 2023 Plans: FY 2023 funds will provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve ITN objectives. Funds will facilitate technical test support for candidate products utilized within ITN's iterative evaluation and capability implementation strategy. FY 2024 Plans: FY 2024 funds will provide technical systems engineering support to evaluate technical alternatives and perform communication architecture analysis to identify alternatives to reduce cost, improve performance, and achieve ITN objectives. Funds will facilitate technical test support for candidate products utilized within ITN's iterative evaluation and capability implementation strategy. FY 2023 to FY 2024 Increase/Decrease Statement: Increase in personnel due to additive test events		-	1.416
Title: Test and Evaluation Description: Testing will include a series of events to identify network capabilities, gaps and potential enhancements to improve mission effectiveness and lethality for a designated unit formation. The results of the events will facilitate the planning preparation, and coordination of the proposed system of system network architecture for a capability set. FY 2023 Plans: ITN testing and evaluation will utilize a series of System of Systems assessments that gather multiple data points which include Lab Based Risk Reduction (LBRR), Technical Test(TT) and Cyber Testing Events. These are collaborative events that provide feedback regarding cybersecurity resiliency, risk reduction and network performance prior to an operational demonstration. FY 2024 Plans: ITN testing and evaluation will utilize a series of System of Systems assessments that gather multiple data points which include Lab Based Risk Reduction (LBRR), Technical Test(TT), Electronic Warfare Operational Test, three Cyber Tests and a culminating		-	9.632
			1.757
			19.836

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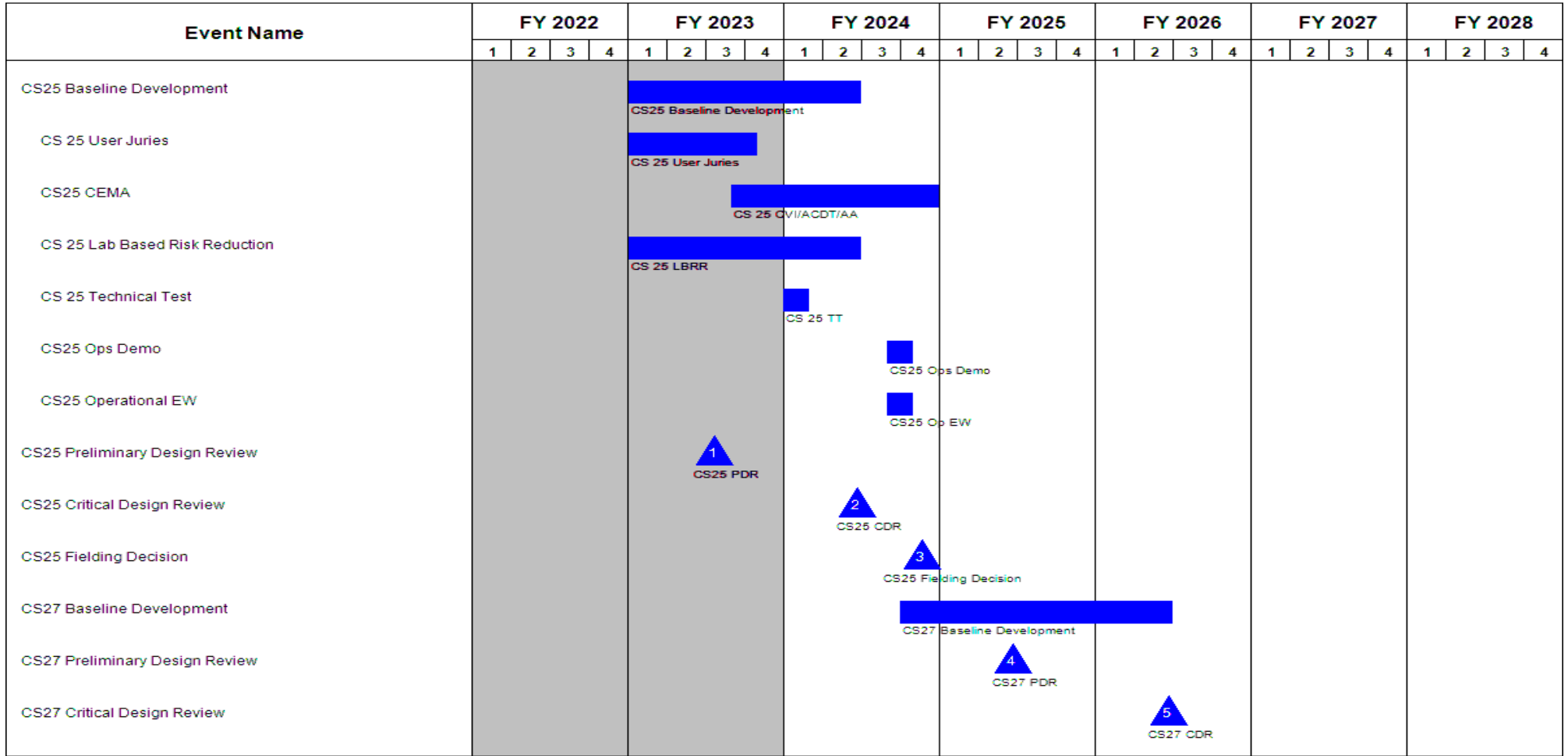
Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605236A / <i>Integrated Tactical Commun</i> <i>ications</i>	Project (Number/Name) CQ1 / <i>Tactical Communication Network</i> <i>Evaluation (TCNE)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>Cap Set Operational Demonstration. These are collaborative events that provide feedback regarding cybersecurity resiliency, risk reduction and network performance prior to an operational demonstration</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Increase due to testing in support of Capability Set System of Systems network baseline development to include: Electronic Warfare Operational Test, three Cyber Electro-Magnetic activities and a Operational Demonstration. Testing represents the only Army level System of Systems operational test for the Capability Sets.</p>			
<p><i>Title:</i> SBIR/STTR Transfer</p> <p><i>Description:</i> Funding transferred in accordance with Title 15 USC §638</p> <p><i>FY 2023 Plans:</i> Funding transferred in accordance with Title 15 USC §638</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC §638 for FY23</p>		-	0.454
Accomplishments/Planned Programs Subtotals		-	12.447
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
<p>The Army will use a rapid prototyping Middle Tier Acquisition (MTA) that will develop and demonstrate multiple prototypes and will validate and demonstrate new / innovative capabilities to meet emerging military needs by conducting a continuous prototyping process. The product of ITN rapid prototyping will provide Warfighters a residual enhanced operational capability and will posture the Army for decisions on follow on MTA rapid fielding efforts or tailored DoD Instruction 5000.02 program acquisitions following each iteration. The ITN will purchase the commercial off the shelf items needed by utilizing various contractual vehicles, to include Common Hardware System 5th Generation (CHS-6), indefinite delivery/indefinite quantity, Defense Logistics Agency and Global Tactical Advanced Communication Systems II. ITN-RP program is currently under MTA through Oct 2024. Program is working Acquisition Shaping Panel with PEO C3T to address authority in FY25 and out.</p>			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605236A / Integrated Tactical Commun ications				Project (Number/Name) CQ1 / Tactical Communication Network Evaluation (TCNE)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Program Management Support	SS/CPFF	Booz Allen Hamilton : APG	-	-		0.945	Feb 2023	1.308	Feb 2024	-		1.308	0.000	2.253	-
Subtotal			-	-		0.945		1.308		-		1.308	0.000	2.253	N/A
Remarks RS3 SETA Contract picks up option year in February of each year.															
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Engineering and Technical Support	SS/IDIQ	MITRE/Booz Allen Hamilton : Various	-	-		1.416	Dec 2022	1.757	Dec 2023	-		1.757	0.000	3.173	-
Subtotal			-	-		1.416		1.757		-		1.757	0.000	3.173	N/A
Remarks MITRE Engineering and Technical Support															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Evaluation	C/Various	Testing : Various	-	-		9.632	Dec 2022	19.836	Jan 2023	-		19.836	0.000	29.468	-
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.454	Apr 2023	-		-		-	0.000	0.454	-
Subtotal			-	-		10.086		19.836		-		19.836	0.000	29.922	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		12.447		22.901		-		22.901	0.000	35.348	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605236A / Integrated Tactical Commun ications		Project (Number/Name) CQ1 / Tactical Communication Network Evaluation (TCNE)	



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PE 0605236A / Integrated Tactical Commun
ications

CQ1 / Tactical Communication Network Evaluation (TCNE)

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
CS27 Fielding Decision																					<div>6</div> <div>CS27 Fielding Decision</div>							
CS29 Baseline Development																					<div></div> <div>CS29 Baseline Development</div>							
CS29 Preliminary Design Review																					<div>7</div> <div>CS29 PDR</div>							
CS29 Fielding Decision																					<div>9</div> <div>CS29 Fielding Decision</div>							
CS29 Critical Design Review																					<div>8</div> <div>CS29 CDR</div>				<div>9</div> <div>CS29 Fielding Decision</div>			

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605236A / Integrated Tactical Commun ications	Project (Number/Name) CQ1 / Tactical Communication Network Evaluation (TCNE)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CS25 Baseline Development	1	2023	2	2024
CS 25 User Juries	1	2023	4	2023
CS25 CEMA	3	2023	4	2024
CS 25 Lab Based Risk Reduction	1	2023	2	2024
CS 25 Technical Test	1	2024	1	2024
CS25 Ops Demo	3	2024	4	2024
CS25 Operational EW	3	2024	4	2024
CS25 Preliminary Design Review	3	2023	3	2023
CS25 Critical Design Review	2	2024	2	2024
CS25 Fielding Decision	4	2024	4	2024
CS27 Baseline Development	4	2024	2	2026
CS27 Preliminary Design Review	2	2025	2	2025
CS27 Critical Design Review	2	2026	2	2026
CS27 Fielding Decision	4	2026	4	2026
CS29 Baseline Development	4	2026	2	2028
CS29 Preliminary Design Review	2	2027	2	2027
CS29 Fielding Decision	4	2028	4	2028
CS29 Critical Design Review	2	2028	2	2028

Note

Baseline Development includes hosting several testing events to include Lab Based Risk Reduction, technical test, and Cyber Events to burn down risk and identify gaps in the network architecture. CS27 & CS29 will undergo similar testing to establish network baseline that will ultimately lead to a fielding decision.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605450A I Joint Air-to-Ground Missile (JAGM)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	0.000	2.467	2.366	3.014	0.000	3.014	3.024	0.000	0.000	0.000	Continuing	Continuing
JA6: Joint Air-To-Ground Missile (JAGM)	-	2.467	2.366	3.014	-	3.014	3.024	-	-	-	Continuing	Continuing
Program MDAP/MAIS Code: 355												

A. Mission Description and Budget Item Justification

The Joint Air-to-Ground Missile (JAGM) program is an Army-led, Acquisition Category (ACAT) 1C Major Defense Acquisition Program (MDAP) with joint interest with the Navy, Marine Corps, and Air Force. JAGM is the next generation, multi-mode, air-to-ground munition replacing legacy HELLFIRE (HF) and HF Longbow munitions. JAGM will be used for destruction of high-value land and maritime targets, moving or stationary, and is capable of being fired from any platform currently firing HF from a US Army-issued M299 launcher. JAGM utilizes a HF back-end (propulsion, warhead and control system) with a new-design, Millimeter Wave (MMW) and Semi-Active Laser (SAL), multi-mode guidance section. The multi-mode capability provides fire-and-forget and precision-point targeting as well as unique, blended modes of each, for improved capability over legacy munitions.

FY 2024 dollars in the amount of \$3.014 million will continue the objective platform review, analysis, and threat management.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.134	2.366	3.078	-	3.078
Current President's Budget	2.467	2.366	3.014	-	3.014
Total Adjustments	0.333	0.000	-0.064	-	-0.064
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.333	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.064	-	-0.064

Change Summary Explanation

Decreased funding to support higher Army priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)				Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
JA6: Joint Air-To-Ground Missile (JAGM)	-	2.467	2.366	3.014	-	3.014	3.024	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Joint Air-to-Ground Missile (JAGM) program is an Army-led, Acquisition Category (ACAT) IC Major Defense Acquisition Program (MDAP) with joint interest with the United States (U.S.) Air Force, U.S. Marine Corps (USMC), and U.S. Navy. The JAGM is the next generation of aviation-launched, fire and forget missiles to replace the HELLFIRE Laser and Longbow radar missiles. JAGM will be used by joint service aircraft for destruction of high value stationary, moving, and relocatable land and maritime targets from standoff range in day, night, adverse weather, and obscured battlefield conditions.												
FY 2024 dollars in the amount of \$3.014 million will continue the objective platform review, analysis, and threat management.												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
Title: Full Rate Production (FRP) Decision Preparation										0.284	-	-
Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will confirm that JAGM is producible, as well as operable, safe, and logistically supportable.												
Title: Integration and Counter Measure/Threat Management										0.416	2.280	3.014
Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will continue objective platform review, analysis, and threat management. The AGMS Product Office and OGAs will perform technical assessments, concept studies, prepare documentation, and perform demonstrations and risk reduction efforts.												
FY 2023 Plans: The AGMS Product Office and OGAs will perform technical assessments, concept studies, prepare documentation, and perform risk reduction efforts to address emerging threats.												
FY 2024 Plans: The AGMS Product Office will continue to address design and development of Congressional mandates to include extended range motor and third sensor. AGMS teams will support development of technical documentation to include master test plans, specifications, diagrams, drawings, test reports, and requirements documentation. AGMS will also support long lead test procurement, risk reduction assessments, and all required design verification testing.												
FY 2023 to FY 2024 Increase/Decrease Statement:												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)				Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024
Increase due to requirements for efforts to perform activities for integration and counter measure/threat management.											
Title: Captive Air Training Missile (CATM) Development									0.486	-	-
Description: The CATM is used for captive flight training and for qualification of aircrews to employ tactical missiles in combat. The Air-to-Ground Missile Systems (AGMS) Product Office will develop an inert missile configuration that will meet training needs.											
Title: Captive Air Training Missile (CATM) Testing									1.281	-	-
Description: The Air-to-Ground Missile Systems (AGMS) Product Office and Other Government Agencies (OGAs) will continue development testing and qualification of the JAGM CATM; achieve air worthiness on threshold platforms.											
Title: FY2023 SBIR/STTR Transfer									-	0.086	-
Description: Funding transferred in accordance with Title 15 USC § 638.											
FY 2023 Plans: Funding transferred in accordance with Title 15 USC § 638.											
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC § 638.											
Accomplishments/Planned Programs Subtotals									2.467	2.366	3.014
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• C70302: Joint Air-to-Ground MSLS (JAGM)	147.177	216.030	303.409	-	303.409	162.490	191.751	175.659	181.500	5,021.811	6,399.827
• NAVY - 0605450M: Navy JAGM Missile RDT&E	0.357	0.392	0.000	-	0.000	0.383	0.392	-	-	Continuing	Continuing
• NAVY - 0206138M: Navy JAGM Missile Procurement	49.702	79.804	0.000	-	0.000	78.246	79.804	-	-	Continuing	Continuing
• AF - 0201109F: Air Force Missile Procurement	-	-	-	-	-	-	-	-	-		
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)	Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)
<p>D. Acquisition Strategy</p> <p>JAGM received its Full Rate Production decision 21 September 22 following the Navy's successful AH-1Z initial operation test and evaluation test flights in February 2022 and declaring IOC in March 2022. JAGM shares a production line with HELLFIRE and there are three minimum sustaining rates for the line: Backend (motor) 1,200, Hellfire (guidance section) 1,200, and JAGM (guidance section) 600. AGMS achieves minimum sustaining rate through a combination of procurement supporting Army, Air Force, Navy and FMS requirements.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)				Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Eng/ Project Management	C/LH	Various : Performers	85.172	0.258	Apr 2022	0.104	Mar 2023	0.195	Mar 2024	-		0.195	Continuing	Continuing	Continuing
FY2023 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.086		-		-		-	0.000	0.086	-
Subtotal			85.172	0.258		0.190		0.195		-		0.195	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
JAGM Engineering Services	SS/CPFF	Lockheed Martin : Orlando, FL	8.754	1.458	Jun 2022	1.300	Mar 2023	1.921	Mar 2024	-		1.921	Continuing	Continuing	Continuing
Subtotal			8.754	1.458		1.300		1.921		-		1.921	Continuing	Continuing	N/A
Remarks															
(C / FFP) - Competitive/Firm Fixed Price															
(C / CPFF) - Competitive/Cost-Plus Fixed Fee															
(C / LH) - Competitive/Labor Hour															
(SS / FFP) - Sole Source/Firm Fixed Price															
(C / FPIF) - Competitive/Fixed Price Incentive (Firm Target)															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Other Gov Agencies	C/LH	Various : Performers	135.773	0.751	Apr 2022	0.876	Mar 2023	0.898	Mar 2024	-		0.898	Continuing	Continuing	Continuing
Subtotal			135.773	0.751		0.876		0.898		-		0.898	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			229.699	2.467		2.366		3.014		-		3.014	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army							Date: March 2023			
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)			Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)				
	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

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R-1 Program Element (Number/Name)

PE 0605450A / Joint Air-to-Ground Missile
(JAGM)

Project (Number/Name)	Start Date	End Date	Duration (Days)	Actual Cost	Budgeted Cost	Variance	Cost Index	Performance Index	Cost Variance	Cost Performance	Cost Variance	Cost Performance
1	1/1/2020	1/31/2020	31	10000	10000	0	1.0	1.0	0	1.0	0	1.0
2	2/1/2020	2/28/2020	28	20000	20000	0	1.0	1.0	0	1.0	0	1.0
3	3/1/2020	3/31/2020	31	30000	30000	0	1.0	1.0	0	1.0	0	1.0
4	4/1/2020	4/30/2020	30	40000	40000	0	1.0	1.0	0	1.0	0	1.0
5	5/1/2020	5/31/2020	31	50000	50000	0	1.0	1.0	0	1.0	0	1.0
6	6/1/2020	6/30/2020	30	60000	60000	0	1.0	1.0	0	1.0	0	1.0
7	7/1/2020	7/31/2020	31	70000	70000	0	1.0	1.0	0	1.0	0	1.0
8	8/1/2020	8/31/2020	31	80000	80000	0	1.0	1.0	0	1.0	0	1.0
9	9/1/2020	9/30/2020	30	90000	90000	0	1.0	1.0	0	1.0	0	1.0
10	10/1/2020	10/31/2020	31	100000	100000	0	1.0	1.0	0	1.0	0	1.0
11	11/1/2020	11/30/2020	30	110000	110000	0	1.0	1.0	0	1.0	0	1.0
12	12/1/2020	12/31/2020	31	120000	120000	0	1.0	1.0	0	1.0	0	1.0
13	1/1/2021	1/31/2021	31	130000	130000	0	1.0	1.0	0	1.0	0	1.0
14	2/1/2021	2/28/2021	28	140000	140000	0	1.0	1.0	0	1.0	0	1.0
15	3/1/2021	3/31/2021	31	150000	150000	0	1.0	1.0	0	1.0	0	1.0
16	4/1/2021	4/30/2021	30	160000	160000	0	1.0	1.0	0	1.0	0	1.0
17	5/1/2021	5/31/2021	31	170000	170000	0	1.0	1.0	0	1.0	0	1.0
18	6/1/2021	6/30/2021	30	180000	180000	0	1.0	1.0	0	1.0	0	1.0
19	7/1/2021	7/31/2021	31	190000	190000	0	1.0	1.0	0	1.0	0	1.0
20	8/1/2021	8/31/2021	31	200000	200000	0	1.0	1.0	0	1.0	0	1.0
21	9/1/2021	9/30/2021	30	210000	210000	0	1.0	1.0	0	1.0	0	1.0
22	10/1/2021	10/31/2021	31	220000	220000	0	1.0	1.0	0	1.0	0	1.0
23	11/1/2021	11/30/2021	30	230000	230000	0	1.0	1.0	0	1.0	0	1.0
24	12/1/2021	12/31/2021	31	240000	240000	0	1.0	1.0	0	1.0	0	1.0
25	1/1/2022	1/31/2022	31	250000	250000	0	1.0	1.0	0	1.0	0	1.0
26	2/1/2022	2/28/2022	28	260000	260000	0	1.0	1.0	0	1.0	0	1.0
27	3/1/2022	3/31/2022	31	270000	270000	0	1.0	1.0	0	1.0	0	1.0
28	4/1/2022	4/30/2022	30	280000	280000	0	1.0	1.0	0	1.0	0	1.0
29	5/1/2022	5/31/2022	31	290000	290000	0	1.0	1.0	0	1.0	0	1.0
30	6/1/2022	6/30/2022	30	300000	300000	0	1.0	1.0	0	1.0	0	

JA6 / Joint Air-To-Ground Missile (JAGM)

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605450A / Joint Air-to-Ground Missile (JAGM)	Project (Number/Name) JA6 / Joint Air-To-Ground Missile (JAGM)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Full Rate Production (FRP) Decision	4	2022	4	2022
CATM Development	1	2020	1	2022
CATM Testing	1	2021	3	2022
Integration and Counter Measure/Threat Management	1	2019	4	2025

Note
MS: Milestone
IOC: Initial Operational Capability
IOT&E: Initial Operational Test & Evaluation
CATM: Captive Air Training Missile
HW: Hardware
SW: Software

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	154.257	263.545	284.095	-	284.095	365.377	216.206	136.141	167.156	0.000	1,586.777
S40: Army Integrated Air and Missile Defense	-	154.257	263.545	254.163	-	254.163	355.723	214.394	135.637	166.652	0.000	1,544.371
SS1: Remote Interceptor Guidance (RIG) 360 Dev and Int	-	-	-	29.932	-	29.932	9.654	1.812	0.504	0.504	0.000	42.406
Program MDAP/MAIS Code: 205												
Note Beginning in FY 2024, funding was realigned from PE 0605457A, Project S40: Army Integrated Air and Missile Defense to PE 0605457A, Project SS1: Remote Interceptor Guidance (RIG) 360 Dev and Int due to it becoming a separate Acquisition Category III (ACAT III) program.												
A. Mission Description and Budget Item Justification This funding line is directly aligned to the U.S. Army Air and Missile Defense (AMD) Modernization Priority. The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP), a critical component of the Army's AMD strategy, and is a top AMD Cross Functional Team modernization priority program. The AIAMD program is a direct response to the U.S. Army 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 AMD Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Department of Defense (DoD) 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 Relay 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 provides advanced capabilities to the Army through agile software development and a network-centric SoS capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture enables 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 mitigates the coverage gaps and single points of failure that have plagued AMD design in the past. The AIAMD program provides the user with the ability to train on a single C2 system, resulting in overall training savings. The AIAMD program also provides the Army with the ability to procure components that interface with the Integrated Fire Control Network (IFCN), alleviating the cost of procuring total system capabilities in the future.												

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023		
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)				
AIAMD Initial Operation Capability (IOC) will be delivered through the fielding of the IBCS-based AIAMD architecture including the IBCS EOC, IFCN Relay, Sentinel A3, and PATRIOT components working in an integrated manner through the IFCN connection. The government controlled open architecture enables integration of beyond IOC capabilities to meet emerging threats and fielding to include but, not limited to, Air Defense Airspace Management (ADAM) Cells, ADA Brigade, and Army Air and Missile Defense Command (AAMDC). The AIAMD Program will also continue integration with both Lower Tier Air and Missile Defense Sensor (LTAMDS) and Enduring Indirect Fire Protection Capability (IFPC).						
Remote Interceptor Guidance 360 (RIG-360) is a software-defined, X-band missile communications device that provides full hemispherical, 360 degree in-flight communications with the Patriot Advanced Capability 3 (PAC-3) family of interceptors. The RIG-360 program provides an additional follow-on capability to the AIAMD architecture. RIG-360 augments the performance of the PAC-3 family of interceptors and enables AIAMD to expand the area of control of the PAC-3 interceptors to their full kinematic potential, while increasing the defense effectiveness to full 360 degree coverage against attacking non-ballistic threats. RIG-360 supports interceptor communication, allowing PAC-3 family of missiles engagement independent from the Patriot radar or Lower Tier Air and Missile Defense Sensor. This de-coupling of interceptor from radar advances program goals to pair any sensor with the best shooter, and expands asset defense and engagement space supporting Multi Domain Operations and Large Scale Combat Operations. By using the RIG-360 to communicate with PAC-3 interceptors, the Integrated Battle Command System can conduct engagements even if the radar is unavailable due to hardware failure, battle damage, or successful electronic attack.						
B. Program Change Summary (\$ in Millions)		FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget		159.873	265.288	289.312	-	289.312
Current President's Budget		154.257	263.545	284.095	-	284.095
Total Adjustments		-5.616	-1.743	-5.217	-	-5.217
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-11.743			
• Congressional Rescissions		-	-			
• Congressional Adds		-	10.000			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-5.616	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	-5.217	-	-5.217
Congressional Add Details (\$ in Millions, and Includes General Reductions)						
Project: S40: Army Integrated Air and Missile Defense						
Congressional Add: Kill Chain Automation						
Congressional Add Subtotals for Project: S40						
Congressional Add Totals for all Projects						

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)	
<div>Change Summary Explanation</div> <div>The decrease in Pacific Deterrence Initiative (PDI) funding in FY 2024 is due to realigning Defense of Guam funding to the correct Program Elements to support the planned architecture.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
S40: Army Integrated Air and Missile Defense	-	154.257	263.545	254.163	-	254.163	355.723	214.394	135.637	166.652	0.000	1,544.371
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the U.S. Army Air and Missile Defense (AMD) Modernization Priority. The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP), a critical component of the Army's AMD strategy, and is a top AMD Cross Functional Team modernization priority program.

The AIAMD program is a direct response to the U.S. Army 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 AMD Task Force Concept of Operations (CONOPS). The AIAMD Program is uniquely structured to enable the development of an overarching SoS capability with all participating Department of Defense (DoD) 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 Relay 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 provides advanced capabilities to the Army through agile software development and a network-centric SoS capability (also referred to as "Plug and Fight") that integrates AMD sensors and weapons with the IBCS EOC. The AIAMD SoS architecture enables 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 mitigates the coverage gaps and single points of failure that have plagued AMD design in the past. The AIAMD program provides the user with the ability to train on a single C2 system, resulting in overall training savings. The AIAMD program also provides the Army with the ability to procure components that interface with the Integrated Fire Control Network (IFCN), alleviating the cost of procuring total system capabilities in the future.

AIAMD Initial Operation Capability (IOC) will be delivered through the fielding of the IBCS-based AIAMD architecture including the IBCS EOC, IFCN Relay, Sentinel A3, and PATRIOT components working in an integrated manner through the IFCN connection. The government controlled open architecture enables integration of beyond IOC capabilities to meet emerging threats and fielding to include but, not limited to, Air Defense Airspace Management (ADAM) Cells, ADA Brigade, and Army Air and Missile Defense Command (AAMDC). The AIAMD Program will also continue integration with both Lower Tier Air and Missile Defense Sensor (LTAMDS) and Enduring Indirect Fire Protection Capability (IFPC).

Funding in FY 2024 supports agile software development and integration, developmental testing and requirements verification of the software build, operational testing, and integration activities for integrated fires capabilities. Funding provides for integration of Army Long Range Persistent Surveillance (ALPS), and also continues Post-IOC 1-N Capabilities to include Terminal High Altitude Area Defense (THAAD) Planner, Sentinel A4, and F-35 Joint Striker. Funding in the amount of \$37.826M supports

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Pacific Deterrence Initiative (PDI) planned architecture. Also included is the software development for Forward Area Air Defense Command and Control (FAAD C2) Convergence into IBCS as well as funding to support development of AMD capabilities.				
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
Title: Product Development		49.799	-	-
Description: Product development in support of agile software development.				
Title: Test and Evaluation		35.483	-	-
Description: Test and Evaluation support for modeling and simulation, developmental test activities and IOT&E.				
Title: Product Development - Beyond Initial Operational Capability (IOC)		46.526	112.052	157.251
Description: Product development in support of agile software development and integration efforts for additional capability beyond that fielded at IOC.				
FY 2023 Plans: Funding provides support for developmental software integration testing as well as Defense of Guam support for the planned architecture and an increase to facilitate additional capability development. Agile software development continues to support enduring development efforts and includes software fixes and improvements to counter emerging threats and incorporate emerging technology. Funding also initiates the development, test, and integration of 1-N Capabilities to include ALPS, THAAD Planner, and F-35 Joint Striker. Funding supports JTMC Bridge Integration as well as IBCS development to support full weapon/threat planning and engagements. Funding also supports the continued development of IFPC as well as the development and integration efforts of the RIG-360, which will provide integration of an independent, adapted Uplinker into IBCS to support 360-degree PAC-3 MSE engagements outside the coverage of the current PATRIOT radar.				
FY 2024 Plans: Funding provides support for developmental software integration testing as well as continues the Defense of Guam support for the planned architecture. Agile software development continues to support enduring development efforts and includes software fixes and improvements to counter emerging threats and incorporate emerging technology. Funding continues the development, test, and integration of 1-N Capabilities to include ALPS, THAAD Planner, and F-35 Joint Striker. Funding supports JTMC Bridge Integration as well as IBCS development to support full weapon/threat planning and engagements. Funding also supports the continued development and integration of IFPC.				
FY 2023 to FY 2024 Increase/Decrease Statement: Funding increase to facilitate additional capability development and the Software Integration Facility.				
Title: Test and Evaluation - Beyond IOC Capability		16.449	132.239	96.912

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B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
<p>Description: Test and Evaluation support for modeling and simulation, developmental test, and follow-on operational test events for additional capability beyond that fielded at IOC.</p> <p>FY 2023 Plans: Continues Modeling and Simulation efforts at the Government Systems Integration Lab, Joint Interoperability Test Support, Army Test and Evaluation Center, Orange Flag, Project Convergence, Joint All-Domain Command and Control, Integrated Fires Test, and White Sands Missile Range test support for developmental test activities. Specific test efforts include: software development and software requirements verification, cyber testing, initial testing for F-35 & RIG-360, and test planning of future developmental and operational tests. Funding includes test hardware requirements as well as lab infrastructure for additional test lines for RIG-360, JTMC, and THAAD Integration for the Defense of Guam planned architecture.</p> <p>FY 2024 Plans: Continues Modeling and Simulation efforts at the Government Systems Integration Lab, Joint Interoperability Test Support, Army Test and Evaluation Center, Orange Flag, Project Convergence, Joint All-Domain Command and Control, Integrated Fires Test, and White Sands Missile Range test support for developmental test activities. Specific test efforts include: software development and software requirements verification, cyber testing, initial testing for F-35 and test planning of future developmental and operational tests. Funding includes test hardware requirements as well as lab infrastructure for additional test lines for RIG-360, JTMC, and THAAD Integration in support of Defense of Guam planned architecture and an increase to facilitate additional capability development.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The decrease is due to realigning Defense of Guam funding to the correct Program Elements to support the planned architecture and splitting out RIG-360 costs to Project SS1 within this same program element.</p>					
<p>Title: SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.</p>			-	9.254	-
Accomplishments/Planned Programs Subtotals			148.257	253.545	254.163

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023			
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								FY 2022	FY 2023			
Congressional Add: Kill Chain Automation								6.000	10.000			
FY 2022 Accomplishments: Funding supports design, code, and integration of kill-chain automation enhancements into the Integrated Battle Command System (IBCS). Funding improves algorithms and techniques for target typing and Combat Identification to improve performance and reduce fratricide risks. Funding also improves design to the IBCS User Interface to streamline operator awareness and feedback for automated actions.												
FY 2023 Plans: Funding continues support of design, code, and integration of kill-chain automation enhancements into the Integrated Battle Command System (IBCS). Funding also improves algorithms and techniques for target typing and Combat Identification to improve performance and reduce fratricide risks. Funding also improves design to the IBCS User Interface to streamline operator awareness and feedback for automated actions.												
Congressional Adds Subtotals								6.000	10.000			
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• C53101: MSE Missile	1,333.148	1,037.093	1,212.832	-	1,212.832	961.192	973.464	985.250	985.854	Continuing	Continuing	
• EX2: Lower Tier Air Missile Defense (LTAMD) Capability	408.766	380.147	816.663	-	816.663	118.939	122.544	89.261	90.257	Continuing	Continuing	
• EY7: IFPC Increment 2 - Block 1	175.604	131.093	196.248	-	196.248	154.275	166.672	113.841	135.117	Continuing	Continuing	
• C62002: IFPC INC 2- I BLOCK 1 SYSTEM	19.053	18.924	313.189	-	313.189	697.307	1,002.324	1,023.636	985.973	0.000	4,060.406	
• E10: Sentinel	124.832	71.259	94.944	-	94.944	48.837	18.987	8.508	8.603	Continuing	Continuing	
• BZ5075: IAMD Battle Command System	399.800	438.967	412.556	-	412.556	509.654	572.362	658.046	442.781	Continuing	Continuing	
• 146: Air & Msl Defense Planning Control Sys	2.772	1.255	26.367	-	26.367	20.465	15.600	15.893	16.160	Continuing	Continuing	
• AD5070: AIR & MSL Defense Planning & Control Sys	67.193	72.619	68.892	-	68.892	67.495	-	-	-	0.000	276.199	
• 0604403A: Future Interceptor	6.643	8.179	8.040	-	8.040	8.042	8.052	8.138	8.229	0.000	55.323	
• 0604117A: Maneuver - Short Range Air Defense (M-SHORAD)	37.939	274.838	281.239	-	281.239	331.362	324.855	422.392	455.779	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army							Date: March 2023	
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 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• C14300: M-SHORAD - Procurement	332.984	135.747	400.697	-	400.697	-	-	-	-	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 Integrated Fire Control System through a government controlled open architecture approach allowing for integration of Air Defense Artillery (ADA) components as they become available. This approach enables the AIAMD program to maintain its baseline program independent of fluctuation of other programs.

D. Acquisition Strategy

The AIAMD acquisition strategy delivers an Initial Operational Capability (IOC) in FY 2023. The capabilities are delivered through the fielding of the IAMD Battle Command System (IBCS) based AIAMD architecture including the IBCS Engagement Operations Center (EOC), Sentinel A4, and PATRIOT (through a Radar Interface Unit (RIU)) components connected via an Integrated Fire Control Network (IFCN) Relay, working in an integrated manner while also incorporating the insertion of emerging technology. Future capabilities include but not limited to the incorporation of IBCS functionality into Enduring Indirect Fire Protection Capabilities (IFPC), Lower Tier Air and Missile Defense Sensor (LTAMDS), Army Persistent Surveillance System (ALPS), Terminal High Altitude Area Defense (THAAD) Planner, F-35 Joint Strike Fighter, and other Army and Joint weapon systems using an agile development process.

Key principles of the AIAMD acquisition approach are the following:

- Migrate from system-based acquisition to competitive, component-based acquisition using agile development/operations methodology IAW FY 2019 National Defense Authorization Act direction.
 - 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 a common Army IBCS 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 and software common configuration items.
 - Conduct architecture-based System Engineering, Integration and Test (SEI&T) activities for an incrementally fielded configuration of the AIAMD Integrated Fire Control Network-compatible IBCS EOC, weapons and sensor system components to include testing of resiliency and survivability in a denied environment.
 - The DAE approved AIAMD to enter the Software Acquisition Pathway (SWP) Execution Phase and LRIP Re-Characterization ADM on September 21, 2021.
- The program continues to develop SW via the Agile development methodology. SW development provide a Min Viable product quarterly in the Program Increments (PI) and a Minimum Viable capability Release annually.
- The Follow-On Software Contract provides Agile developed software-based improvements and capability additions to the Air and Missile Defense (AMD) weapon systems.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
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<p>- Software testing occurs at the end of each PI starting with functional testing at the Contractor System Integration Lab (C-SIL), followed by regression and performance testing for requirements validation in the government System Integration lab (G-SIL). Software is then delivered to WSMR for developmental testing with tactical Sensors and Weapons.</p> <p>- The program SW path forward includes the development, improvements, and integration of capabilities to support a LRIP, a Full Rate Production Decision and IOC in FY23. PIs 14-17 (CY23) Include correcting SW defects identified in IOT&E, integrating LRIP ECPs, and additional capabilities such as Link 16, LTAMDS, IFPC, Sentinel A4, Rig 360, and THAAD Planner. PI 18-21 (CY24) includes prioritized capabilities such as ALPS, THAAD, FAAD C2 Convergence, AMDPCS, F35, and the Defense of Guam requirements.</p> <p>- The common fires mission command program is the centerpiece of an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes component integration, common development tools and processes, and annual test and evaluation to provide data to support program assessments and progress toward closure of performance gaps.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
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 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR	TBD	TBD : TND	-	-		9.254		-		-		-	0.000	9.254	-
Subtotal			-	-		9.254		-		-		-	0.000	9.254	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
AIAMD System Engineering & Integration	C/CPFF	Various : Huntsville, AL	237.770	14.343	Jan 2022	18.618	Mar 2023	23.986	Oct 2023	-		23.986	Continuing	Continuing	Continuing
IAMD Engineering Manufacturing and Development	SS/ Various	Northrop Grumman, Raytheon, Lockheed Martin and Other : Huntsville, AL and Various other locations	1,737.175	46.956	Oct 2021	-		-		-		-	Continuing	Continuing	Continuing
AIAMD Capability Development	SS/ Various	Northrop Grumman, Raytheon, Lockheed Martin and Other : Huntsville, AL and Various other locations	-	-		43.108	Mar 2023	84.046	Oct 2023	-		84.046	0.000	127.154	Continuing
Government Furnished Equipment	MIPR	Various : Multiple	43.383	2.755	Mar 2022	-		-		-		-	Continuing	Continuing	Continuing
Government Systems Engineering and Logistics	Various	Various : Huntsville, AL	127.085	12.271	Nov 2021	13.300	Dec 2022	15.015	Oct 2023	-		15.015	Continuing	Continuing	Continuing
Army 1-N Capability	Various	Various : TBD	-	-		10.700	Feb 2023	17.467	Oct 2023	-		17.467	Continuing	Continuing	Continuing
Kill Chain Automation	Various	Various : Huntsville, AL; Grande Prairie, TX; Oklahoma City	-	6.000	Oct 2022	10.000	Apr 2023	-		-		-	0.000	16.000	Continuing
RIG-360	SS/IDIQ	Lockheed Martin : Huntsville, AL and Grand Prairie, TX	-	4.000	Mar 2023	47.146	Mar 2023	-		-		-	0.000	51.146	-
Defense of Guam	Various	Various : Various	-	-		60.652	Jun 2023	22.596	Oct 2023	-		22.596	0.000	83.248	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
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Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Software Integration Facility	Various	Various : Various	-	-		-		21.400	Oct 2023	-		21.400	0.000	21.400	-
Subtotal			2,145.413	86.325		203.524		184.510		-		184.510	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Other Test Activities/ Army Evaluation Center/ Developmental Test Command/Operational Test Command	MIPR	Various : Multiple Locations	113.080	21.966	Nov 2021	10.262	Apr 2023	13.028	Oct 2023	-		13.028	Continuing	Continuing	Continuing
Modeling & Sim/Joint Interoperability Test Spt	MIPR	SED : Huntsville, AL	239.336	23.281	Nov 2021	14.954	Apr 2023	17.982	Oct 2023	-		17.982	Continuing	Continuing	Continuing
Range Support	MIPR	WSMR : White Sands, NM	83.881	22.685	Nov 2021	9.123	Apr 2023	10.079	Oct 2023	-		10.079	Continuing	Continuing	Continuing
Army 1-N Capability	Various	Various : Various	-	-		-		13.500	Oct 2023	-		13.500	Continuing	Continuing	Continuing
Defense of Guam	Various	Various : Various	-	-		16.428	Jun 2023	15.064	Oct 2023	-		15.064	Continuing	Continuing	Continuing
Subtotal			436.297	67.932		50.767		69.653		-		69.653	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			2,581.710	154.257		263.545		254.163		-		254.163	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
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Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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																												
PI-5 thru PI-8 Agile SW Development (IOT&E SW)																												
PI-5 thru PI-8 Agile SW HWIL Int Test & Rqmt Verification																												
PI-5 thru PI-8 Dev Ground/Flight Testing (IOT&E SW)																												
IOT&E (OTRR 2, Sustained Ops, M&S, Live Fire Test)																												
PI-9 thru PI-12 Agile SW Development																												
PI-9 thru PI-12 Agile SW HWIL Int Test & Rqmt Verification																												
PI-9 thru PI-12 Developmental Ground/Flight Testing																												
IBCS LRIP Production																												
PI-10 Delta Operational Assessment																												
PI-13 thru PI-16 Agile SW Development																												
PI-13 thru PI-16 Agile SW HWIL Int Test & Rqmt Verification																												
PI-13 thru PI-16 Developmental Ground/Flight Testing																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
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Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Full Rate Production Decision Review							1																					
Initial Operational Capability							2																					
Future Capability Agile SW Development and Test																												
PI-17 thru 20 Agile SW Development																												
Delta Qualification Testing																												
FY24 IBCS - LTAMDS Operational Test / Evaluation																												
FY24 IBCS - IFPC Operational Test / Evaluation																												
PI-17 thru 20 Agile SW HWIL Int Test and Rqmt Verification																												
IBCS FRP Production																												
FY24 IBCS - Patriot Operational Test / Evaluation																												
PI-17 thru 20 Developmental Ground/Flight Test																												
PI-21 thru 24 Agile SW Development																												
FY25 IBCS - LTAMDS Operational Test / Evaluation																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
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Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
PI-21 thru 24 Agile SW HWIL Int Test and Rqmt Verification																												
PI-21 thru 24 Agile SW Development Ground Testing																												
FY25 IBCS - Patriot Operational Test / Evaluation																												
PI-25 thru 28 Agile SW HWIL Int Test and Rqmt Verification																												
PI-25 thru 28 Agile SW Development Ground Testing																												
PI-25 thru 28 Agile SW Development																												
FY26 IBCS - IFPC Operational Test / Evaluation																												
FY26 IBCS - Patriot Operational Test / Evaluation																												
FY26 IBCS - LTAMDS Operational Test / Evaluation																												
PI-29 thru 32 Agile SW Development																												
PI-29 thru 32 Agile SW HWIL Int Test and Rqmt Verification																												
FY27 Follow-on Operational Test / Evaluation																												
PI-33 thru 36 Agile SW Development																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023																					
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 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
										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
PI-29 thru 32 Agile SW Development Ground Testing																																					
PI-33 thru 36 Agile SW HWIL Int Test and Rqmt Verification																																					
PI-33 thru 36 Agile SW Development Ground Testing																																					
FY28 Follow-on Operational Test / Evaluation																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army

Date: March 2023

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

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Modeling and Simulation	1	2013	4	2028
EMD Developmental Test (DT)	4	2014	1	2017
Product Readiness Review (PRR)	4	2016	4	2016
EMD DT Continuation	1	2018	1	2020
v4.5.0 Software (SW) Development	2	2018	1	2020
v4.5.0 Developmental Ground/Flight Testing	3	2019	1	2020
PI-1 thru PI-4 Agile SW Development	1	2020	4	2020
PI-1 thru PI-4 SW Developmental Ground/Flight Testing	2	2020	2	2021
PI-1 thru PI-4 Agile SW HWIL Int Test & Rqmt Verification	2	2020	1	2021
Software Version 4.6.0 Capabilities Review	3	2020	3	2020
Limited User Test	4	2020	4	2020
PI-5 thru PI-8 Agile SW Development (IOT&E SW)	1	2021	1	2022
PI-5 thru PI-8 Agile SW HWIL Int Test & Rqmt Verification	2	2021	1	2022
Milestone C Decision	2	2021	2	2021
PI-5 thru PI-8 Dev Ground/Flight Testing (IOT&E SW)	2	2021	1	2022
Software Version 4.6.1 Capabilities Review	3	2021	3	2021
IOT&E (OTRR 2, Sustained Ops, M&S, Live Fire Test)	1	2022	1	2023
PI-9 thru PI-12 Agile SW Development	1	2022	1	2023
PI-9 thru PI-12 Agile SW HWIL Int Test & Rqmt Verification	2	2022	1	2023
PI-9 thru PI-12 Developmental Ground/Flight Testing	2	2022	1	2023
IBCS LRIP Production	2	2022	2	2025
PI-10 Delta Operational Assessment	4	2022	1	2023

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army				Date: March 2023	
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	
		Start		End	
Events	Quarter	Year	Quarter	Year	
PI-13 thru PI-16 Agile SW Development	1	2023	1	2024	
PI-13 thru PI-16 Agile SW HWIL Int Test & Rqmt Verification	2	2023	1	2024	
PI-13 thru PI-16 Developmental Ground/Flight Testing	2	2023	1	2024	
Full Rate Production Decision Review	2	2023	2	2023	
Initial Operational Capability	3	2023	3	2023	
Future Capability Agile SW Development and Test	1	2024	4	2028	
PI-17 thru 20 Agile SW Development	1	2024	1	2025	
Delta Qualification Testing	2	2024	4	2024	
FY24 IBCS - LTAMDS Operational Test / Evaluation	1	2024	1	2024	
FY24 IBCS - IFPC Operational Test / Evaluation	2	2024	2	2024	
PI-17 thru 20 Agile SW HWIL Int Test and Rqmt Verification	2	2024	2	2025	
IBCS FRP Production	2	2024	4	2028	
FY24 IBCS - Patriot Operational Test / Evaluation	4	2024	4	2024	
PI-17 thru 20 Developmental Ground/Flight Test	2	2024	2	2025	
PI-21 thru 24 Agile SW Development	1	2025	1	2027	
FY25 IBCS - LTAMDS Operational Test / Evaluation	1	2025	1	2025	
PI-21 thru 24 Agile SW HWIL Int Test and Rqmt Verification	2	2025	2	2026	
PI-21 thru 24 Agile SW Development Ground Testing	2	2025	2	2026	
FY25 IBCS - Patriot Operational Test / Evaluation	3	2025	3	2025	
PI-25 thru 28 Agile SW HWIL Int Test and Rqmt Verification	2	2026	2	2027	
PI-25 thru 28 Agile SW Development Ground Testing	2	2026	2	2027	
PI-25 thru 28 Agile SW Development	2	2026	2	2027	
FY26 IBCS - IFPC Operational Test / Evaluation	2	2026	2	2026	
FY26 IBCS - Patriot Operational Test / Evaluation	3	2026	3	2026	
FY26 IBCS - LTAMDS Operational Test / Evaluation	4	2026	4	2026	

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
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
		Start		End
Events		Quarter	Year	Quarter Year
PI-29 thru 32 Agile SW Development		1	2027	1 2028
PI-29 thru 32 Agile SW HWIL Int Test and Rqmt Verification		2	2027	2 2028
FY27 Follow-on Operational Test / Evaluation		3	2027	3 2027
PI-33 thru 36 Agile SW Development		1	2028	1 2029
PI-29 thru 32 Agile SW Development Ground Testing		2	2028	2 2029
PI-33 thru 36 Agile SW HWIL Int Test and Rqmt Verification		2	2028	2 2029
PI-33 thru 36 Agile SW Development Ground Testing		2	2028	2 2029
FY28 Follow-on Operational Test / Evaluation		3	2028	3 2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Mi ssile Defense (AIAMD)				Project (Number/Name) SS1 / Remote Interceptor Guidance (RIG) 360 Dev and Int			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
SS1: Remote Interceptor Guidance (RIG) 360 Dev and Int	-	-	-	29.932	-	29.932	9.654	1.812	0.504	0.504	0.000	42.406
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning in FY 2024, funding was realigned from PE 0605457A, Project S40: Army Integrated Air and Missile Defense to PE 0605457A, Project SS1: Remote Interceptor Guidance (RIG) 360 Dev and Int due to it becoming a separate Acquisition Category III (ACAT III) program.

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the U.S. Army Air and Missile Defense (AMD) Modernization Priority. The Army Integrated Air and Missile Defense (AIAMD) program is a designated Major Defense Acquisition Program (MDAP), a critical component of the Army's AMD strategy, and is a top AMD Cross Functional Team modernization priority program.

Remote Interceptor Guidance 360 (RIG-360) is a software-defined, X-band missile communications device that provides full hemispherical, 360-degree in-flight communications with the Patriot Advanced Capability 3 (PAC-3) family of interceptors. The RIG-360 program provides an additional follow-on capability to the AIAMD architecture. RIG-360 augments the performance of the PAC-3 family of interceptors and enables AIAMD to expand the area of control of the PAC-3 interceptors to their full kinematic potential, while increasing the defense effectiveness to full 360-degree coverage against attacking non-ballistic threats. RIG-360 supports interceptor communication, allowing PAC-3 family of missiles engagement independent from the Patriot radar or Lower Tier Air and Missile Defense Sensor. This de-coupling of interceptor from radar advances program goals to pair any sensor with the best shooter and expands asset defense and engagement space supporting Multi Domain Operations and Large-Scale Combat Operations. By using the RIG-360 to communicate with PAC-3 interceptors, the Integrated Battle Command System can conduct engagements even if the radar is unavailable due to hardware failure, battle damage, or successful electronic attack.

The RIG-360 consists of two Major End Items, the Control Assembly and Array Assembly. The Control Assembly is the control node for the Array Assembly and serves as the Adaptation Kit (A-Kit) to the Integrated Fire Control Network. The Control Assembly will be in a rack-mounted case. This will provide outer ruggedness to environmental conditions with internal shock isolation, while allowing easy interchange of power supplies, server components, or other components as required within an industry standard rack assembly. The RIG-360 Array Assembly is a mast-mounted, X-band array of antennas that transmit and receive the radio frequency PAC-3 missile communication waveforms.

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

	FY 2022	FY 2023	FY 2024
Title: RIG-360 Development	-	-	28.281
Description: RIG-360 funding was allocated to a new Program Element in FY 2024. FY 2023 funding is in Project S40: Army Integrated Air and Missile Defense. FY 2023 accomplishments include contract award and completion of a System Requirements			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) SS1 / Remote Interceptor Guidance (RIG) 360 Dev and Int				
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Review. FY 2024 planned accomplishments are continued component development, completion of a Preliminary Design Review and development testing.												
FY 2024 Plans: Provides support for developmental test activities.												
FY 2023 to FY 2024 Increase/Decrease Statement: Increase was due to the realignment of funding from Project S40: Army Integrated Air and Missile Defense to Project S1: Remote Interceptor Guidance (RIG) 360 Dev and Int due to it becoming a separate Acquisition Category III (ACAT III) program.												
Title: Test and Evaluation									-	-	1.651	
Description: Test and Evaluation in support of RIG-360.												
FY 2024 Plans: Provides support for preparation and conduct of developmental test activities.												
FY 2023 to FY 2024 Increase/Decrease Statement: Increase was due to the realignment of funding from Project S40: Army Integrated Air and Missile Defense to Project SS1: Remote Interceptor Guidance (RIG) 360 Dev and Int due to it becoming a separate ACAT III program.												
Accomplishments/Planned Programs Subtotals									-	-	29.932	
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• 0605457A: Army Integrated Air and Missile Defense (AIAMD)	154.257	263.545	284.095	-	284.095	365.377	216.206	136.141	167.156	Continuing	Continuing	
• BZ5075: IAMD Battle Command System	399.800	438.967	412.556	-	412.556	509.654	572.362	658.046	442.781	Continuing	Continuing	
• DV8: Patriot Product Improvement	125.851	152.312	177.197	-	177.197	138.120	138.287	139.762	141.321	Continuing	Continuing	
• C50700: Patriot Mods	287.479	253.689	212.247	-	212.247	179.513	573.119	502.009	208.218	Continuing	Continuing	
• CA0267: PATRIOT	5.019	6.508	6.573	-	6.573	6.682	6.658	6.667	6.674	Continuing	Continuing	
MODIFICATION INITIAL SPARES												
Remarks												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
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) SS1 / <i>Remote Interceptor Guidance (RIG) 360 Dev and Int</i>
<p><u>D. Acquisition Strategy</u></p> <p>RIG-360 is a Major Capability Acquisition program entering at Milestone B. As directed in the 19 April 2022 Acquisition Decision Memorandum signed by the Army Acquisition Executive, the Program Executive Officer Missiles and Space is the Milestone Decision Authority for this Acquisition Category (ACAT) III program. The program had a successful Milestone B Decision in December 2022. Planned contract award 2Q 2023. The RIG-360 development program objectives include requirements definition, system design and analysis, qualification, and integration and test activities for a production representative RIG-360 device. A sole source IDIQ contract will be awarded to Lockheed Martin Missiles and Fire Control (LMMFC) in Grand Prairie, Texas. LMMFC is the sole developer and producer of the RIG-360 capability. They are also the only source with the knowledge, technical expertise, facilities, and the technical data to support Integrated Battle Command System integration and testing efforts related to RIG-360 uplink capabilities. The Government will procure a full production baseline Technical Data Package for the primary RIG-360 components (control assembly, antenna array and equipment platform) to include all technical data as documented in the approved product development design. The contractor will conduct a System Requirements Review, Preliminary Design Review, Critical Design Review, and Functional Configuration Audit for the RIG-360 program. All technical reviews will have pre-defined entrance and exit criteria agreed-to by the Government. Component testing will be conducted in conjunction with AIAMD developmental and operational testing to verify performance of the Major End Item. The program is planning for a Milestone C/Full Rate Production Decision in second quarter FY 2026.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)				Project (Number/Name) SS1 / Remote Interceptor Guidance (RIG) 360 Dev and Int					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
RIG-360 Engineering Manufacturing and Development	SS/ Various	Lockheed Martin Missile and Fire Control, Northrop Grumman : Grand Prairie, Texas; Huntsville, AL	-	-		-		25.305	Oct 2023	-		25.305	0.000	25.305	-
System Engineering and Integration	Various	Various : Various	-	-		-		2.076	Oct 2023	-		2.076	0.000	2.076	-
RIG-360 Program Management	TBD	Government : Various	-	-		-		0.900	Oct 2023	-		0.900	0.000	0.900	-
Subtotal			-	-		-		28.281		-		28.281	0.000	28.281	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
RIG-360 Test and Evaluation	Various	Various : Various	-	-		-		1.651	Oct 2023	-		1.651	0.000	1.651	-
Subtotal			-	-		-		1.651		-		1.651	0.000	1.651	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		-		29.932		-		29.932	0.000	29.932	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)	Project (Number/Name) SS1 / Remote Interceptor Guidance (RIG) 360 Dev and Int	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
System Development and Testing																												
Contract Award																												
System Requirements Review																												
Preliminary Design Review																												
Developmental Testing																												
Critical Design Review																												
Operational Testing																												
Milestone C																												
Full Rate Production																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605457A / Army Integrated Air and Missile Defense (AIAMD)	Project (Number/Name) SS1 / Remote Interceptor Guidance (RIG) 360 Dev and Int	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System Development and Testing	2	2023	2	2026
Contract Award	2	2023	2	2026
System Requirements Review	3	2023	3	2023
Preliminary Design Review	3	2024	3	2024
Developmental Testing	4	2024	4	2024
Critical Design Review	2	2025	2	2025
Operational Testing	4	2025	4	2025
Milestone C	2	2026	2	2026
Full Rate Production	2	2027	2	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army	Date: March 2023
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Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	49.667	14.892	36.016	-	36.016	40.481	55.240	50.582	55.816	0.000	302.694
CQ7: C-sUAS Joint New Capabilities	-	44.187	8.726	30.351	-	30.351	32.873	43.185	33.901	33.368	0.000	226.591
CQ8: C-sUAS Joint Enabling Capabilities	-	5.480	6.166	5.665	-	5.665	7.608	12.055	16.681	22.448	0.000	76.103

A. Mission Description and Budget Item Justification

The Secretary of Defense (SecDef) designated the Secretary of the Army (SA) as the Department of Defense's (DoD) Executive Agent (EA) for Counter-small Unmanned Aircraft Systems (C-sUAS). The EA is tasked with leading, directing, and synchronizing DoD efforts to counter small Unmanned Aircraft System (sUAS) threats while minimizing unnecessary duplication and redundancy. The C-sUAS efforts are in response to the DoD Joint Requirements Oversight Council Memorandum (JROC-M) requirement for identification, development, testing, evaluation, and integration of technologies to defeat sUAS threats across the DoD. The C-sUAS efforts provide warfighters the ability to comprehensively detect, track, identify, and defeat enemy Group 1, 2 and 3 UAS platforms. The efforts will be joint development efforts to provide integrated solutions to meet the needs of the Military Services and DoD Agencies against emerging threats.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	33.386	14.892	15.190	-	15.190
Current President's Budget	49.667	14.892	36.016	-	36.016
Total Adjustments	16.281	0.000	20.826	-	20.826
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	16.281	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	20.826	-	20.826

Change Summary Explanation

FY 2024 funding increase reflects the Department's additional investment in joint C-sUAS ongoing efforts and new capabilities to address sUAS emerging threats.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration				Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CQ7: C-sUAS Joint New Capabilities	-	44.187	8.726	30.351	-	30.351	32.873	43.185	33.901	33.368	0.000	226.591
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Counter- small Unmanned Aircraft Systems (C-sUAS) new joint capability efforts develop new technologies and programs to enable joint acquisition programs to counter Groups 1-3 s UAS threats. These developments are aligned with the Joint Requirements Oversight Council Memorandum 078-20 Operational Requirements. Joint solutions will address Fixed Site / Semi-Fixed Site, Mobile, and Dismounted required by the Joint Forces. Efforts include development, test and evaluation, and integration sufficient for transition to fieldable capabilities.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Title: Counter-small Unmanned Aircraft Development Defeat									17.719	4.408	14.781	
Description: Development, test & evaluation, and integration of new technologies to defeat sUAS.												
FY 2023 Plans: Continue the development, integration, and test of new technologies to defeat sUAS. Low Collateral Effects Interceptor (LCEI) Inc. 1 will complete development and testing to inform Service and DoD procurement of LCEI. Executing concurrent development and testing of Increment 2 during this fiscal year.												
FY 2024 Plans: Continue the development, integration, and test of new technologies to defeat sUAS. Within the Special Application Module, integrate with the latest electronic warfare defeat software, assess the current Software Defined Radio (SDR) and antenna, implement a government owned advanced Positioning, Navigation, and Timing (PNT) software solution, and current Group 1-3 Advance Kinetic Defeat.												
FY 2023 to FY 2024 Increase/Decrease Statement: FY2024 increase supports the latest integration of Special Application Module, an electronic warfare defeat software and Group 3 Kinetic Updates..												
Title: Counter-small Unmanned Aircraft Development Command and Control									23.518	4.000	15.570	
Description: Development, test & evaluation, and integration of new technologies to improve command and control for C-sUAS.												
FY 2023 Plans:												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / <i>Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration</i>	Project (Number/Name) CQ7 / <i>C-sUAS Joint New Capabilities</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Continue the development, integration and test of new technologies to reduce operator burden, increase situational awareness, automate/autonomy for decision making, and improve interoperability of C-sUAS system. High Level Data Fusion effort develops data products and standards for Data Fusion Architectures and transition to Services for use in C-sUAS C2 Systems and support ongoing assessments at the Fusion Integration and Evaluation Lab. Cross Domain Solution continues prototyping efforts, testing, and approval of the bi-directional cross domain solution.			
FY 2024 Plans: Continue the development, integration and test of new technologies to reduce operator burden, increase situational awareness, automate/autonomy for decision making, and improve interoperability of C-sUAS system. High Level Data Fusion effort develops data products and standards for Data Fusion Architectures and transition to Services for use in C-sUAS C2 Systems and support ongoing assessments at the Fusion Integration and Evaluation Lab. Cross Domain Solution continues prototyping efforts, testing, and approval of the bi-directional cross domain solution. Advanced command and control adds new capabilities to the current joint FAAD C2 system.			
FY 2023 to FY 2024 Increase/Decrease Statement: FY2024 increase supports Advanced Command and Control for the JCO approved Forward Area Air Defense Command and Control system.			
Title: Counter-small Unmanned Aircraft Development Detection and Identification		2.950	-
Description: Development, integration, and test of new technologies to improve detection and identification of emerging sUAS threats.			
Title: SBIR/STTR		-	0.318
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638 FY 2023 to FY 2024			
FY 2023 to FY 2024 Increase/Decrease Statement: FY23 funding transferred in accordance with Title 15 USC §638			
Accomplishments/Planned Programs Subtotals		44.187	8.726
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities
<p>D. Acquisition Strategy</p> <p>The Joint C-sUAS new capability will address the Joint Requirements Oversight Council Memorandum (JROCM) 078-20 and be approved by the Department of Defense C-sUAS Executive Agent (EA) Governance. The C-sUAS EA Governance will approve the development efforts that meet identified gaps and the joint capability will be funded under this Program Element. The Joint Counter-sUAS Office will identify modifications to existing systems or identify new technologies within industry and Government S&T organization. Programs will leverage the flexibility of the Adaptive Acquisition Framework, and Service Acquisition Policies, and pursue a combination of acquisition pathways to deliver prototypes for evaluation and future decisions. Upon completion, Services will utilize a common procurement contract to meet the needs of the Military Services and DoD Agencies.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration						Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities			
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.318		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	-		0.318		-		-		-	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Low Collateral Effects Interceptor Development and Integration	TBD	Various : Various	-	13.260		4.408		-		-		-	Continuing	Continuing	Continuing
High Power Microwave Development and Integration	TBD	Various : Various	-	1.089		-		-		-		-	Continuing	Continuing	Continuing
Windtalker Development and Integration	TBD	Various : Various	-	2.968		-		-		-		-	Continuing	Continuing	Continuing
High Level Data Fusion	TBD	Various : Various	-	3.000		1.000		1.000		-		1.000	Continuing	Continuing	Continuing
Cross Domain Solution	TBD	Various : Various	-	2.000		3.000		3.000		-		3.000	Continuing	Continuing	Continuing
Special Application Module	TBD	Various : Various	-	-		-		5.170		-		5.170	Continuing	Continuing	Continuing
Omnibus Funding (Sensitive)	TBD	Various : Various	-	17.500		-		-		-		-	Continuing	Continuing	Continuing
Advanced Command and Control	TBD	Various : Various	-	-		-		11.570		-		11.570	Continuing	Continuing	Continuing
Advanced Kinetic Defeat	TBD	Various : Various	-	-		-		9.611		-		9.611	Continuing	Continuing	Continuing
Subtotal			-	39.817		8.408		30.351		-		30.351	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration						Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities			
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Low Collateral Effects Interceptor Capabilities and Limitations	TBD	Various : Various	-	2.970		-		-		-		-	Continuing	Continuing	Continuing
High Power Microwave Development and Integration	TBD	Various : Various	-	0.400		-		-		-		-	Continuing	Continuing	Continuing
Cross Domain Solution	TBD	Various : Various	-	1.000		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	4.370		-		-		-		-	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	44.187		8.726		30.351		-		30.351	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0605531A / Counter - Small Unmanned
Aircraft Systems Sys Dev & Demonstration

Project (Number/Name)
CQ7 / C-sUAS Joint New Capabilities

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Low Collateral Effects Interceptor Integration and testing																												
Low Collateral Effects Interceptor Engineering and fina...																												
Low Collateral Effects Interceptor Production Transition																												
Windtalker data schema and software development																												
Windtalker Software Development Kits Delivery																												
High Power Microwave Interceptor Development																												
C2 Decision Aid - High Level Data Fusion Development																												
C2 Decision Aid - High Level Data Fusion Transition																												
C2 Decision Aid - High Level Data Fusion Integration and...																												
C2 Decision Aid - Cross Domain Solutions Development																												
C2 Decision Aid -Cross Domain Solution Transition																												
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates																												
C-sUAS Detection and Identification Enhancement Development																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023												
Appropriation/Budget Activity 2040 / 5									R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration								Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities											
Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Special Application Module Development									Special Application Module Development																			
Special Application Module Developmental Test 1									Special Application Module Developmental Test 1																			
Special Application Module Developmental Test 2									Special Application Module Developmental Test 2																			

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	Project (Number/Name) CQ7 / C-sUAS Joint New Capabilities	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Low Collateral Effects Interceptor Integration and testing	2	2022	1	2023
Low Collateral Effects Interceptor Engineering and final integration	1	2023	4	2023
Low Collateral Effects Interceptor Production Transition	4	2023	4	2023
Windtalker data schema and software development	2	2022	2	2023
Windtalker Software Development Kits Delivery	2	2023	2	2023
High Power Microwave Interceptor Development	2	2022	3	2023
C2 Decision Aid - High Level Data Fusion Development	2	2022	2	2023
C2 Decision Aid - High Level Data Fusion Transition	2	2023	2	2023
C2 Decision Aid - High Level Data Fusion Integration and Lab Evaluation	1	2023	4	2027
C2 Decision Aid - Cross Domain Solutions Development	2	2022	3	2023
C2 Decision Aid -Cross Domain Solution Transition	3	2023	3	2023
C2 Decision Aids - Cross Domain Solutions Cyber / IA Updates	1	2023	4	2026
C-sUAS Detection and Identification Enhancement Development	1	2023	4	2023
Special Application Module Development	1	2024	4	2025
Special Application Module Developmental Test 1	3	2024	3	2024
Special Application Module Developmental Test 2	2	2025	2	2025

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration				Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CQ8: C-sUAS Joint Enabling Capabilities	-	5.480	6.166	5.665	-	5.665	7.608	12.055	16.681	22.448	0.000	76.103
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
The Counter- small Unmanned Aircraft Systems (C-sUAS) effort is in response to the Department of Defense's (DoD) response to the Joint Requirements Oversight Council Memorandum (JROC-M) to support identification, development, testing, evaluation, and integration of technologies to provide capability to defeat small Unmanned Aircraft System threats across the DoD. The C-sUAS efforts provide warfighters the ability to comprehensively detect, track, identify, and defeat enemy Group 1, 2 and 3 UAS platforms. The efforts will be joint development efforts to provide integrated solutions to meet the needs of the Military Services and DoD Agencies against emerging threats.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Title: Common Data Repository Development									5.480	5.941	5.665	
Description: Provide a joint multi-classification platforms to provide cross collaboration C-sUAS data and analytic eco-system for Class 1-3 small Unmanned Aircraft Systems. Data repositories will consume disparate data sources across the Department of Defense to include intelligence data, commercial data, and Military Service developed data to support acquisition and deployed C-sUAS systems.												
FY 2023 Plans: Continue the development of a Common Data Repository and C-sUAS databases that address emerging sUAS threats and requirements to maintain technology that supports analytics and populates data repository with intelligence organization sUAS threat characterization and signature development.												
FY 2024 Plans: Continue the development of a Common Data Repository for emerging sUAS threats and C-sUAS requirements to support analytics. The data repository is in collaboration with intelligence organizations for sUAS threat characterization and signature development. VR Trainer, as part of the data repository architecture, provides virtual reality training resources to the Joint Warfighter by leveraging analytics supported by the Common Data Repository.												
FY 2023 to FY 2024 Increase/Decrease Statement: FY2024 decrease aligns funding requirements to support C-sUAS Databases and virtual reality trainers to address emerging threats.												
Title: SBIR/STTR									-	0.225	-	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / <i>Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration</i>	Project (Number/Name) CQ8 / <i>C-sUAS Joint Enabling Capabilities</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<i>FY 2023 Plans:</i> Funding transferred in accordance with Title 15 USC §638 FY 2023 to FY 2024 <i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> FY23 funding transferred in accordance with Title 15 USC §638			
Accomplishments/Planned Programs Subtotals		5.480	6.166
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
<p>The Joint C-sUAS enabling efforts will address the Joint Requirements Oversight Council Memorandum (JROCM) 078-20 and be approved by the Department of Defense C-sUAS Executive Agent (EA) Governance. The JCO will establish a Common Data Repository for all Military Services and DoD Agencies to access current and relevant data for future C-sUAS system development and support to currently fielded systems. The JCO will draw from the intelligence community, academia, commercial, and Military Service databases to ensure consistency in datasets. This will eliminate redundant efforts for systems specific threat databases for use by all the Military Services and DoD Agencies. The Army Rapid Capabilities and Critical Technology Office (RCCTO) will provide acquisition support to the JCO to execute these efforts.</p>			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration				Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.225		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	-		0.225		-		-		-	Continuing	Continuing	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Common Data Repository Development	TBD	Various : Various	-	2.792		3.161		2.295		-		2.295	Continuing	Continuing	Continuing
Electro Optical / Infrared Imagery Database	TBD	Various : Various	-	1.551		1.570		1.570		-		1.570	Continuing	Continuing	Continuing
Joint Virtual Reality Trainer	TBD	Various : Various	-	-		-		1.800		-		1.800	Continuing	Continuing	Continuing
Subtotal			-	4.343		4.731		5.665		-		5.665	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Intelligence Community Database Linkages	TBD	Various : Various	-	1.137		1.210		-		-		-	Continuing	Continuing	Continuing
Subtotal			-	1.137		1.210		-		-		-	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	5.480		6.166		5.665		-		5.665	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity		R-1 Program Element (Number/Name)		Project (Number/Name)	
2040 / 5		PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration		CQ8 / C-sUAS Joint Enabling Capabilities	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Common Data Repository Development																												
Common Data Repository Full Operational Capability																												
Intelligence Community Database Linkages and threat char...																												
Electro-Optical Imagery Database Development																												
Electro-Optical Imagery Database Validation #1																												
Electro-Optical Imagery Database Validation #2																												
Electro-Optical Imagery Database Validation #3																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605531A / Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration		Project (Number/Name) CQ8 / C-sUAS Joint Enabling Capabilities	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Common Data Repository Development	4	2020	4	2026
Common Data Repository Initial Operational Capability	3	2021	3	2021
Common Data Repository Full Operational Capability	4	2022	4	2022
Intelligence Community Database Linkages and threat characterization	2	2022	4	2024
Electro-Optical Imagery Database Development	2	2022	4	2026
Electro-Optical Imagery Database Validation #1	4	2022	4	2022
Electro-Optical Imagery Database Validation #2	2	2023	2	2023
Electro-Optical Imagery Database Validation #3	4	2023	4	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	194.936	554.925	996.653	-	996.653	542.476	369.090	373.020	377.183	0.000	3,408.283
CF6: Optionally Manned Fighting Vehicle (OMFV)	-	194.936	554.925	996.653	-	996.653	542.476	369.090	373.020	377.183	0.000	3,408.283

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Next Generation Combat Vehicle Army Modernization Priority. The Optionally Manned Fighting Vehicle (OMFV), as part of an Armored Brigade Combat Team (ABCT), will replace the Bradley Infantry Fighting Vehicle to provide the capabilities required to defeat a future near-peer competitor's force. The OMFV is an optionally manned platform that maneuvers Soldiers to a point of positional advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver. It is designed to operate with and may operate without a crew and Soldiers under armor based on the commander's decision. It delivers decisive lethality during the execution of combined arms maneuver while also controlling maneuver robotics and semi-autonomous systems. The platform will be optimized for Life Cycle Environmental Profiles, both natural and induced, to remain safe, suitable and effective and with significantly reduced logistical burdens. The rapidly changing character of warfare and pace of technology motivates the Army to change how it will deliver, operate and sustain the OMFV. As part of an ABCT, the OMFV will not fight alone, but rather as part of a section, platoon, and company of mechanized infantry. These companies will execute cross-domain maneuver and defeat pacing threats in the close area while maneuvering Soldiers to tactical objectives. Once the unit has transitioned to an integrated mounted and dismounted fight, the OMFV supports our Soldiers with advanced sensors, lethality, protection, and mission command.

The total cost of the Optionally Manned Fighting Vehicle Middle Tier of Acquisition effort is \$1,384 million RDT&E from FY2021 to FY2024. The Optionally Manned Fighting Vehicle is fully funded across the Future Years Defense Program.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	202.320	589.762	1,238.951	-	1,238.951
Current President's Budget	194.936	554.925	996.653	-	996.653
Total Adjustments	-7.384	-34.837	-242.298	-	-242.298
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-34.837			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-7.384	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-242.298	-	-242.298

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle
<div>Change Summary Explanation</div> <div>FY 2024 funding request decreased in the Current President's Budget from the Previous President's Budget due to higher Army priorities.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle				Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CF6: Optionally Manned Fighting Vehicle (OMFV)	-	194.936	554.925	996.653	-	996.653	542.476	369.090	373.020	377.183	0.000	3,408.283
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Next Generation Combat Vehicle Army Modernization Priority. The Optionally Manned Fighting Vehicle (OMFV), as part of an Armored Brigade Combat Team (ABCT), will replace the Bradley Infantry Fighting Vehicle to provide the capabilities required to defeat a future near-peer competitor's force. The OMFV is an optionally manned platform that maneuvers Soldiers to a point of positional advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver. It is designed to operate with and may operate without a crew and Soldiers under armor based on the commander's decision. It delivers decisive lethality during the execution of combined arms maneuver while also controlling maneuver robotics and semi-autonomous systems. The platform will be optimized for Life Cycle Environmental Profiles, both natural and induced, to remain safe, suitable and effective and with significantly reduced logistical burdens. The rapidly changing character of warfare and pace of technology motivates the Army to change how it will deliver, operate and sustain the OMFV. As part of an ABCT, the OMFV will not fight alone, but rather as part of a section, platoon, and company of mechanized infantry. These companies will execute cross-domain maneuver and defeat pacing threats in the close area while maneuvering Soldiers to tactical objectives. Once the unit has transitioned to an integrated mounted and dismounted fight, the OMFV supports our Soldiers with advanced sensors, lethality, protection, and mission command.

The total cost of the Optionally Manned Fighting Vehicle Middle Tier of Acquisition effort is \$1,384 million RDT&E from FY2021 to FY2024. The Optionally Manned Fighting Vehicle is fully funded across the Future Years Defense Program.

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

	FY 2022	FY 2023	FY 2024
Title: Government Engineering & Program Management	17.066	34.890	29.549
Description: Provides Government System Engineering and Program Management support. Funding will cover the costs of government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage Project Management Office, Maneuver Combat Systems (PM MCS).			
FY 2023 Plans: Provides Government System Engineering & Program Management Support. This funds the efforts to include contract close-outs of Concept Design contracts for up to 5 vendors and covers the management support requirements pre and post award of Detailed Design contracts for up to 3 vendors. These costs reflect the RDTE funded costs for Matrix within the PM MCS PMO includes the of SETA support in critical areas of the design of an open-architected OMFV including cyber security, software development and system architecture. These funds also support the execution of a source selection board for up to 3 vendors for the Phase 3 and 4 contracts for Detailed Design / Prototype Build and Test. This funding will include the cost of digital engineering			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>		Project (Number/Name) CF6 / <i>Optionally Manned Fighting Vehicle (OMFV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
tools, government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage the PM MCS program. This funding will also support execution of the Army's formal Analysis of Alternatives.					
FY 2024 Plans: Provides Government System Engineering & Program Management Support and funds the efforts to the management support requirements pre and post award of Detailed Design contracts for up to 3 vendors. These costs reflect the RDTE funded costs for Matrix support within the program management office and includes the use of SETA support in critical areas of the design of an open-architected OMFV including cyber security, software development and system architecture. This funding will include the cost of government and direct support contractor labor, travel, training, supplies, equipment and facilities to effectively manage the PM MCS program.					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease in FY2024 funding due to the completion of Concept Design contracts and closeouts in FY2023. FY2024 funding will continue to support the use of digital engineering tools and the use of agile teams to support design activities leading up to Critical Design Review (CDR), specifically in subsystem maturation and cyber security activities and support of major programmatic decisions.					
Title: Digital Engineering			-	26.742	22.164
FY 2023 Plans: This funding will include the costs to establish and maintain a cloud-based Digital Engineering (DE) environment. DE costs include individual software (SW) licenses for the required Product Lifecycle Management (PLM) software. Integration costs include the creation of Automatic Program Interfaces (API) between the PLM software and various government owned modeling and simulation tools to accelerate the pace of analysis of the up to 3 Phase 3 OMFV contractors. Integration of these tools within the DE environment enables frequent, continuous, and iterative assessment of a contractor's digital design with a view towards identifying and addressing technical risk as early and cost effectively as possible.					
FY 2024 Plans: Provides the entire digital engineering ecosystem - which includes a cloud-based Digital Engineering (DE) environment and a government owned software development, Artificial Intelligence, and machine learning environment using a Development/ Security/Operations (DevSecOps) software and Digital Twin technology development approach. Cost includes further scaling up licenses, capacity, and support commensurate with the growth of MS&A, Architecture, and Test Evaluation teams. DE costs include the software (SW) licenses for the required Product Lifecycle Management (PLM) software, Models Based Systems Engineering (MBSE) SysML modeling tools, and logistics and modeling and simulation software. DevSecOps costs include 3 OEMs developing software in a government furnished cloud environment - which are based on the licenses and pipelines required for the oversight and development of OMFV Software using an agile DevSecOps software approach. Integration costs include the creation of Automatic Program Interfaces (API) between the PLM software and various government owned and commercial					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle	Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
off the shelf modeling and simulation tools to accelerate the pace of analysis of up to 3 vendors for Phase 3. Integration of these tools within the DE environment enables frequent, continuous, and iterative assessment of a contractor's digital design with a view towards identifying and addressing technical risk as early and cost effectively as possible. FY 2023 to FY 2024 Increase/Decrease Statement: The decrease in funding is due to the cost from FY23 to FY24 associated with establishing the cloud-based Digital Engineering (DE) Environment, individual software licenses for the Product Lifecycle Management (PLM) software, and creation of Automatic Program Interfaces (API) and establishing the framework for Digital Engineering.				
Title: Product Development Description: Costs include the continuation of Concept Design efforts including System Functional Review (SFR) and development towards PDR. Contractor efforts include Development Engineering, Producibility Engineering and Planning, Development Tooling, System Engineering and Program Management, Data and Special Equipment. FY 2023 Plans: As the program transitions from Contractor Concept Design to Contractor Detailed Design, this effort funds the initial funding period of Detailed Design contracts for up to 3 vendors. This includes labor and material costs for Design Engineering pre and post PDR, System Engineering and Program Management and Technical Data Development. This funding will support the development of a System Integration Laboratory for the vendors to test and deploy critical software improvements for government verification. The funding also procures hardware necessary for up to 3 vendors to build and integrate critical subsystems as part of an early risk reduction prototype delivery. FY 2024 Plans: These costs include the maturation of OMFV Detailed Design Concepts to CDR. Costs include Contractor System Engineering and Program Management, Producibility Engineering and Planning, Development Tooling, Data, Support Equipment Development and Development of a Training Program of Instruction. Costs also include the material for 7 prototypes each from up to three vendors required for Preproduction Prove-Out Testing and initial logistics development. FY 2023 to FY 2024 Increase/Decrease Statement: The increase in funding is reflective of the increase in development efforts for 3 vendors through PDR with work towards CDR.		166.398	337.500	858.300
Title: Modeling Simulation & Analysis Description: Government Modeling,Simulation and Analysis in support of requirements analysis and concept refinement. FY 2023 Plans:		3.571	15.869	9.788

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>	Project (Number/Name) CF6 / <i>Optionally Manned Fighting Vehicle (OMFV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>This effort funds the Modeling and Simulation and Subsystem Testing of awarded Contractor Designs and their respective components in support of PDR with efforts towards CDR. This funds the development and verification, validation, and accreditation of new models to support future testing. PM MCS is also conducting Soldier Touchpoints (STP) which provide PM MCS to ability to gather data from the end-user (Soldiers) in order to properly refine specifications and details of the OMFV platform. This involves multiple modeling, simulation and analysis activities, as well as hands-on testing to ensure the novel technology is implemented in the most effective and efficient way, as well as providing input to platform design.</p> <p>FY 2024 Plans: This effort funds the continued Modeling, Simulation & Analysis (MS&A) and Subsystem Testing of awarded Contractor Designs and their respective components in support of CDR. This funding also supports government MS&A analysis of vendor designs in support of the final Capability Development Document (CDD), which includes conduct and analysis of Virtual Experimentation (VE), Crew Buck, CAVE, ARIES Physics Modeling, and Soldier Touchpoints in FY24. This funding also will continue to support the verification, validation, and accreditation of new models during product development.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: The decrease in funding reflects completion of PDR in FY2023 for Modeling and Simulation and Subsystem Testing. FY2024 funding covers the continued maturation of designs towards a critical design review, minimize risks when moving to prototype build and test after CDR, and to integrate MS&A into the programs digital thread.</p>			
<p>Title: Other Support Cost</p> <p>Description: OMFV studies and research which includes the completion of the AoA, completion of milestone documentation development, and detailed trade space studies and analysis.</p>		2.600	-
<p>Title: Government Architecture</p> <p>Description: Develop the USG baseline architecture by enhancing PEO GCS Common Infrastructure Architecture (GCIA) based on Modular Open Systems Approach (MOSA) to guide the OMFV system development. The effort is directed by the Army Acquisition Executive to achieve transformational capabilities for OMFV via Modular, Open and Scalable Architecture, and by using applicable open standards. The effort will be executed by PEO GCS, PM MCS, and ASA (ALT)'s Office of the Chief Systems Engineer teams cohort with applicable CCDC and ARL teams, and industry consortium.</p> <p>FY 2023 Plans: This effort funds the continued refinement of the ground vehicle open architecture standard and maintenance of the Architectural Foundry to guide the development of the OMFV, including, but not limited to, digital modeling, Architecture Integration Laboratory, and the Architectural Description. This also begins to fund the Ground Combat Systems Common Infrastructure Architecture (GCIA) which enables Modular Open Systems Approach (MOSA) for the OMFV program office to acquire affordable modular</p>		5.301	11.602
			9.289

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>		Project (Number/Name) CF6 / <i>Optionally Manned Fighting Vehicle (OMFV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2022	FY 2023	FY 2024
systems at the pace of threats/technology. It consists of a set of architecture specifications, digital models, defined interfaces, standards, and data models.					
FY 2024 Plans: This effort funds the continued maturation of the GCS Common Infrastructure Architecture (GCIA), Ground Vehicle Architecture Integration Laboratory (GVAIL), data architecture (model libraries, data dictionary) and the continued refinement and maturation of open architecture standards. The GCIA is a standardized architecture framework to enable persistent modernization for Optionally Manned Fighting Vehicle (OMFV). The GCIA enables Modular Open Systems Approach (MOSA) for OMFV program office to acquire affordable modular systems at the pace of threats/technology. It consists of a set of architecture specifications, digital models, defined interfaces, standards, and data models. GVAIL is a set of hardware, software, and model-based environment to test GCIA compliance of the OMFV capabilities that vendors build. This funding will also further mature the digital model for speed and ease of implementation during development of the OMFV, including the development of a Hardware Integration Lab to quickly ensure that any future technology is compliant with the GCIA architecture, increasing future competition.					
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease in funding in FY2024 accounts for initiation of GCIA in FY2023, FY2024 funding supports continued maturation and refinement of the GCIA architecture and GVAIL.					
Title: Technology Maturation & Analysis			-	79.899	5.986
Description: This funding is for risk reduction efforts to enhance test and develop tools for OMFV cybersecurity and program protection and includes cyber testing, subject matter experts, contracts and development.					
FY 2023 Plans: This effort funds the Detailed Design parallel efforts focused on maturation of key subsystems and demonstration of transformational capabilities for future rapid integration using DE principles. These efforts include, but are not limited to: initial integration by a University Affiliated Research Center (UARC) of key subsystems across the open architecture standard to demonstrate organic OMFV counter unmanned aerial system (C-UAS) and counter antitank guided missile (C-ATGM) applications on a technology demonstrator platform, and initial work to transition existing government owned autonomy and reduced crew operation software into a format that is agnostic of a vehicle's operating system and able to operate with the open architecture standard. This effort funds the procurement of 3rd Generation FLIR systems that will be provided to the contractors awarded in Phase 3. And includes funds for the procurement, storage, repair, maintenance, shipping, and integration of Government Furnished Property (GFP).					
FY 2024 Plans: This effort funds efforts to enhance test and develop tools for OMFV cybersecurity and program protection. This will include funding for testing, subject matter experts, contracts and development. This effort funds the risk reduction efforts to enhance,					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle	Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
test, and develop tools for OMFV cybersecurity and program protection, i.e., supply chain, program data, new technologies. This will include funding for cyber testing, subject matter experts, contracts and development. This effort also funds personnel and contractors to support integration, evaluation, and support for the 3GFLIR systems. This includes technical support and information exchange with vendors who are awarded a prototype contract. FY 2023 to FY 2024 Increase/Decrease Statement: The decrease in funding is the shift of efforts for the Detailed Design Contract Award and a further breakout of efforts.				
Title: SBIR/STTR Description: Funding transferred in accordance with Title 15 USC §638 FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638 FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638		-	20.255	-
Title: System Test & Evaluation Description: System Test & Evaluation supports the OMFV Government Production Prove-out testing of OMFV designs for up to three vendors. FY 2024 Plans: This cost funds the initial planning and preparation for the OMFV Government Production Prove-out testing of OMFV designs for up to three vendors. Each vendor will build up to 11 prototypes for USG test purposes along with 2 Ballistic Hull and Turrets (BH&T). This cost funds long lead material items including armor coupons, GFM integration and test spares, lethality ammunition and threat ammunition for the testing of prototypes for up to three vendors. FY 2023 to FY 2024 Increase/Decrease Statement: The increase in funding is to begin System Test & Evaluation.		-	-	34.843
Title: Training Aids, Devices, Simulators & Simulation (TADSS) FY 2024 Plans: This effort funds the initial analysis and development of TADSS occurring after CDR. FY 2023 to FY 2024 Increase/Decrease Statement: The increase in funding is reflective of the initial analysis and development that needs to begin in FY 2024.		-	-	0.983
Title: XM913 Maturation		-	25.168	4.002

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle	Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023	FY 2024
FY 2023 Plans: This effort funds the procurement of XM913 systems that will be provided to contractors awarded Phase 3 contracts. This will also fund testing and test ammunition to complete the development of the XM913 and ammunition system. The effort will be for reliability improvements and of qualification testing of the XM913 50mm cannon based on an independent technical assessment. This also funds manpower for integration planning and execution support.				
FY 2024 Plans: This effort funds the testing of the XM913 50mm cannon, which will support a safety release for vendors to include in their full system prototype. Testing will include weapon reliability, durability, safety, and environmental impacts such as extreme temperature and humidity. This funding will also include the purchase of ammunition for government use to conduct risk reduction testing to support a successful system fielding. Government testing will be conducted in FY 2024 to support vendor integration and test in FY 2025.				
FY 2023 to FY 2024 Increase/Decrease Statement: The decrease of funding is to support the test of the XM913.				
Title: Counter - Unmanned Aerial System / Counter - Anti Tank Guided Missile Demonstrator		-	-	7.406
FY 2024 Plans: This effort funds the development and demonstration of using existing radar sub-systems to be dual purposed and utilized for Counter Unmanned Aerial System (C-UAS) and Counter Anti-Tank Guided Missile (C-ATGM) missions. This funding includes the integration and development costs of the software and the procurement of Government Off the Shelf (GOTS) hardware needed to design, build, integrate, and test the capability during FY 2024 and FY 2025. The final software will be integrated into the Fire Control software before Low-Rate Initial Production.				
FY 2023 to FY 2024 Increase/Decrease Statement: The increase in funding is to support testing of C-UAS/C-ATGM.				
Title: Software Pathway		-	3.000	9.006
FY 2023 Plans: The SWP effort this year includes analysis, modeling, and simulation to help develop clear requirements. The PMO will develop the Simplified Acquisition Management Plan (SAMP) in preparation for program initiation in FY24. This funding will support the development of software to add new features or optimizations to lethality, force protection, autonomous movement, user interface, and vehicle health management subsystems.				
FY 2024 Plans:				

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / <i>Manned Ground Vehicle</i>	Project (Number/Name) CF6 / <i>Optionally Manned Fighting Vehicle (OMFV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>This effort funds the execution of the embedded software (SW) pathway acquisition. Embedded SW Pathway program expected to be awarded in FY24, and this funding will support the development of software to enable 2-person crew operations, such as Aided Target Recognition, machine-aided driving, and crew and formation level reporting autonomy to reduce crew burden. These capabilities will be awarded 1QFY24 and developed to a minimum viable capability release (MVCR) in support of the warfighter in FY 2025.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> The increase in funding is due to the execution of the SW Pathway.</p>			
<p><i>Title:</i> Active / Passive Electronic Warfare Integration</p> <p><i>FY 2024 Plans:</i> This effort funds the development and integration of Commercial Off the Shelf (COTS) programmable antennas with either COTS or existing Program of Record (POR) electronic warfare (EW) active and passive capabilities. Costs include the development of SW and purchase of HW to demonstrate the ability of the system to be Multi Domain Operations (MDO) capable. This funding will demonstrate the feasibility of bringing EW capabilities to the tactical edge for an Armored Brigade Combat Team (ABCT). This effort will begin in 1QFY24 and continue thru FY 2024.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> The increase from FY 2023 to FY 2024 is due to the need to begin the Active / Passive EW integration.</p>		-	-
		5.337	
Accomplishments/Planned Programs Subtotals		194.936	554.925
		996.653	
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
<p>The Optionally Manned Fighting Vehicle (OMFV) is a Middle Tier Acquisition - Rapid Prototyping Program and is designed to maneuver Soldiers in the Forward Operating Environment to a position of advantage to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver. The OMFV must exceed current capabilities while overmatching similar threat class systems. It must be optimized for urban and rural terrain areas, while also defeating pacing threats, and be characterized by the ability to spiral in advanced technologies as they mature. The capabilities desired focus to improve lethality, protection, mobility, range, survivability.</p>			

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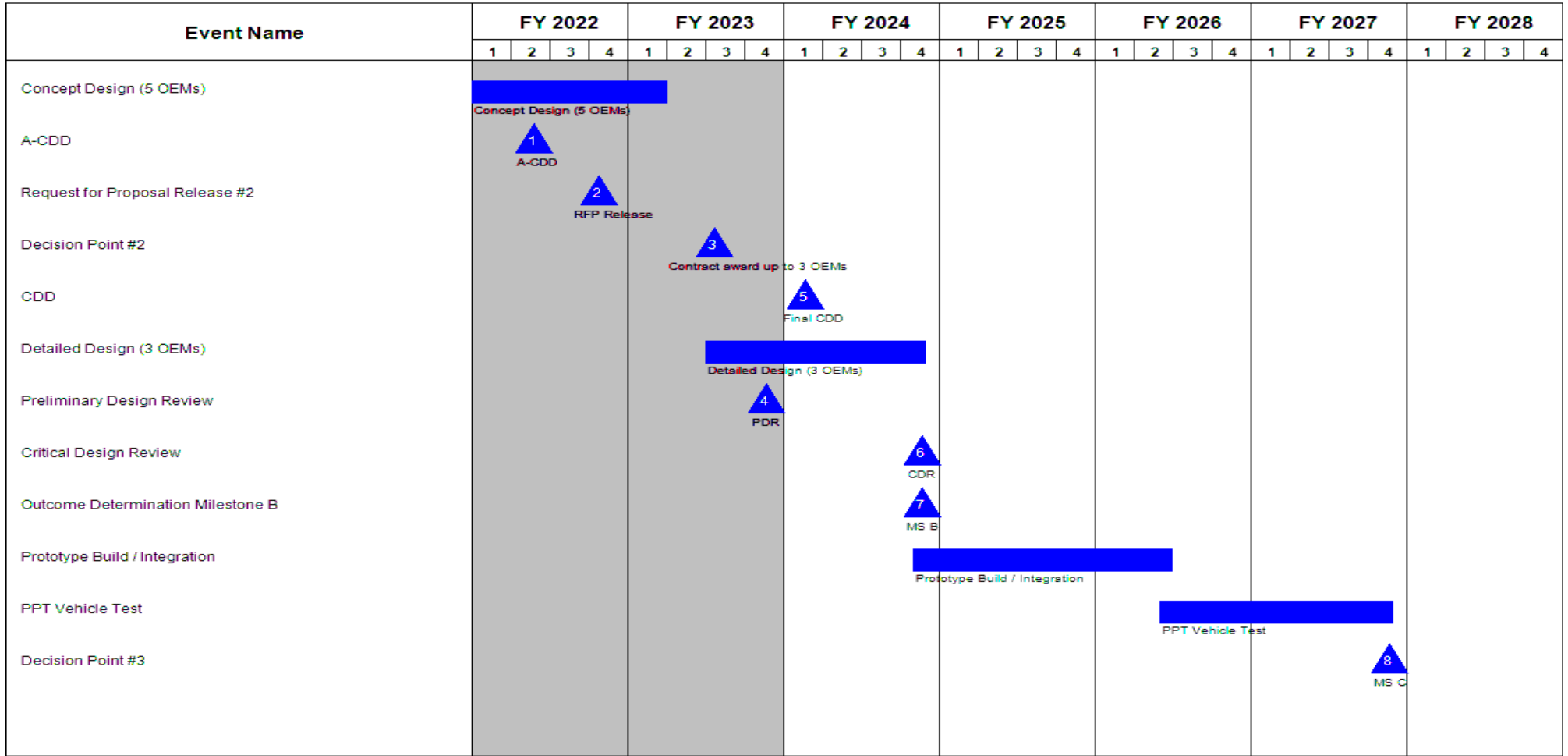
Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle				Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR	TBD	TBD : TBD	-	-		20.255		-		-		-	0.000	20.255	-
Subtotal			-	-		20.255		-		-		-	0.000	20.255	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Other Support Costs	TBD	TBD : TBD	13.556	2.600	Apr 2022	-		-		-		-	0.000	16.156	-
XM-913	MIPR	PM MAS : Picatinny, NJ	35.039	-		25.168	May 2023	4.002	Dec 2023	-		4.002	0.000	64.209	-
Product Development	TBD	TBD : TBD	133.055	166.398	Jun 2022	337.500	Apr 2023	858.300	Sep 2024	-		858.300	0.000	1,495.253	-
Government Architecture	TBD	TBD : TBD	5.300	5.301	Apr 2022	11.602	Jun 2023	9.289	Apr 2024	-		9.289	0.000	31.492	-
Technology Maturation & Analysis	TBD	TBD : TBD	-	-		79.899	Jun 2023	5.986	Feb 2024	-		5.986	0.000	85.885	-
Digital Engineering	TBD	TBD : TBD	-	-		26.742	Apr 2023	22.164	Jan 2024	-		22.164	0.000	48.906	-
Training Aids, Devices, Simulators & Simulation (TADSS)	TBD	TBD : TBD	-	-		-		0.983	Dec 2023	-		0.983	0.000	0.983	-
Counter - Unmanned Aerial System / Counter - Anti Tank Guided Missile	TBD	TBD : TBD	-	-		-		7.406	Mar 2024	-		7.406	0.000	7.406	-
Software Pathway	TBD	TBD : TBD	-	-		3.000	Jun 2023	9.006	Jun 2024	-		9.006	0.000	12.006	-
Active / Passive EW Integration	TBD	TBD : TBD	-	-		-		5.337	Mar 2024	-		5.337	0.000	5.337	-
Subtotal			186.950	174.299		483.911		922.473		-		922.473	0.000	1,767.633	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle						Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)			
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Engineering & Program Management	MIPR	Warren, MI : TBD	21.778	17.066	Jun 2022	34.890	Jun 2023	29.549	Mar 2024	-		29.549	0.000	103.283	-
Subtotal			21.778	17.066		34.890		29.549		-		29.549	0.000	103.283	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Modeling Simulation & Analysis	TBD	TBD : TBD	6.075	3.571	Apr 2022	15.869	May 2023	9.788	Mar 2024	-		9.788	0.000	35.303	-
System Test & Evaluation	TBD	TBD : TBD	-	-		-		34.843	Mar 2024	-		34.843	0.000	34.843	-
Subtotal			6.075	3.571		15.869		44.631		-		44.631	0.000	70.146	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			214.803	194.936		554.925		996.653		-		996.653	0.000	1,961.317	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle		Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)	



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605625A / Manned Ground Vehicle	Project (Number/Name) CF6 / Optionally Manned Fighting Vehicle (OMFV)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Concept Design (5 OEMs)	4	2021	1	2023
A-CDD	2	2022	2	2022
Request for Proposal Release #2	4	2022	4	2022
Decision Point #2	3	2023	3	2023
CDD	1	2024	1	2024
Detailed Design (3 OEMs)	3	2023	4	2024
Preliminary Design Review	4	2023	4	2023
Critical Design Review	4	2024	4	2024
Outcome Determination Milestone B	4	2024	4	2024
Prototype Build / Integration	4	2024	2	2026
PPT Vehicle Test	2	2026	4	2027
Decision Point #3	4	2027	4	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	13.454	17.030	15.129	-	15.129	16.953	17.358	17.542	17.738	0.000	115.204
BV3: Technical Intel Targeting Access Node (TITAN)	-	5.729	7.057	5.146	-	5.146	6.806	7.001	7.076	7.155	0.000	45.970
DX9: National Integration To Tactical Systems	-	2.796	3.197	3.187	-	3.187	3.214	3.415	3.450	3.489	0.000	22.748
EX7: Air Vigilance System Development	-	4.929	6.776	6.796	-	6.796	6.933	6.942	7.016	7.094	0.000	46.486

A. Mission Description and Budget Item Justification

Tactical Exploitation of National Capabilities (TENCAP) exploits national capabilities to pace evolving threats in support of operations during conflict and competition. TENCAP systems and technologies provide deep sensing to support commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.). TENCAP systems and technologies support Theater-level fires and effects, TENCAP systems enable integrated Signals Intelligence (SIGINT) / Electronic Warfare (EW) / and Cyberspace operations. TENCAP supports Army modernization priorities including Long Range Precision Fires, Assured Position Navigation and Timing/Space (PNT/S), Future Vertical Lift (FVL), and Air Missile Defense (AMD). In summary, TENCAP is a key enabler to defeating peer competitor Anti-Access / Area-Denial (A2/AD) strategies.

This Program Element includes three separate projects described below.

1. Tactical Intelligence Targeting Access Node (TITAN) (BV3) - This project includes funding for system integration and testing of the TITAN (space) Pre-Prototype that will provide specific Army units with assured access to space-based Intelligence, Surveillance, and Reconnaissance (ISR) sensor data from Commercial and National levels. The follow-on effort to the TITAN (space) Pre-Prototype is testing and integration of the Space Ground Component Kit (SGCK) into the TITAN Program of Record. The SGCK consists of antennas, other RF components, and other capabilities developed as part of the TITAN (space) Pre-Prototype effort.
2. National Integration to Tactical Systems (DX9) - This project enables the Army's Tactical Exploitation of National Capabilities (TENCAP) office to monitor, synchronize, and transition proven, advanced technologies, prototypes and standards, developed by the National Intelligence Community (IC), into Army systems and Programs of Record during the most cost-effective, early stages of development.
3. Air Vigilance (AV) Program of Record (POR) (EX7) - This project provides System Development and Integration funds for the classified POR.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0605766A / National Capabilities Integration (MIP)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	13.454	17.030	15.448	-	15.448
Current President's Budget	13.454	17.030	15.129	-	15.129
Total Adjustments	0.000	0.000	-0.319	-	-0.319
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.319	-	-0.319
Change Summary Explanation					
Decreased funding to support higher Army priorities.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) BV3 / Technical Intel Targeting Access Node (TITAN)			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
BV3: Technical Intel Targeting Access Node (TITAN)	-	5.729	7.057	5.146	-	5.146	6.806	7.001	7.076	7.155	0.000	45.970
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

The BV3 project demonstrates and integrates space-to-ground station capabilities in the TITAN Program of Record (POR) vehicles. The integration of these capabilities into the TITAN POR vehicles provides timely assured access to National and Commercial Space-Based Intelligence, Surveillance, and Reconnaissance (ISR) sensor data supporting Warfighting commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.).

FY2024 base dollars in the amount of \$5.146 million funds integration and demonstration of TITAN (space) Pre-Prototype and integration of the Space Ground Component Kit (SGCK) into the TITAN POR after validation in the TITAN Integration Environment (TIE). Enables continued integration of prototype software and sensor-unique hardware into representative TITAN POR architecture to provide access to National and Commercial Space-based ISR. FY2024 base funds support continued development and integration of next generation commercial and national space SIGINT and GEOINT sub-systems. The SGCK) will follow a Modular Open Systems Approach (MOSA) to support seamless integration of future space capability into the TITAN POR.

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

	FY 2022	FY 2023	FY 2024
Title: BV3 / Tactical Intelligence Targeting Access Node (TITAN) Prototype System	5.729	7.057	5.146
Description: The Tactical Intelligence Targeting Access Node (TITAN) (space) Pre-Prototypes is a Key Enabler of Army Modernization priorities that will provide the following capability to the Army: <ol style="list-style-type: none"> 1. Timely, assured intelligence for Long Range Precision Fires (LRPF) and maneuver in contested and Anti-Access / Area-Denial (A2/AD) environments. 2. Assured access to ISR sensor data collected at Commercial and National levels. 3. Software analytics capability to enable the intelligence cycle with increased speed, precision, and accuracy. 4. Automated/Assisted Sensor-to-Shooter (S2S) workflows with increased speed, scalability, and accuracy to support LRPF in an A2/AD environment. 			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i>	Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2022	FY 2023	FY 2024
<p>5. Modern and consolidated ground station for National and Commercial sensors. Successful development and deployment of the TITAN (space) Pre-Prototypes pave the way for final development of the Space Ground Component Kit (SGCK) that will be integrated into and provide these same capabilities for the TITAN POR.</p> <p><i>FY 2023 Plans:</i> Finalize TITAN (space) Pre-Prototype integration and support capability demonstrations. Integrate new technologies and processing capabilities into the TITAN Program of Record (POR) through the Space Ground Component Kit (SGCK) subsystems including access to additional space sensor constellations, improving assured access of space sensor data, ingest and processing of commercial and government remote sensing data, and integration of newly-developed antenna to meet Army mobility and collection requirements in the TITAN POR.</p> <p><i>FY 2024 Plans:</i> Funds integration and demonstration of TITAN (space) Pre-Prototype and integration of the SGCK into the TITAN POR after validation in the TITAN Integration Environment (TIE). Enables continued integration of prototype software and sensor-unique hardware into representative TITAN POR architecture to provide access to National and Commercial Space-based ISR. FY2024 base funds support continued development and integration of next generation commercial and national space SIGINT and GEOINT sub-systems. The SGCK will follow a Modular Open Systems Approach (MOSA) to support seamless integration of future space capability into the TITAN POR.</p> <p><i>FY 2023 to FY 2024 Increase/Decrease Statement:</i> The \$1.911 million decrease between FY23 (\$7.057 million) and FY24 (\$5.146 million) reflects improved transition process and efficiencies accomplished during prior year integration into TITAN POR.</p>			
Accomplishments/Planned Programs Subtotals	5.729	7.057	5.146

C. Other Program Funding Summary (\$ in Millions)

Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• 0603766A: <i>Tactical Electronic Surveillance System - Adv Dev</i>	113.365	72.314	65.567	-	65.567	38.537	29.007	29.019	39.343	Continuing	Continuing

Remarks

BV3 integration activities are conducted in concert with development activities funded by PE 0603766A BX9.

D. Acquisition Strategy

The TITAN (space) Pre-Prototype requirement was validated by the TENCAP General Officer Steering Group (TGOSG) in April 2019. In order to maximize agility and innovation in acquisition, TENCAP worked with the Defense Innovation Unit (DIU) to establish an Other Transaction Authority (OTA) agreement to develop the TITAN

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)	Project (Number/Name) BV3 / Technical Intel Targeting Access Node (TITAN)
<p>(space) Pre-Prototype and follow-on SGCK capabilities. The TITAN (space) Pre-Prototype provides a modernized, deployable, ground station capable of rapidly and semi-autonomously receiving, processing, exploiting, fusing, and disseminating space-based sensor data to provide improved situational awareness and direct tactical support to Army commanders at echelon. The TITAN (space) Pre-Prototype reduces S2S latency to allow timely intelligence support to the commander. The TITAN (space) Pre-prototype uses an agile software development approach, and maximizes non-proprietary / modular open system architectures (MOSA) to rapidly update and ingest data streams from emerging commercial vendors and national data sources. This OTA was preceded by Soldier touchpoints to inform this acquisition. Soldier engagement was used throughout the development and demonstration of the TITAN (space) Pre-Prototype. The capabilities successfully demonstrated in the TITAN (space) Pre-Prototype are being integrated into the TITAN POR through the SGCK.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) BV3 / Technical Intel Targeting Access Node (TITAN)					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TITAN (space) Prototype Engineering Services	C/CPFF	TBD : TBD	-	0.329	Jan 2022	0.385	Jan 2023	0.303	Jan 2024	-		0.303	0.000	1.017	-
Subtotal			-	0.329		0.385		0.303		-		0.303	0.000	1.017	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TITAN (space) Pre-Prototype	C/FFP	Northrup Grumman : Aurora, CA	-	4.500	Jan 2022	5.742	Jan 2023	4.030	Feb 2024	-		4.030	0.000	14.272	-
Subtotal			-	4.500		5.742		4.030		-		4.030	0.000	14.272	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TITAN (space) Pre-Prototype Development	Allot	Army TENCAP : Alexandria, VA	-	0.500	Jan 2022	0.500	Jan 2023	0.500	Feb 2024	-		0.500	0.000	1.500	-
Subtotal			-	0.500		0.500		0.500		-		0.500	0.000	1.500	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test and Exercises for TITAN (space) Pre-Prototype Development	C/FFP	Multiple : Multiple	-	0.400	Jan 2022	0.430	Jan 2023	0.313	Jan 2024	-		0.313	0.000	1.143	-
Subtotal			-	0.400		0.430		0.313		-		0.313	0.000	1.143	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) BV3 / Technical Intel Targeting Access Node (TITAN)				
	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	5.729		7.057		5.146		-		5.146	0.000	17.932	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integr ation (MIP)		Project (Number/Name) BV3 / Technical Intel Targeting Access Node (TITAN)	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028									
	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						
Risk Reduction w/Legacy Ground Systems	[Bar]																																	
TITAN (space) Pre-Prototype Development	[Bar]																																	
TITAN (space) Pre-Prototype Factory Acceptance Test #1			1																															
TITAN (space) Pre-Prototype Factory Acceptance Test #2				2																														
TTITAN (space) Pre-Prototype Delivery #1				3																														
TTITAN (space) Pre-Prototype Delivery #2					4																													
TITAN (space) Pre-Prototypes 1 & 2 Demonstration and Ass...																																		
Integrate Space Ground Components Kits																																		
Integrate Emerging Capabilities into SGCKs																																		
TITAN P3I Efforts																																		
Prototype new terrestrial, aerial, serial and space downlinks (National/Joint/Commercial)																																		

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i>	Project (Number/Name) BV3 / <i>Technical Intel Targeting Access Node (TITAN)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Risk Reduction w/Legacy Ground Systems	1	2020	4	2025
TITAN (space) Pre-Prototype Development	4	2020	1	2024
TITAN (space) Pre-Prototype Factory Acceptance Test #1	3	2022	3	2022
TITAN (space) Pre-Prototype Factory Acceptance Test #2	4	2022	4	2022
TTITAN (space) Pre-Prototype Delivery #1	4	2022	4	2022
TTITAN (space) Pre-Prototype Delivery #2	1	2023	1	2023
TITAN (space) Pre-Prototypes 1 & 2 Demonstration and Assessment	1	2023	4	2025
Integrate Space Ground Components Kits	2	2023	4	2027
Integrate Emerging Capabilities into SGCKs	3	2022	4	2027
TITAN P3I Efforts	1	2023	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) DX9 / National Integration To Tactical Systems			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
DX9: National Integration To Tactical Systems	-	2.796	3.197	3.187	-	3.187	3.214	3.415	3.450	3.489	0.000	22.748
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

TENCAP exploits national capabilities to pace evolving threats in support of operations during conflict and competition. TENCAP systems and technologies provide deep sensing to support commanders' situational understanding (patterns of life, threat intentions, etc.), indications & warnings (detection of enemy mobilization and hostile activity), and intelligence support to targeting (order of battle, electronic target folders, target detection, Battle Damage Assessment, etc.). TENCAP systems and technologies support Theater-level fires and effects, TENCAP systems enable integrated Signals Intelligence (SIGINT) / Electronic Warfare (EW) / and Cyberspace operations. TENCAP supports Army modernization priorities including Long Range Precision Fires, Assured Position Navigation and Timing/Space (PNT/S), Future Vertical Lift (FVL), and Air Missile Defense (AMD). In summary, TENCAP is a key enabler to defeating peer competitor Anti-Access / Area-Denial (A2/AD) strategies.

Funding for this project allows the Army's Tactical Exploitation of National Capabilities (TENCAP) office to monitor, synchronize the transition, and integrate new, updated, and emerging National Intelligence Community (IC) technologies, capabilities, and standards into Army Programs of Record during early stages of development when costs are lowest. The project helps the Army to: (1) maintain operational relevance of Army programs and address changes in technology and the threat, (2) ensure Army programs maintain interoperability with and access to the National IC community architecture and systems as they evolve, and (3) advance the Army's ability to conduct analysis and tasking, collection, processing, exploitation, dissemination (TCPED) of intelligence data.

FY 2024 Base funding in the amount of \$3.187 million provides integration of validated National IC capabilities and prioritized by the TENCAP General Officer Steering Group (TGOSG) into Army Programs of Record. The funded efforts include system development and integration of National sensors, architectures, and capabilities.

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

	FY 2022	FY 2023	FY 2024
Title: National Integration to Tactical Systems	2.296	3.197	3.187
Description: National Integration provides for enhancements developed by Army TENCAP's BA 6.4 Project 907 along with the integration and transition of new, updated and emerging National Intelligence Community technologies and capabilities into Program of Records (POR)s. This effort develops and integrates national intelligence community software that informs, influences and enhances MULTI-INT sensor systems, by targeting modern digital communications systems employed by near-peer nation state armies.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)					Project (Number/Name) DX9 / National Integration To Tactical Systems		
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
Continues system development and integration of National asset capabilities into Army programs as directed by the Tactical Exploitation of National Capabilities (TENCAP) General Officers' Steering Group (GOSG), with system development and integration of antenna capability. FY2023 plans include Integrating the latest specialized capability advances and collected data into the open, government-owned software, and enabling Signal Intelligence (SIGINT), Electronic Warfare, and Cyber capabilities into Programs of Record (POR)s. FY 2024 Plans: Continue following the direction and priorities, established by the Tactical Exploitation of National Capabilities (TENCAP) General Officers' Steering Group (GOSG), to develop and integrate National asset capabilities into Army programs. FY2024 plans include Integrating the latest specialized capability advances and collected data into the open, government-owned software, and enabling Signal Intelligence (SIGINT), Electronic Warfare, and Cyber capabilities into Programs of Record (POR)s. FY 2023 to FY 2024 Increase/Decrease Statement: FY2024 level of effort anticipated to remain stable.												
Title: TENCAP Radio Frequency Exploitation (TRFE) Description: Highly specialized capability software that informs, influences and enhances MULTI-INT sensor systems, by targeting modern digital communications systems employed by near-peer nation state armies. Assists with Battlespace Radio Frequency (RF) Characterization for modern communication environments with the intent to synchronize Signal Intelligence (SIGINT), Cyber and Electronic Warfare operations. Utilizes commercial industry components and architectures to minimize hardware costs, risk and maximizes scalability/modularity.										0.500	-	-
Accomplishments/Planned Programs Subtotals										2.796	3.197	3.187
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• 0603766A: Tactical Electronic Surveillance System - Adv Dev	113.365	72.314	65.567	-	65.567	38.537	29.007	29.019	39.343	Continuing	Continuing	
• OMA - 122011 OMA: Contractor Logistics Support and Other Weapon Support, OMA 122011	-	-	-	-	-	-	-	-	-			
• OMA - 122021 OMA: Contractor Logistics Support and Other Weapon, OMA 122021 Support	11.360	9.186	11.640	-	11.640	11.704	11.731	11.862	11.998	Continuing	Continuing	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army						Date: March 2023
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i>			Project (Number/Name) DX9 / <i>National Integration To Tactical Systems</i>

C. Other Program Funding Summary (\$ in Millions)

<u>Line Item</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u> <u>Base</u>	<u>FY 2024</u> <u>OCO</u>	<u>FY 2024</u> <u>Total</u>	<u>FY 2025</u>	<u>FY 2026</u>	<u>FY 2027</u>	<u>FY 2028</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
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Remarks

A portion of FY24 Base OMA funding (\$2.426 million) provides support for the CORE TENCAP program funded by lines 907 and DX9. The larger portion of the FY24 Base OMA funding (\$9.214 million) funds sustainment of deployed CORIAN Counter UAS systems.

D. Acquisition Strategy

The 'National Integration to Tactical Systems' funds provide for transition and integration of National IC advanced technologies and prototypes leveraged by the Army's TENCAP program office. The Army TENCAP acquisition strategy is driven by an annual TENCAP General Officer Steering Group (TGOSG). The TGOSG reviews, validates, prioritizes, and guides Army TENCAP efforts, according to the Army and Defense strategies. Based on this TGOSG guidance, Army TENCAP invests RDTE in Intelligence Community (IC) developments during the more cost-effective advanced development phase to ensure Army requirements are met with minimal redundancy with Army investments. Army TENCAP then transitions these advanced development efforts through system development and integration into Army Programs of Record (POR). This strategy ensures these leveraged investments remain viable through multiple budget cycles, significantly increasing successful transition to recipient Army PORs. Army TENCAP facilitates the continued access to National IC 'joint' efforts and compatibility with those National standards and software baselines for those Army PORs that benefit from these leveraged National IC technologies. This results in cost savings through cost sharing, and Army participation in collaborative Intelligence. Funds will be used for integration efforts identified and vetted through the Army TENCAP annual TGOSG.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) DX9 / National Integration To Tactical Systems					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
National Integration Engineers	MIPR	Army Geospatial Center : Alexandria, VA 22304	-	0.120	Jan 2022	0.150	Jan 2023	0.413	Feb 2024	-		0.413	0.000	0.683	Continuing
Subtotal			-	0.120		0.150		0.413		-		0.413	0.000	0.683	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TENCAP Radio Frequency Exploitation (TRFE)	MIPR	Classified : Classified	4.496	0.462	Jan 2021	0.823	Jan 2023	-		-		-	0.000	5.781	Continuing
National Integration	MIPR	Multiple : Multiple	-	1.691	Jan 2022	1.504	Jan 2023	2.134	Jan 2024	-		2.134	0.000	5.329	-
Subtotal			4.496	2.153		2.327		2.134		-		2.134	0.000	11.110	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
National Integration Program Management	Allot	Army TENCAP : Alexandria, VA	-	0.373	Jan 2022	0.360	Jan 2023	0.400	Feb 2024	-		0.400	0.000	1.133	-
Subtotal			-	0.373		0.360		0.400		-		0.400	0.000	1.133	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TRFE	MIPR	Classified : Classified	0.394	-		0.180		-		-		-	0.000	0.574	Continuing
National Integration	MIPR	Multiple : Multiple	-	0.150	Jan 2022	0.180	Jan 2023	0.240	Jan 2024	-		0.240	0.000	0.570	Continuing
Subtotal			0.394	0.150		0.360		0.240		-		0.240	0.000	1.144	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) DX9 / National Integration To Tactical Systems				
	Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.890	2.796		3.197		3.187		-		3.187	0.000	14.070	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integr ation (MIP)		Project (Number/Name) DX9 / National Integration To Tactical Systems	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
National Integration System Development & Integration																												
TGOSG Annual Meeting FY24 Direction	1																											
TGOSG Annual Meeting FY25 Direction					2																							
TGOSG Annual Meeting FY26 Direction									3																			
TGOSG Annual Meeting FY27 Direction													4															
TGOSG Annual Meeting FY28 Direction																	5											
TGOSG Annual Meeting FY29 Direction																					6							
TGOSG Annual Meeting FY30 Direction																									7			

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)	Project (Number/Name) DX9 / National Integration To Tactical Systems

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
National Integration System Development & Integration	1	2022	4	2028
TGOSG Annual Meeting FY24 Direction	4	2022	4	2022
TGOSG Annual Meeting FY25 Direction	4	2023	4	2023
TGOSG Annual Meeting FY26 Direction	4	2024	4	2024
TGOSG Annual Meeting FY27 Direction	4	2025	4	2025
TGOSG Annual Meeting FY28 Direction	4	2026	4	2026
TGOSG Annual Meeting FY29 Direction	4	2027	4	2027
TGOSG Annual Meeting FY30 Direction	4	2028	4	2028

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) EX7 / Air Vigilance System Development			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
EX7: Air Vigilance System Development	-	4.929	6.776	6.796	-	6.796	6.933	6.942	7.016	7.094	0.000	46.486
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

All funding is in support of the ACTIVE COMPONENT.

A. Mission Description and Budget Item Justification

Operational details are classified. The Air Vigilance system is a software-based capability that collects critical intelligence data on emerging threat aerial systems. The collected data provides early warning of enemy operations in restricted airspace to ensure force protection. An Air Vigilance system is comprised of a server unit configured and connected with either a single or multiple sensors.

FY2024 Base funding in the amount of \$6.796 million provides for the development and integration of Pre-Planned Product Improvements (P3I) to meet and pace an evolving threat. The P3I consist of system development and integration of the latest software and hardware configurations to gain greater processing power, keep pace with emerging enemy changes, and ensure interoperability between System Capability Drops (CD). These funds also provide for continued development and integration of the CD 4 requirements into a proof-of-concept mobile system.

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

	FY 2022	FY 2023	FY 2024
Title: Air Vigilance System Development and Integration	4.929	6.776	6.796
Description: Software and hardware engineering, development and integration efforts.			
FY 2023 Plans: Continues to provide for software development and integration to ingest latest collected sensor data into the common baseline and enhance system capabilities to meet newly identified threats and continues development and integration of the CD 4 requirements into two proof-of-concept mobile systems.			
FY 2024 Plans: Continue development and integration of Pre-Planned Product Improvements (P3I) to meet and pace an evolving threat. The P3I consist of system development and integration of the latest software and hardware configurations to gain greater processing power, keep pace with emerging enemy changes, and ensure interoperability between System Capability Drops (CD). These funds also provide for continued development and integration of the CD 4 requirements into a proof-of-concept mobile variant. The			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army									Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) EX7 / Air Vigilance System Development			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024
original plan was to develop two proof-of-concept mobile variants, but to reduce costs, the program is developing only one mobile variant.											
FY 2023 to FY 2024 Increase/Decrease Statement: FY2024 level of effort is anticipated to remain stable.											
Accomplishments/Planned Programs Subtotals									4.929	6.776	6.796
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• 0603766A: Tactical Electronic Surveillance System - Adv Dev	113.365	72.314	65.567	-	65.567	38.537	29.007	29.019	39.343	Continuing	Continuing
• W60001: AIR VIGILANCE (AV)	13.486	5.688	6.641	-	6.641	9.937	9.974	9.979	9.060	Continuing	Continuing
Remarks											
The Air Vigilance product team leverages \$4.467 million from line 0603766A to fund advanced software development.											
D. Acquisition Strategy											
Air Vigilance (AV) is an Acquisition Category (ACAT) III program of record (POR) that originated from a Quick Reaction Capability (QRC) developed and fielded cooperatively with the Intelligence Community (IC) through the efforts and mission of the Army's Tactical Exploitation of National Capabilities (TENCAP) office. The QRC was transitioned into an Army POR by the AAE in May 2013 and assigned to Army Program Executive Office - Intelligence Electronic Warfare and Sensors (PEO IEWS), the chartered acquisition authority for management and execution of the Army's TENCAP mission and Milestone Decision Authority (MDA) for the AV POR. The Army TENCAP continues to leverage the Mission Partner software development to keep pace with the threat by ingesting the latest sensor collects into the common Intelligence Community (IC) data library. The AV POR has fielded systems IAW the approved Basis of Issue Plan (BOIP) and with software and system capabilities that meet its latest validated Capability Drop (CD) requirements. The AV POR will continue to evolve meeting future validated Capability Drop requirements and maintaining its effectiveness against emerging threats.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) EX7 / Air Vigilance System Development					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
System Engineers and Technical Assistance (SETA)	C/CPAF	TBD - Competitive contract to be awarded in Mar 2023. Option to be exercised in Mar 2024. : Alexandria, VA 22315	2.072	0.900	Jan 2022	1.420	Mar 2023	1.412	Mar 2024	-		1.412	0.000	5.804	Continuing
Subtotal			2.072	0.900		1.420		1.412		-		1.412	0.000	5.804	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Vigilance software and hardware updates and integration	Option/CPAF	CACI : Various	8.178	3.163	Jan 2022	4.362	Mar 2023	4.342	Mar 2024	-		4.342	0.000	20.045	Continuing
Subtotal			8.178	3.163		4.362		4.342		-		4.342	0.000	20.045	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
PM Costs, Travel, Facilities	Allot	Army TENCAP : Alexandria, VA	3.324	0.736	Jan 2022	0.814	Mar 2023	0.821	Mar 2024	-		0.821	0.000	5.695	Continuing
Subtotal			3.324	0.736		0.814		0.821		-		0.821	0.000	5.695	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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 Vigilance System Testing and Exercises	Option/CPAF	CACI : Various	0.564	0.130	Jan 2022	0.180	Mar 2023	0.221	Mar 2024	-		0.221	0.000	1.095	Continuing

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605766A / National Capabilities Integration (MIP)				Project (Number/Name) EX7 / Air Vigilance System Development					
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Subtotal			0.564	0.130		0.180		0.221		-		0.221	0.000	1.095	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			14.138	4.929		6.776		6.796		-		6.796	0.000	32.639	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army

Date: March 2023

Appropriation/Budget Activity
2040 / 5

R-1 Program Element (Number/Name)
PE 0605766A / National Capabilities Integr
ation (MIP)

Project (Number/Name)
EX7 / Air Vigilance System Development

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Air Vigilance System Development Capability Drop (CD3)																												
Full Deployment - Current RDP s/w Baseline (DEC22)																												
E3I GSA FEDSIM Contract #1																												
1 Base Year w/4 Options																												
Air Vigilance Future Software and Hardware Capability																												
CD 4 Authority to Proceed Decision																												
Air Vigilance Capability Drop System Development (CD4)																												
GSA FEDSIM Contract Award #2																												
GSA FEDSIM Contract #2																												
CD 4 Delivery																												
CD 4 Operational Assessment																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605766A / <i>National Capabilities Integration (MIP)</i>	Project (Number/Name) EX7 / <i>Air Vigilance System Development</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Air Vigilance System Development Capability Drop (CD3)	2	2016	4	2028
Air Vigilance CD #3 National Assessment Group Test	3	2018	3	2018
Full Deployment - Current RDP s/w Baseline (DEC22)	1	2024	1	2024
TRFE GSA FEDSIM Bridge Contract	2	2018	3	2019
E3I GSA FEDSIM Contract #1 Contract Award	2	2019	2	2019
E3I GSA FEDSIM Contract #1	2	2019	2	2024
Air Vigilance Future Software and Hardware Capability	2	2022	4	2028
CD 4 Authority to Proceed Decision	1	2023	1	2023
Air Vigilance Capability Drop System Development (CD4)	1	2023	4	2025
GSA FEDSIM Contract Award #2	2	2024	2	2024
GSA FEDSIM Contract #2	2	2024	2	2029
CD 4 Delivery	1	2026	1	2026
CD 4 Operational Assessment	1	2026	1	2027

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army **Date:** March 2023

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)
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COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	2.470	9.376	27.243	-	27.243	26.959	43.187	43.452	42.506	Continuing	Continuing
VU9: Joint Light Tactical Vehicle	-	2.470	9.376	27.243	-	27.243	26.959	43.187	43.452	42.506	Continuing	Continuing

A. Mission Description and Budget Item Justification

The JLTV Family of Vehicles (FoV), to include a companion trailer, is a United States Army (USA) acquisition lead, joint program with the U.S. Marine Corps (USMC). The JLTV is capable of performing multiple mission roles and designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations. JLTV objectives include increased protection and performance over the current fleet; and, minimizing ownership costs by maximizing commonality, fuel efficiency, reliability, and maintaining effective competition throughout the life cycle. Commonality of components, maintenance procedures, training, etc., among vehicles is expected to be inherent in FoV solutions across mission variants to minimize total ownership cost. Unique service requirements have been minimized. The JLTV Trailer (JLTV-T) is the companion trailer to the JLTV and safely carries its payload while maintaining the same mobility characteristics of the prime mover. The trailer requirement as defined in the Capability Production Document (CPD), dated 21 November 2014 was validated on 7 June 2019 by the Army and required the JLTV and JLTV-T to be fielded as a system. On November 2019, Army Futures Command validated the JLTV-T Army Procurement Objective (APO) of 18,224. The Follow-on JLTV Contract was awarded on 09 February 2023 as a single award five year requirements contract with five one year options.

This program element supports modernization of the JLTV FoV by investigating technology insertions including, but not limited to: predictive logistics, vetronics, Victory Architecture, autonomous operations and other emerging technologies. This program element also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

The FY 2024 budget funds the Follow-on-Contract Live Fire Testing and the development and continuation of engineering efforts that include development of acoustic mitigation, occupant safety/survivability, JLTV and JLTV-T mission sets (e.g. - Assault Kitchen) and artic enhancements. Funding also supports the development on JLTV Anti-Idle and the development of Hybrid Electric Vehicles (HEV) and Battery Electric vehicles (BEV) that support the Army Climate Change Strategy (Line of Effort 2.1) to modernize existing platforms by adding electrification technologies, (Line of Effort 2.2) to field purpose-built hybrid-drive tactical vehicles, and mitigates a gap in Large-Scale Combat Operations to employ semi-independent maneuver in a Multi-Domain Operational (MDO) environment. A JLTV HEV/BEV will seek to improve and provide new capabilities such as silent mobility, extended silent watch, reduced fuel consumption, increased automotive performance, increased on-board vehicle power (Direct Current), available export power (Alternating Current), integrated charging, potential Vehicle-To-Grid (V2G) and reduced greenhouse gas emissions.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army				Date: March 2023	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army I BA 5: System Development & Demonstration (SDD)		PE 0605812A I Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)			
B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	2.564	9.376	9.562	-	9.562
Current President's Budget	2.470	9.376	27.243	-	27.243
Total Adjustments	-0.094	0.000	17.681	-	17.681
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.094	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	17.681	-	17.681
Change Summary Explanation					
Increased funding for climate change initiatives related to ground vehicles and fuels.					

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Deve lopment Phase (EMD)				Project (Number/Name) VU9 / Joint Light Tactical Vehicle			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
VU9: Joint Light Tactical Vehicle	-	2.470	9.376	27.243	-	27.243	26.959	43.187	43.452	42.506	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The JLTV Family of Vehicles (FoV), to include a companion trailer, is a United States Army (USA) acquisition lead, joint program with the U.S. Marine Corps (USMC). The JLTV is capable of performing multiple mission roles and designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations. JLTV objectives include increased protection and performance over the current fleet; and, minimizing ownership costs by maximizing commonality, fuel efficiency, reliability, and maintaining effective competition throughout the life cycle. Commonality of components, maintenance procedures, training, etc., among vehicles is expected to be inherent in FoV solutions across mission variants to minimize total ownership cost. Unique service requirements have been minimized. The JLTV Trailer (JLTV-T) is the companion trailer to the JLTV and safely carries its payload while maintaining the same mobility characteristics of the prime mover. The trailer requirement as defined in the Capability Production Document (CPD), dated 21 November 2014 was validated on 7 June 2019 by the Army and required the JLTV and JLTV-T to be fielded as a system. On November 2019, Army Futures Command validated the JLTV-T Army Procurement Objective (APO) of 18,224. The Follow-on JLTV Contract was awarded on 09 February 2023 as a single award five year requirements contract with five one year options.

This program element supports modernization of the JLTV FoV by investigating technology insertions including, but not limited to: predictive logistics, vetronics, Victory Architecture, autonomous operations and other emerging technologies. This program element also supports developing initial prototypes to enable refinement of Operational Requirements and early user feedback to support future sustainment and operational movement operating concepts.

The FY 2024 budget funds the Follow-on-Contract Live Fire Testing and the development and continuation of engineering efforts that include development of acoustic mitigation, occupant safety/survivability, JLTV and JLTV-T mission sets (e.g. - Assault Kitchen) and artic enhancements. Funding also supports the development on JLTV Anti-Idle and the development of Hybrid Electric Vehicles (HEV) and Battery Electric vehicles (BEV) that support the Army Climate Change Strategy (Line of Effort 2.1) to modernize existing platforms by adding electrification technologies, (Line of Effort 2.2) to field purpose-built hybrid-drive tactical vehicles, and mitigates a gap in Large-Scale Combat Operations to employ semi-independent maneuver in a Multi-Domain Operational (MDO) environment. A JLTV HEV/BEV will seek to improve and provide new capabilities such as silent mobility, extended silent watch, reduced fuel consumption, increased automotive performance, increased on-board vehicle power (Direct Current), available export power (Alternating Current), integrated charging, potential Vehicle-To-Grid (V2G) and reduced greenhouse gas emissions.

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

	FY 2022	FY 2023	FY 2024
Title: Evaluation and Assessment of current and future engineering efforts	1.927	1.082	0.314
Description: Funding is provided for the support of JLTV evaluation and assessment of current and future engineering efforts.			
FY 2023 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / <i>Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)</i>	Project (Number/Name) VU9 / <i>Joint Light Tactical Vehicle</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Development and continuation of engineering efforts including: development of occupant safety and survivability technologies; integration of emerging requirements related to lethality, utility, C5ISR (capability sets) and operational needs. FY 2024 Plans: Development and continuation of engineering efforts that include development of acoustic mitigation, occupant safety/survivability, JLTV and JLTV-T mission sets (e.g. - Assault Kitchen) and artic enhancements. FY 2023 to FY 2024 Increase/Decrease Statement: Decrease in funding from FY23 to FY24 due to completion of engineering efforts including integration of emerging requirements related to lethality, utility, C5ISR (capability sets) and operational needs.			FY 2024
Title: Evaluation and assessment of current and future Climate Change initiatives Description: Funding is provided for the support of JLTV evaluation and assessment of current and future Climate Change initiatives FY 2023 Plans: Development and continuation of engineering efforts including: Continuation of JLTV Electrification analysis and demonstrations in support of vehicle electrification to determine the propulsion system sizing that would be required to deliver similar/optimal mobility to the current conventional propulsion system; development and integration of Climate Change initiatives and reduced liquid logistics such as anti-idle technology on the JLTV A1/A0. FY 2024 Plans: FY2024 JLTV Climate Change budget activities will finalize the design/test of JLTV A1 Anti-Idle kits and initiate the JLTV HEV/BEV design, development and testing for prototype solutions. FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding from FY23 to FY24 due to initial development of hybrid electric propulsion for the JLTV A2.		0.543	7.500
Title: Test Assets - Follow-on Contract (FOC) Description: Procurement of test assets - Follow-on Contract (FOC) FY 2023 Plans: Procurement of 1 JLTV General Purpose truck, 1 cab test asset, and kits in support of Follow-on Contract Live Fire testing. FY 2023 to FY 2024 Increase/Decrease Statement:		-	0.452
			-

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)	Project (Number/Name) VU9 / Joint Light Tactical Vehicle	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Decrease due to requirement being satisfied in FY23.			
Title: Live Fire Testing - Follow-on Contract (FOC) Description: Live Fire Testing - Follow-on Contract (FOC) FY 2024 Plans: Live Fire Testing - Follow-on Contract (FOC) FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to Live-Fire testing requirement beginning in FY24.		-	0.713
Title: Follow-on Contract (FOC) contractor support for Test Assets Description: Follow-on Contract (FOC) contractor support for Test Assets. FY 2024 Plans: Contractor FOC support. FY 2023 to FY 2024 Increase/Decrease Statement: Increase due to FOC Contractor support for the Live-Fire testing beginning in FY24.		-	0.916
Title: SBIR/STTR Transfer Description: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638. FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.		-	0.342
Title: JLTV - Hybrid Electric Vehicle (HEV) Support FY 2024 Plans: Support for the development of the Hybrid Electric Vehicle (HEV) program to include program management and monitoring of vendor performance. FY 2023 to FY 2024 Increase/Decrease Statement:		-	0.989

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Deve lopment Phase (EMD)				Project (Number/Name) VU9 / Joint Light Tactical Vehicle				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
Increase due to requirement beginning in FY24.												
Accomplishments/Planned Programs Subtotals										2.470	9.376	27.243
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost	
• D15610: JOINT LIGHT TACTICAL VEHICLE FAMILY OF VEHICLES	574.562	664.071	839.413	-	839.413	817.663	784.748	784.233	788.576	Continuing	Continuing	
• D15615: JOINT LIGHT TACTICAL VEHICLE (JLTV)	496.122	592.225	786.946	-	786.946	769.416	743.156	742.672	746.980	Continuing	Continuing	
• D15618: JOINT LIGHT TACTICAL VEHICLE TRAILER (JLTV-T)	78.440	71.846	52.467	-	52.467	48.247	41.592	41.561	41.596	Continuing	Continuing	
• D00929: JOINT LIGHT TACTICAL VEHICLE (JTLV) MOD-IN-SERVICE	7.190	8.084	8.055	-	8.055	28.213	48.597	68.442	68.500	Continuing	Continuing	
• MC - 5095: JOINT LIGHT TACTICAL VEHICLE (JLTV) - USMC	332.282	214.751	232.500	-	232.500	281.222	301.844	635.989	587.135	Continuing	Continuing	
• MC - 0605813M: JOINT LIGHT TACTICAL VEHICLE (JLTV) - USMC	1.921	2.856	2.609	-	2.609	2.485	2.289	2.322	2.368	Continuing	Continuing	
Remarks												
JLTV is a Joint Program with the United States Marine Corps (USMC)												
D. Acquisition Strategy												
The JLTV Family of Vehicles (FoV), to include a companion trailer, is a United States Army (USA) acquisition lead, joint program with the U.S. Marine Corps (USMC).												
The JLTV Program entered the Production and Deployment Phase with the Acquisition Decision Memorandum authorization on 25 August 2015. With Milestone C approval, the Low Rate Initial Production (LRIP) fixed price contract was awarded to Oshkosh Defense LLC on 25 August 2015. This contract consisted of a three year LRIP period with options for five additional years of Full Rate Production (FRP) deliveries. JPO JLTV procured the Technical Data Package (TDP) with appropriate data rights to allow for possible future competition for production vehicles and spares. Current contract options may be exercised through 30 November 2023. The Follow-on JLTV Contract was awarded on 09 February 2023 as a single award five year requirements contract with five one year options.												

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / <i>Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)</i>	Project (Number/Name) VU9 / <i>Joint Light Tactical Vehicle</i>
<p>A split procurement will occur between the existing Oshkosh Contract and AM General based on the approved acquisition strategy through FY24.</p> <p>Program achieved a successful FRP decision in May 2019. The FRP Acquisition Decision Memorandum was signed in June 2019.</p> <p>The trailer requirement as defined in the Capability Production Document (CPD), dated 21 November 2014 was validated on 7 June 2019 by the Army and required the JLTV-T to be fielded to units receiving JLTV trucks with a documented trailer requirement. In November 2019, Army Futures Command validated the JLTV-T Army Procurement Objective (APO) of 18,224. In June 2020, the 1st JLTV Trailer Production Contract was awarded to Oshkosh for 1,410 Army JLTV-Ts.</p> <p>The JLTV program will continually monitor emerging technologies and capabilities through its partnerships with U.S. Army and Marine Corps science and technology organizations as well as through industry market research and partnerships. The JLTV program will look for opportunities to implement increased capabilities throughout the systems Life Cycle. Engineering initiatives will directly support the Army Climate Change Strategy and the operational needs of the Soldier. The anticipated outcome of these initiatives are fully validated Engineering Change Proposals (ECPs) that can be applied to the current and future JLTV fleet.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army													Date: March 2023		
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Deve lopment Phase (EMD)					Project (Number/Name) VU9 / Joint Light Tactical Vehicle				
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.342		-		-		-	0.000	0.342	-
Subtotal			-	-		0.342		-		-		-	0.000	0.342	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Evaluation and Assessment of current and future engineering efforts	C/Various	Various : Various	15.645	1.927	Oct 2022	1.082	Feb 2023	0.314	Jan 2024	-		0.314	Continuing	Continuing	Continuing
Test Assets - Follow-on Contract (FOC)	C/TBD	TBD : TBD	-	-		0.452	Feb 2023	-		-		-	0.000	0.452	-
Follow-on Contract (FOC) support for Test Assets	C/TBD	TBD : TBD	-	-		-		0.916	Nov 2023	-		0.916	0.000	0.916	-
Climate Change initiatives	C/Various	Various : Various	0.450	0.543	May 2022	7.500	Dec 2022	24.311	Oct 2023	-		24.311	Continuing	Continuing	-
Subtotal			16.095	2.470		9.034		25.541		-		25.541	Continuing	Continuing	N/A
Remarks															
The FY 2024 budget funds Follow-on Contract live fire and survivability testing and supports acceleration of Climate Change initiatives.															
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
JLTV - HEV	MIPR	Ground Vehicle Systems Center (GVSC) : Warren, MI	-	-		-		0.989		-		0.989	Continuing	Continuing	-
Subtotal			-	-		-		0.989		-		0.989	Continuing	Continuing	N/A
Remarks															
Funding for Support Costs has shifted from RDT&E to Procurement and Operation and Maintenance Army (OMA).															

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)						Project (Number/Name) VU9 / Joint Light Tactical Vehicle			
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Live Fire Testing - Follow-on Contract (FOC)	C/TBD	Various : Various	-	-		-		0.713	Jun 2024	-		0.713	0.000	0.713	-
Subtotal			-	-		-		0.713		-		0.713	0.000	0.713	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			16.095	2.470		9.376		27.243		-		27.243	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)	Project (Number/Name) VU9 / Joint Light Tactical Vehicle	

Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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
Evaluation and Assessment																												
JLTV Utility Multipurpose Protected Shelter (JUMPS)																												
Climate Change - Anti-Idle																												
JLTV Electrification Analysis																												
JLTV Hybrid Electric Vehicle																												
Survivability																												
Acoustic Mitigation																												
3PMSF Winter Tires																												
Competitive Follow-On Contract Award																												
Follow-on Contract Live Fire and Survivability Testing																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605812A / Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Phase (EMD)	Project (Number/Name) VU9 / Joint Light Tactical Vehicle	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Evaluation and Assessment	3	2018	4	2037
JLTV Utility Multipurpose Protected Shelter (JUMPS)	4	2021	4	2023
Climate Change - Anti-Idle	3	2022	4	2024
JLTV Electrification Analysis	2	2021	4	2024
JLTV Hybrid Electric Vehicle	2	2024	4	2028
Survivability	2	2023	1	2024
Acoustic Mitigation	2	2023	2	2025
3PMSF Winter Tires	2	2024	2	2025
Competitive Follow-On Contract Award	2	2023	2	2023
Follow-on Contract Live Fire and Survivability Testing	4	2024	1	2025

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	1.158	2.959	1.167	-	1.167	1.002	1.003	1.014	1.025	Continuing	Continuing
EE5: Aviation Ground Support Equipment	-	1.158	2.959	1.167	-	1.167	1.002	1.003	1.014	1.025	Continuing	Continuing

A. Mission Description and Budget Item Justification

Aviation Ground Support Equipment (AGSE) Product Office conducts testing and evaluation on critical ground support equipment to enhance the functionality and maintenance of enduring and Future Vertical Lift (FVL) aircraft. This is accomplished by providing aircraft diagnostic, repair and servicing capabilities required to support Army Aviation readiness. Priority efforts include Aviation Ground Power Unit (AGPU 1.1) and Aircraft Cleaning and Deicing System (ACDS).

B. Program Change Summary (\$ in Millions)

	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024 Base</u>	<u>FY 2024 OCO</u>	<u>FY 2024 Total</u>
Previous President's Budget	1.201	2.959	1.192	-	1.192
Current President's Budget	1.158	2.959	1.167	-	1.167
Total Adjustments	-0.043	0.000	-0.025	-	-0.025
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.043	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.025	-	-0.025

Change Summary Explanation

Decreased funding to support higher Army priorities.

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment				Project (Number/Name) EE5 / Aviation Ground Support Equipment			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
EE5: Aviation Ground Support Equipment	-	1.158	2.959	1.167	-	1.167	1.002	1.003	1.014	1.025	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
Aviation Ground Support Equipment (AGSE) Product Office conducts testing and evaluation on critical ground support equipment to enhance the functionality and maintenance of enduring and Future Vertical Lift (FVL) aircraft. This is accomplished by providing aircraft diagnostic, repair and servicing capabilities required to support Army Aviation readiness. Priority efforts include Aviation Ground Power Unit (AGPU 1.1) and Aircraft Cleaning and Deicing System (ACDS).												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2022	FY 2023	FY 2024	
Title: Aviation Ground Power Unit Next Generation (AGPU 1.1)									1.158	2.851	1.167	
Description: The AGPU 1.1 provides external hydraulic, pneumatic, and AC/DC electrical power to meet enduring and future Army aircraft servicing requirements.												
FY 2023 Plans: Continue development and testing of AGPU 1.1.												
FY 2024 Plans: Integrate AGPU1.1 Pre-Planned Product Improvements (P3I) in support of Future Vertical Lift, (FVL).												
FY 2023 to FY 2024 Increase/Decrease Statement: Funding decrease in FY24 due to testing subsiding for AGPU1.1.												
Title: SBIR/STTR Transfer									-	0.108	-	
Description: Funding transferred in accordance with Title 15 USC §638.												
FY 2023 Plans: Funding transferred in accordance with Title 15 USC §638.												
FY 2023 to FY 2024 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC §638.												
Accomplishments/Planned Programs Subtotals									1.158	2.959	1.167	

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023	
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment				Project (Number/Name) EE5 / Aviation Ground Support Equipment			
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• AZ3520: AVIATION GROUND SUPPORT EQUIPMENT	13.561	20.823	25.752	-	25.752	12.920	16.055	16.055	15.970	0.000	121.136
Remarks											
D. Acquisition Strategy											
This project is an aggregate of Aviation Ground Support Equipment (AGSE) products. While the detailed acquisition strategy varies from product to product, the general strategy is to test and evaluate commercial items and modify for military use.											
AGPU 1.1 production contract will be awarded in FY24.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023					
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment						Project (Number/Name) EE5 / Aviation Ground Support Equipment					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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		
SBIR/STTR Transfer	TBD	TBD : TBD	0.043	-		0.108	Sep 2023	-		-		-	0.000	0.151	-		
Subtotal			0.043	-		0.108		-		-		-	0.000	0.151	N/A		
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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		
AGPU 1.1	MIPR	RTC : Redstone Arsenal, AL	1.413	1.158	Jun 2022	2.851	Apr 2023	-		-		-	0.000	5.422	-		
AGPU 1.1 Preplanned Product Improvements	Various	DEVCOM AvMC : Redstone Arsenal, AL	-	-		-		1.167	Apr 2024	-		1.167	Continuing	Continuing	Continuing		
Subtotal			1.413	1.158		2.851		1.167		-		1.167	Continuing	Continuing	N/A		
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract		
Project Cost Totals			1.456	1.158		2.959		1.167		-		1.167	Continuing	Continuing	N/A		
Remarks																	

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023																					
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment								Project (Number/Name) EE5 / Aviation Ground Support Equipment																			
Event Name										FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
										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
Aviation Ground Power Unit 1.1 (AGPU 1.1)										AGPU1.1 Testing																											
Aviation Ground Power Unit (AGPU 1.1) P3I																																					
Aircraft Cleaning and Deicing System (ACDS)														AGPU1.1 Preplanned Product Improvements												ACDS											

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605830A / Aviation Ground Support Equipment	Project (Number/Name) EE5 / Aviation Ground Support Equipment	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Aviation Ground Power Unit 1.1 (AGPU 1.1)	1	2021	4	2023
Aviation Ground Power Unit (AGPU 1.1) P3I	1	2024	4	2026
Aircraft Cleaning and Deicing System (ACDS)	1	2027	4	2028

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army Date: March 2023

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	3.362	3.761	3.879	-	3.879	3.922	3.965	4.008	4.051	Continuing	Continuing
RH5: TROJAN - RH12	-	3.362	3.761	3.879	-	3.879	3.922	3.965	4.008	4.051	Continuing	Continuing

A. Mission Description and Budget Item Justification

TROJAN research and development supports TROJAN Next Generation (TROJAN NexGEN), formerly TROJAN Classic XXI (TCXXI), future capabilities to fulfill the Army's need for worldwide, deployable, remorable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TROJAN NexGEN will provide soldiers with a real-world, hands-on, live and near-real time Signals Intelligence (SIGINT) training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process, and use information about an adversary while preventing similar information from being disclosed. TROJAN NexGEN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN NexGEN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. Engineers test and evaluate new digital intelligence collection, processing and dissemination technology using the fielded TROJAN NexGEN systems prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN NexGEN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threat.

B. Program Change Summary (\$ in Millions)	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget	3.362	3.761	3.862	-	3.862
Current President's Budget	3.362	3.761	3.879	-	3.879
Total Adjustments	0.000	0.000	0.017	-	0.017
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	0.017	-	0.017

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12	
<div>Change Summary Explanation</div> <div>Increased funding due to revised economic assumptions.</div>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12				Project (Number/Name) RH5 / TROJAN - RH12			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
RH5: TROJAN - RH12	-	3.362	3.761	3.879	-	3.879	3.922	3.965	4.008	4.051	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

TROJAN research and development supports TROJAN Next Generation (TROJAN NexGEN), formerly TROJAN Classic XXI (TCXXI), future capabilities to fulfill the Army's need for worldwide, deployable, remutable, intelligence, surveillance and reconnaissance support that can dynamically execute operations from sanctuary-based to deployed assets in theater. In support of Army Modernization and Army Force Generation, TROJAN NexGEN will provide soldiers with a real-world, hands-on, live and near-real time SIGINT training environment sustaining, maintaining and enhancing their military occupational specialty proficiencies and specific target expertise. This operational readiness training will fulfill the Army's larger intelligence training requirement via a secure, collaborative architecture.

A key factor for future force success is the ability to collect, process, and use information about an adversary while preventing similar information from being disclosed. TROJAN NexGEN is a combined operational and readiness mission system which uses advanced networking technology to provide seamless rapid radio relay, secure communications to include voice, data, and electronic reconnaissance support to U.S. forces throughout the world. TROJAN NexGEN operations may be easily tailored to fit military intelligence unit training schedules and surged during specific events to involve every aspect of the tactical intelligence collection, processing, analysis and reporting systems. Engineers test and evaluate new digital intelligence collection, processing and dissemination technology using the fielded TROJAN NexGEN systems prior to the acquisition of those technologies. As part of the objective intelligence architecture, these capabilities will enable processing and dissemination of real-time intelligence data from various sources to form the intelligence needed to issue orders inside the threat decision cycle. To that end, it is imperative that TROJAN NexGEN keeps pace with digitization initiatives in order to respond aggressively to the emerging intelligence communication threat.

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

	FY 2022	FY 2023	FY 2024
Title: Integrate Direction Finding and geo-location	1.188	1.200	1.253
Description: Integrate Direction Finding (DF) and geolocation (GL) technologies into TROJAN Remote Receiving Groups.			
FY 2023 Plans: Continuously adapt/improve the latest Direction Finding (DF) and geolocation technologies for integration into TROJAN NexGEN systems in accordance with Joint Interface Control Document (JICD) 4.2., and JICD 4.2 ELINT (JEL). Utilize field based risk reduction exercises to test and evaluate integrated technologies of the overall TROJAN Intelligence, Surveillance, and Reconnaissance (ISR) Enterprise. Continue to research and test for the integration of Electronics Intelligence (ELINT) capabilities. Resource labor for one MAT DEV technologist, two MAT DEV software engineers and two MAT DEV HW engineers accounted for in the Integrate Direction Finding (DF) and geolocation (GL) project.			
FY 2024 Plans: Will continuously adapt/improve the latest Direction Finding (DF) and geolocation technologies for integration into TROJAN NexGEN systems in accordance with Joint Interface Control Document (JICD) 4.2., and JICD 4.2 ELINT (JEL). Will utilize field			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12	Project (Number/Name) RH5 / TROJAN - RH12	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
based risk reduction exercises to test and evaluate integrated technologies of the overall TROJAN Intelligence, Surveillance, and Reconnaissance (ISR) Enterprise. Will continue to research and test for the integration of Electronics Intelligence (ELINT) capabilities. Will resource labor for one MAT DEV technologist, two MAT DEV software engineers and two MAT DEV HW engineers accounted for in the Integrate Direction Finding (DF) and geolocation (GL) project.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding changes reflect planned lifecycle of this effort.			
Title: Enable assured communications for the TROJAN Network architecture (formerly Improve security of the TROJAN Network architecture).		0.500	0.300
Description: Acquire and apply multi-bandwidth compression algorithm technology to maximize TROJAN intelligence network throughput.			
FY 2023 Plans: Ongoing effort of transitioning Government off the shelf (GOTS) / Commercial of the shelf (COTS) solutions enabling communication in an anti-access/area denial environment to TROJAN production systems. Continue to research, evaluate, integrate and test with technologies to enable redundant communications paths and anti-jam technologies based current threats. This effort nears completion in FY23 with ongoing work in the outyears.			
FY 2024 Plans: Will continue ongoing effort of transitioning Government off the shelf (GOTS) / Commercial of the shelf (COTS) solutions enabling communication in an anti-access/area denial environment to TROJAN production systems. Will continue to research, evaluate, integrate and test with technologies to enable redundant communications paths and anti-jam technologies based current threats.			
Title: Integrate and test specialized hardware/software		0.704	1.161
Description: Integrate and test specialized hardware/software for classified pre-processing of new signals of interest utilizing enhanced signal processing algorithms. Resource development of GLAIVE software (SW). Integrated several new National Security Agency (NSA) SW packages.			1.196
FY 2023 Plans: Continue integration and testing of specialized hardware/software for classified pre-processing and detection of new signals of interest. Continue to resource development, integration and test of GOTS/COTS software. Continue efforts to develop TROJAN Intelligence Surveillance Reconnaissance enterprise. Continue efforts to integrate JICD 4.2 across all platforms. Migration of NexGEN Family of system capabilities from rack based servers and receivers to a C5ISR/EW Modular Open-Source Suite of Standards (CMOSS) configuration to reduce system SWaP.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army								Date: March 2023			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12				Project (Number/Name) RH5 / TROJAN - RH12			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2022	FY 2023	FY 2024	
Will continue integration and testing of specialized hardware/software for classified pre-processing and detection of new signals of interest. Will continue to resource development, integration and testing of GOTS/COTS software. Will continue efforts to develop TROJAN Intelligence Surveillance Reconnaissance enterprise. Will continue efforts to integrate JICD 4.2 across all platforms. Migration of NexGEN Family of system capabilities from rack based servers and receivers to a C5ISR/EW Modular Open-Source Suite of Standards (CMOSS) configuration to reduce system Size Weight and Power (SWaP).											
FY 2023 to FY 2024 Increase/Decrease Statement: Funding changes reflect planned lifecycle of this effort.											
Title: Research and testing of receivers								0.970	1.100	1.130	
Description: Research and testing of receiver packages for fixed and transportable TROJAN systems to acquire non-standard modulations using Digital System Processing (DSP) and Software Defined Radio (SDR) technologies.											
FY 2023 Plans: Continue research and testing of receiver packages for fixed and transportable TROJAN systems to detect and process non-standard modulations using DSP and SDRs. Integrate receiver packages to enable additional and wideband frequency ranges for COTS/GOTS Software Defined Radios. Continue to utilize COTS/GOTS hardware and software frameworks to enable multiple SDRs to cooperate on a common backplane; which also includes DSP processing framework (Photon), receiver hardware resource manager, and single user interface application.											
FY 2024 Plans: Will continue research and testing of receiver packages for fixed and transportable TROJAN systems to detect and process non-standard modulations using DSP and SDRs. Will integrate receiver packages to enable additional and wideband frequency ranges for COTS/GOTS Software Defined Radios. Will continue to utilize COTS/GOTS hardware and software frameworks to enable multiple SDRs to cooperate on a common backplane; which also includes DSP processing framework (Photon), receiver hardware resource manager, and single user interface application.											
FY 2023 to FY 2024 Increase/Decrease Statement: Increase reflects planned lifecycle effort.											
Accomplishments/Planned Programs Subtotals								3.362	3.761	3.879	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• BA0326: TROJAN	30.828	20.562	30.649	-	30.649	29.783	33.293	40.034	17.164	0.000	202.313
Remarks											

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12	Project (Number/Name) RH5 / TROJAN - RH12
<p>D. Acquisition Strategy</p> <p>The Acquisition Strategy for the TROJAN NexGEN Systems supported by TROJAN RDT&E is to adapt and leverage from Commercial Off the Shelf (COTS) and Government Off the Shelf (GOTS) products. Additionally, the Acquisition Strategy leverages off of development by DoD and other Government agencies to the greatest extent possible. TROJAN RDT&E is used to fund the development of enhancing these technologies to meet specific user requirements.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12				Project (Number/Name) RH5 / TROJAN - RH12					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Integrate Direction Finding and geo-location	Various	APG : MD	8.174	1.188	Oct 2021	1.200	Oct 2022	1.253	Oct 2023	-		1.253	Continuing	Continuing	-
Enable assured communications for the TROJAN Network Architecture	Various	APG : MD	7.942	0.500	Oct 2021	0.300	Oct 2022	0.300	Oct 2023	-		0.300	Continuing	Continuing	-
Research and testing of Receivers	Various	APG : MD	3.780	0.970	Oct 2021	1.100	Oct 2022	1.130	Oct 2023	-		1.130	Continuing	Continuing	-
Subtotal			19.896	2.658		2.600		2.683		-		2.683	Continuing	Continuing	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Integration and Testing of Hardware/Software	Various	APG : MD	8.641	0.704	Oct 2021	1.161	Oct 2022	1.196	Oct 2023	-		1.196	0.000	11.702	Continuing
Subtotal			8.641	0.704		1.161		1.196		-		1.196	0.000	11.702	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			28.537	3.362		3.761		3.879		-		3.879	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023																
Appropriation/Budget Activity 2040 / 5								R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12								Project (Number/Name) RH5 / TROJAN - RH12																
Event Name	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028							
	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				
Follow on Hardware, Software and Systems Development																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0303032A / TROJAN - RH12	Project (Number/Name) RH5 / TROJAN - RH12	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Hardware, Software and Systems Development	1	2014	4	2018
Follow on Hardware, Software and Systems Development	1	2019	4	2023

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0304270A / Electronic Warfare Development							
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
Total Program Element	-	75.520	99.938	137.186	-	137.186	48.689	11.665	11.789	11.863	0.000	396.650
CK3: TLS Echelon Above Brigade (EAB)	-	19.505	29.657	66.469	-	66.469	42.837	5.737	5.798	5.805	0.000	175.808
EW6: ARAT-TSS	-	5.391	10.813	5.722	-	5.722	5.852	5.928	5.991	6.058	0.000	45.755
FJ5: Terrestrial Layer System	-	50.624	59.468	64.995	-	64.995	-	-	-	-	0.000	175.087

A. Mission Description and Budget Item Justification

This Program Element encompasses engineering and manufacturing development for tactical Electronic Warfare (EW) terrestrial (ground) employment applications. The systems under this program provide the Army with the capability to detect, identify, locate, collect/process, report, and engage (disrupt, degrade or deny) hostile forces to prevent their effective use of communications & non-communications networks, counter-mortar/counter-battery radars, surveillance radars, electronically fused munitions and other enemy threats using the Electro-Magnetic Spectrum (EMS). A portion of this funding line is a key enabler of the Army Modernization Priorities in support of Terrestrial Layer System. The remaining portion enables the reprogramming of mission software in response to changes in threat signatures for the Army Reprogramming Analysis Team (ARAT).

Project CK3 supports the development of Terrestrial Layer System Echelons Above Brigade (TLS EAB). TLS EAB will provide Signals Intelligence (SIGINT), Electronic Warfare (EW), and Cyber-enabling integrated solution to support Multi Domain Battle capability gaps and provide Force Protection, Situational Development, and Information Superiority to Army Divisions, Corps and Multi-Domain Task Forces. TLS EAB- Priority #2 Enablers - Supported/endorsed by Network Cross Functional Team (CFT), Assured Position Navigation and Timing (APNT)/Space CFT, Long Range Precision Fire (LRPF) CFT. The remainder of the TLS Echelon Above Brigade (EAB) is fully funded across the Future Years Defense Program. Enables integration, interoperability and force modernization with emerging capabilities in support of Multi-Domain Task Forces and Operational Needs Statements.

Project EW6 provides for the Army Reprogramming Analysis Team (ARAT), a Department of the Army established project to develop techniques, methods, tools and architecture to reprogram mission software embedded in Army EW systems, Force Protection Systems (FPS), and Target Sensing Systems (TSS) in response to changes in threat signatures. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within intelligence systems, 2) tools to minimize the time to develop EW Mission Software and Products (MSP) for both air and ground EW systems, 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to transmit mission software changes to field users, and 5) enhanced mission-software uploading tools. These efforts allow for rapid threat analysis, simulation, mission software development, distribution and uploading of mission software changes directly to the supported Soldier in the field. The ARAT project will develop, test and equip an Army-wide infrastructure capable of rapidly reprogramming electronic combat software embedded in offensive and defensive weapon systems.

Project FJ5 supports the development of the Middle Tier Acquisition, Terrestrial Layer System Brigade Combat Team (TLS BCT), an effort that initiated in FY 2020 (funded with PE 0604021A / AW7). TLS BCT will provide Signals Intelligence (SIGINT), Electronic Warfare (EW), and Cyber-enabling integrated solution to support

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army			Date: March 2023			
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		R-1 Program Element (Number/Name) PE 0304270A / Electronic Warfare Development				
Multi Domain Battle capability gaps and provide Force Protection, Situational Development, and Information Superiority in support of Multi-Domain Task Forces and Operational Needs Statements. TLS BCT will equip mounted formations with vehicles organic to their formations (SBCT- Stryker MEV DVAH1, ABCT- AMPV) and a manpack solution for IBCTs. TLS BCT - MDO Relevancy: Priority #2 Enablers - Supported/endorsed by Network Cross Functional Team (CFT), Assured Position Navigation and Timing (APNT)/Space CFT, Long Range Precision Fire (LRPF) CFT.						
FY 2024 funds the Terrestrial Layer System Echelons Above Brigade (TLS EAB) efforts (Project CK3), Army Reprogramming Analysis Team (ARAT) efforts (Project EW6) and Terrestrial Layer System Brigade Combat Team (TLS BCT) efforts (Project FJ5).						
The total cost of the TLS Echelon Above Brigade (EAB) Middle Tier of Acquisition effort is \$164 million Research, Development, Test & Evaluation (RDT&E) from FY22 to FY26.						
The total cost of the TLS BCT Middle Tier of Acquisition Rapid Prototyping effort is \$312 million RDT&E from FY20 to FY25, including RDT&E (\$269M) and procurement (\$43M) of prototype units. The TLS BCT is fully funded across the Future Years Defense Program.						
B. Program Change Summary (\$ in Millions)		FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total
Previous President's Budget		75.520	56.938	36.427	-	36.427
Current President's Budget		75.520	99.938	137.186	-	137.186
Total Adjustments		0.000	43.000	100.759	-	100.759
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	43.000			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	100.759	-	100.759
Congressional Add Details (\$ in Millions, and Includes General Reductions)					FY 2022	FY 2023
Project: EW6: ARAT-TSS						
Congressional Add: Program Increase: Service Tactical Signal Intelligence (SIGINT) upgrades					-	5.000
Congressional Add Subtotals for Project: EW6					-	5.000
Congressional Add Totals for all Projects					-	5.000

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Exhibit R-2, RDT&E Budget Item Justification: PB 2024 Army		Date: March 2023
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)	R-1 Program Element (Number/Name) PE 0304270A / Electronic Warfare Development	
<p>Change Summary Explanation</p> <p>FY 2024 RDTE dollars in the amount of \$66.469 million to Project CK3 TLS EAB. This is an increase of \$48.304 million from PB23 which supports the development of two (2) prototypes.</p> <p>FY 2024 RDTE dollars in the amount of \$64.995 million to Project FJ5 TLS BCT. This increase is due to the revision of the Middle Tier of Acquisition Rapid Prototyping strategy requirement which was realigned from Procurement to Research Development Testing and Evaluation (RDTE) as well as a congressional plus up totaling \$52.576 million. This supports the completion of Stryker BCT for the first unit of issuance and the initiation of Prototyping activities for the ABCT variant.</p> <p>FY 2024 RDTE dollars in the amount of \$5.722 million to Project EW6 ARAT TSS. This is a decrease of \$.121 million.</p>		

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) CK3 / <i>TLS Echelon Above Brigade (EAB)</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
CK3: <i>TLS Echelon Above Brigade (EAB)</i>	-	19.505	29.657	66.469	-	66.469	42.837	5.737	5.798	5.805	0.000	175.808
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of Terrestrial Layer System Echelons Above Brigade (TLS EAB). The TLS EAB will provide Army Divisions, Corps and Multi-Domain Task Forces (MDTF) extended range, integrated full spectrum Signals Intelligence (SIGINT), Electronic Warfare (EW), and Cyber-enabling non-kinetic offensive capabilities to support large scale combat operations. TLS EAB's information Superiority provides Indications and Warnings, Force Protection and Situational Awareness to influence the commander's decision cycle, improve targeting timeliness and accuracy, and provides electronic attack and offensive cyber warfare options to deny, degrade, disrupt, or otherwise manipulate the targeted force. TLS EAB employs technologically advanced systems with a modular open-system approach for multiple configurations that can be efficiently sustained and effectively upgraded to provide capabilities against changing near peer and emerging threats to address joint all domain capability gaps. TLS EAB- Priority #2 Enablers - Supported/endorsed by Network Cross Functional Team (CFT), Assured Position, Navigation and Timing (PNT)/Space CFT, Long Range Precision Fire CFT. Enables integration, interoperability and force modernization with emerging capabilities in support of Multi-Domain Task Forces and Operational Needs Statements.

The total cost of the TLS Echelon Above Brigade (EAB) Middle Tier of Acquisition effort is \$164 million RDT&E from FY22 to FY26.

Justification:

FY24 RDT&E funds in the amount of \$66.469 million will fund TLS EAB Integration, Demonstration/Experimentation/Prototyping, Technical/Program Management, Second Variant Non-Recurring Engineering (NRE), and Integration/Vendor Testing.

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

	FY 2022	FY 2023	FY 2024
Title: TLS EAB Prototyping	14.500	21.336	33.052
Description: TLS Echelons Above Brigade (EAB) is fulfilling distinct capabilities to support Division, Corps and Multi-Domain Task Force commanders. TLS EAB will be integrated onto different prime mover platforms than TLS Brigade Combat Team (BCT) and will employ different technologies and hardware to fulfill the unique extended range capabilities to support large scale combat operations.			
FY 2023 Plans: In FY 2023, TLS EAB Launching Phase 2 Prototype build demonstration. Continue System Level Prototypes development, and platform integration. (Completing OTA Phase 1 development)			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) CK3 / <i>TLS Echelon Above Brigade (EAB)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
In FY24, TLS EAB will continue System Level Prototypes development, platform integration, supporting technical system testing and critical soldier touchpoints. (Full-scale Phase 2 of the OTA)			
FY 2023 to FY 2024 Increase/Decrease Statement: FY24 funding increase due to full-scale prototype development in Phase 2. Increase supporting system technology and critical soldier touchpoints.			
Title: TLS EAB PMO		4.105	-
Description: Funds will provide for program management.			-
Title: Demonstration, Experimentation, and Prototyping		-	-
Description: Funds will provide for demonstration, experimentation, and prototyping for TLS EAB.			0.500
FY 2024 Plans: In FY24, planning includes participation in key events to continue to inform requirement (CDD)/Tactic, Techniques and Procedures (TTP).			
FY 2023 to FY 2024 Increase/Decrease Statement: In FY24, planning includes participation in key events and enables parallel development and simultaneous demonstration, experimentation, and prototyping.			
Title: Technical/Program Management		0.900	1.988
Description: TLS EAB Technical/Program Management.			6.618
FY 2023 Plans: Funding for TLS EAB Supporting the completion of Phase 1 OTA. Technical/Program Management, Planning of Prototype development of Phase 2			
FY 2024 Plans: FY 2024 technical engineering and program management support for TLS EAB Full scale Phase 2 Prototype development.			
FY 2023 to FY 2024 Increase/Decrease Statement: In FY24, increased technical engineering and program management support the increasing demand of prototyping development. These critical test events will occur during full Scale Phase 2 development.			
Title: Second Variant Non-Recurring Engineering (NRE)		-	4.000
			21.289

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) CK3 / <i>TLS Echelon Above Brigade (EAB)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
Description: Second Variant Non-Recurring Engineering (NRE) for TLS EAB. FY 2023 Plans: Initiation of variant of non-recurring engineering. FY 2024 Plans: In FY24, TLS EAB will have additional variant for non-recurring engineering. FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding for FY24 due to additional variant for non-recurring engineering.			
Title: Prototype Test Activities Description: Prototyping Test Activities for TLS EAB. FY 2023 Plans: In FY23, TLS EAB supports planning for prototype articles test events. FY 2024 Plans: In FY24, TLS EAB will support the completion and additional prototype articles and increase vendor test events to refine system requirements and retrieve desired characteristics. FY 2023 to FY 2024 Increase/Decrease Statement: In FY24, TLS EAB will have test events for additional prototypes		-	2.333
Accomplishments/Planned Programs Subtotals		19.505	29.657
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
A competitive acquisition approach was utilized for TLS EAB development. The TLS EAB will use a Middle Tier Acquisition (MTA) approach to rapidly deliver an integrated ground intelligence, electronic warfare and cyber capability on multiple platform types to align with maneuver forces. The TLS EAB will leverage authorities to accelerate delivery through rapid prototyping with rapid fielding authorities or a Milestone C Decision Point.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) CK3 / <i>TLS Echelon Above Brigade (EAB)</i>					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TLS EAB PMO	C/CPFF	MAG Aerospace : Aberdeen, MD	-	4.105	Jul 2022	-		-		-		-	0.000	4.105	-
Technical/Program Management	C/CPFF	MITRE & LUFCA : Aberdeen, MD	-	0.900	May 2022	1.988	Jun 2023	6.618	Jul 2024	-		6.618	0.000	9.506	-
Subtotal			-	5.005		1.988		6.618		-		6.618	0.000	13.611	N/A
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
TLS EAB Prototyping	C/FFP	ACC-APG : TBD	-	14.500	Aug 2022	21.336	Jun 2023	33.052	May 2024	-		33.052	0.000	68.888	-
Demonstration, Experimentation, and Prototyping	C/TBD	ACC-APG : TBD	-	-		-		0.500	Apr 2024	-		0.500	0.000	0.500	-
Second Variant Non-Recurring Engineering (NRE)	C/FFP	ACC-APG : TBD	-	-		4.000	Mar 2023	21.289	Jun 2024	-		21.289	0.000	25.289	-
Subtotal			-	14.500		25.336		54.841		-		54.841	0.000	94.677	N/A
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Prototype Test Activities	C/FFP	ACC-APG : TBD	-	-		2.333	Mar 2023	5.010	May 2024	-		5.010	0.000	7.343	-
Subtotal			-	-		2.333		5.010		-		5.010	0.000	7.343	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	19.505		29.657		66.469		-		66.469	0.000	115.631	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army																Date: March 2023																					
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0304270A / Electronic Warfare Development								Project (Number/Name) CK3 / TLS Echelon Above Brigade (EAB)																			
Event Name										FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
										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
Development, prototyping and integration																																					
First Unit Issued (FUI)																																					
TLS EAB Production and Fielding																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) CK3 / <i>TLS Echelon Above Brigade (EAB)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Development, prototyping and integration	4	2022	4	2026
First Unit Issued (FUI)	3	2025	4	2025
TLS EAB Production and Fielding	2	2026	4	2030

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) EW6 / ARAT-TSS			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
EW6: ARAT-TSS	-	5.391	10.813	5.722	-	5.722	5.852	5.928	5.991	6.058	0.000	45.755
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
Note												
The Army Reprogramming Analysis Team (ARAT) is a Department of the Army established program to develop techniques, methods, tools, and architecture to rapidly reprogram mission software embedded in Army Electronic Warfare (EW) Force Protection Systems (FPS) in response to changes in threat signatures. The regulatory guidance directing this mission is contained in Army Regulation (AR) 525-15, AR 525-22, and AR 95-1. The ARAT develops integrated technical solutions required to counter increasingly sophisticated EW Signal threats to US Forces. The ARAT mission software reprogramming infrastructure supports the Army Campaign Plan to provide the Regionally Aligned Forces tactical Commander timely rapid-reprogramming capability of EW systems with mission software. The ARAT mission responsibility is to develop and distribute Mission Software and Products to forward deployed combat forces. ARAT identifies and analyzes worldwide threat signature changes which affect EW systems; determines the impact of observed Signal Intelligence (SIGINT) signature changes; rapidly develops new mission software to adapt friendly systems to detect and defeat enemy threats to U.S. Army ground and air platforms; disseminates the Mission Software and Products to forward deployed forces, and provides government developed tools and software to upload new mission software into the affected EW systems.												
A. Mission Description and Budget Item Justification												
Current military operations are conducted in a rapidly changing threat environment, where Improvised Explosive Devices (IEDs), Infra Red (IR) man-portable air defense systems (MANPADS) seekers, radar guided surface-to-air-missiles (SAM), laser guided weapons, anti-helicopter mines, and targeting sensors are proliferating and evolving. Integrated solutions are required to counter increasingly sophisticated EW threats. The ARAT reprogramming infrastructure supports the tactical Commander by providing timely rapid reprogramming of mission software and information dissemination for Army supported, Joint and allied services. ARAT supports integrated reprogramming of target acquisition, target engagement, vehicle survivability, and Aircraft Survivability Equipment (ASE). ARAT rapid-reprogramming infrastructure supports tactical requirements for deployed aircraft and ground-based (e.g. Counter Radio-Controlled Improvised Explosive Device (CREW)) survivability systems. ARAT identifies and analyzes threat signature changes which affect EW systems; determines the impact of observed signature changes; develops new mission software to adapt the system to the changes; disseminates the mission software; and provides methods to upload the new mission software into the affected EW systems. Each element within the ARAT infrastructure plays a specific role within the program's rapid reprogramming process, providing the Soldier with the capability to install mission and target identification software at the lowest possible level, thus maximizing flexibility for tactical commanders. ARAT participates in the operational and developmental test design of Army EW systems, and supports Joint Service Reprogramming Exercises in all theaters. ARAT Research and Development enables continuous development of: 1) automated threat analysis tools to rapidly detect (flag) threat changes within the intelligence system, 2) tools to minimize the time to develop Mission Software and Products (MSP), 3) tools and technology to minimize the time required to test and validate MSPs, 4) improved communications conduits to rapidly transmit mission software to upload into supported EW systems. These efforts allow for rapid threat analysis, threat modeling and simulation, mission software development and testing, distribution and uploading of mission software directly to the supported Soldier in the field.												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2022	FY 2023	FY 2024
Title: Keeping Pace with the Enemy and Technology										2.657	2.721	2.703

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) EW6 / ARAT-TSS	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>Description: This effort focuses on developing a capability for the Government to rapidly develop and distribute organic mission software solutions for multiple EW systems. The Army must continually modernize and enhance software tools, hardware modernization, and processes counter enemy technology. ARAT EW6 executes Research, Development, Test, and Evaluation (RDTE) funding to provide an organic Army capability for this organization to rapidly develop, test and distribute mission software solutions for forward deployed combat forces.</p> <p>FY 2023 Plans: ARAT EW6 has increased funding in FY23. The funding will be utilized to enhance the hardware and software development, testing, and distribution classified infrastructure. Enhancement efforts will include development of hardware and software tools that will modernize ARAT EW6's ability to create simulations of enemy Electronic Warfare (EW) systems. Higher fidelity is required to simulate sophisticated peer and near peer threats to Army air and ground forces are required.</p> <p>FY 2024 Plans: ARAT plans to execute funding to enhance current software development and test infrastructure. ARAT will modernize to include threat simulations utilizing Software Defined Radios (SDR). ARAT EW6 plan to integrate Software Defined Radios into the program's software development and test infrastructure to enhance the Army's ability to replicate sophisticated peer and near peer Electronic Warfare systems. The modernized Software Defined Radios once integrated into the laboratory will allow for expedited development and testing of mission software to detect and defeat enemy Electronic Warfare systems.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding change reflects planned lifecycle of this effort</p>			
<p>Title: Infrastructure Improvements Multispectral</p> <p>Description: This effort focuses on enhancing the Army's Multispectral Missile Warning System (MWS) software sustainment infrastructure. With the worldwide proliferation of MANPADS the Army must have the capability to rapidly analyze and develop mission software solutions that detect and counter MANPADS to defend Army Aviation platforms against this lethal threat.</p> <p>FY 2023 Plans: ARAT EW6 has increased funding in FY23. The funding will be utilized to enhance the multispectral software development, testing, and distribution classified infrastructure. Enhancement efforts will include development of hardware and software tools that will modernize ARAT EW6's ability to create simulations of enemy Electronic Warfare (EW) systems. Higher fidelity is required to simulate sophisticated peer and near peer threats to Army air and ground forces.</p> <p>FY 2024 Plans:</p>		0.616	0.747
			0.719

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) EW6 / ARAT-TSS	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
ARAT will continue infrastructure enhancements to include preparations for integrating new ground Electronic Warfare systems into the ARAT Development and Testing Enterprise in support of migrating to a multispectral capability to incorporate Multi-Domain Operations.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding change reflects planned lifecycle of this effort			
Title: Infrastructure Improvement Radio Frequency General		1.004	1.289
Description: This effort focuses on enhancing the Army's Radio Frequency (RF) EW system Mission Software and Products (MSP) development and distribution infrastructure. The Army must fight in a contested and congested EW environment. Mission software solutions to defend against RF threats must be rapidly developed, tested, and distributed to Soldiers on an ever changing battlefield.			
FY 2023 Plans: ARAT EW6 will continue focus on the Army's ability to overmatch against peer and near peer Electronic Warfare threats. ARAT EW6 have planned efforts to modernize the Radio Frequency detection and identification via hardware and software tools. Modernizing the Radio Frequency infrastructure will provide the Army with expediting threat analysis, mission software development and testing. ARAT EW6 plan is to modernize the infrastructure that enables to Army the ability to rapidly detect changes in enemy Electronic Warfare systems and create and test mission software solutions for systems that are onboard Army air and ground platforms.			
FY 2024 Plans: ARAT will continue with modernization efforts to enhance Radio Frequency simulations of sophisticated peer and near peer threat systems. The modernization efforts will provide the Army the ability to rapidly program aircraft Radar Warning Receivers (RWR) to accurately detect and defeat enemy radar guided missiles directed against Army Aviation platforms. ARAT EW6 will leverage modernized Software Defined Radio technologies that will provide more accurate representation of enemy Electronic Warfare systems.			
FY 2023 to FY 2024 Increase/Decrease Statement: Funding change reflects planned lifecycle of this effort			
Title: Threat Flagging and Mission Data Set Reprogramming Tool Development		1.114	1.056
Description: This effort focuses on enhancing the Army's capability to monitor changes in enemy Electronic Warfare systems that affect system performance of Army detection, declaration, and countermeasure Electronic Warfare systems onboard both air and ground platforms. The enemy is continuously developing or modifying it's Electronic Warfare systems. For Army platforms to have protection against enemy systems it must have a robust capability to immediately detect changes in threat system			
			1.029

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) EW6 / ARAT-TSS	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
<p>performance and rapidly develop, test, and distribute a mission software solution that counters the threat. This effort will enhance the Army's capability bridge detection of a change in enemy threat and the rapid development of Mission Software and Products.</p> <p>FY 2023 Plans: ARAT EW6 will develop mission software tools that will provide the Army the ability to ingest large volumes of national level intelligence data to monitor emissions of enemy Radio Frequency systems. The flagging model is a software tool that will provide the Army the ability to rapidly determine enemy Multispectral and Radio Frequency changes in enemy system operational characteristics and performance.</p> <p>FY 2024 Plans: ARAT EW6 will continue to enhance threat change detection capabilities and tailor the flagging model to system specific to Electronic Warfare systems on Blackhawk and Apache helicopters. Threat change detection provides the Army the capability to rapidly assess parametric changes in enemy Radio Frequency radar systems. The ability to detect changes in enemy Radio Frequency systems increases the accuracy of mission software for Radar Warning systems on Army Aviation platforms.</p> <p>FY 2023 to FY 2024 Increase/Decrease Statement: Funding change reflects planned lifecycle of this effort</p>			
Accomplishments/Planned Programs Subtotals		5.391	5.813
		FY 2022	FY 2023
Congressional Add: Program Increase: Service Tactical Signal Intelligence (SIGINT) upgrades		-	5.000
FY 2023 Plans: Congressional Interest Item for Service Tactical Signal Intelligence (SIGINT) upgrades			
Congressional Adds Subtotals		-	5.000
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
ARAT has no other Program funding.			
D. Acquisition Strategy			
The efforts to be funded in this project will require a combination of systems specific and high-tech knowledge. The contractual services portion for the project will be obtained from both the Communications-Electronics Command (CECOM) Software Engineering Center (SEC) competitive omnibus and the Program Executive Office - Simulation, Training and Instrumentation (PEO STRI), GSA SBIR, and the Defense Technical Intelligence Center (DTIC) high tech contracts.			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) EW6 / ARAT-TSS					
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
USG Labor	Various	CECOM SEC : Various Locations	5.056	0.576		0.596		0.596		-		0.596	Continuing	Continuing	Continuing
Travel	Various	CECOM SEC : Various Locations	1.090	0.092		0.096		0.098		-		0.098	Continuing	Continuing	Continuing
Subtotal			6.146	0.668		0.692		0.694		-		0.694	Continuing	Continuing	N/A
Support (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Development Support	Various	CECOM SEC, RDECOM, DTIC : Various Locations	55.523	4.723	Mar 2022	5.121	Apr 2023	5.028	Mar 2024	-		5.028	Continuing	Continuing	Continuing
SIGINT Upgrades	TBD	TBD : TBD	-	-		5.000		-		-		-	0.000	5.000	-
Subtotal			55.523	4.723		10.121		5.028		-		5.028	Continuing	Continuing	N/A
			Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			61.669	5.391		10.813		5.722		-		5.722	Continuing	Continuing	N/A
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army										Date: March 2023									
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>					Project (Number/Name) EW6 / ARAT-TSS									

Software Development Enhancement Support (see notes in Schedule Detail)	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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

Software Development Enhancement Support (see notes in Schedule Detail)	FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027				FY 2028			
	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

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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023	
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>		Project (Number/Name) EW6 / ARAT-TSS

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Software Development Enhancement Support (see notes in Schedule Detail)	1	2015	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army										Date: March 2023		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>			
COST (\$ in Millions)	Prior Years	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
FJ5: <i>Terrestrial Layer System</i>	-	50.624	59.468	64.995	-	64.995	-	-	-	-	0.000	175.087
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of Terrestrial Layer System Brigade Combat Team (TLS BCT), a Middle Tier of Acquisition program, which provides Army maneuver forces integrated full spectrum Signals Intelligence (SIGINT), Electronic Warfare (EW), and Cyber-enabling non-kinetic offensive operation options to Brigade Combat Team (BCT) commanders. TLS BCT's information Superiority provides Indications and Warnings, Force Protection and Situational Awareness to influence the commander's decision cycle, improve targeting timeliness and accuracy, and provide the maneuver commander with electronic attack and offensive cyber warfare options to deny, degrade, disrupt, or otherwise manipulate the targeted force. TLS BCT employs technologically advanced systems with a modular open-system approach for multiple configurations that can be efficiently sustained and effectively upgraded to provide capabilities against changing near peer and emerging threats to address multi-domain capability gaps. TLS BCT enables integration, interoperability and force modernization with emerging capabilities in support of Multi-Domain Task Forces and Operational Needs Statements. TLS BCT will equip mounted formations with vehicles organic to their formations (SBCT- Stryker MEV DVAH1, ABCT- AMPV) and a manpack solution for IBCTs. TLS BCT - MDO Relevancy: Priority #2 Enablers - Supported/endorsed by Network Cross Functional Team (CFT), Assured Position Navigation and Timing (APNT)/Space CFT, Long Range Precision Fire (LRPF) CFT.

The total cost of the TLS BCT Middle Tier of Acquisition Rapid Prototyping effort is \$312 million RDT&E from FY20 to FY25, including RDT&E (\$269M) and procurement (\$43M) of prototype units. The TLS BCT is fully funded across the Future Years Defense Program.

Justification:

FY 2024 total program amount of \$64.9M will fund technical/PMO support, vehicle integration and system development, new signal threat integration/signal relevancy, and test events.

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

	FY 2022	FY 2023	FY 2024
Title: Technical / Program Management	9.216	3.157	3.909
Description: Funds will provide for technical engineering and program management.			
FY 2023 Plans: FY 2023 TLS BCT technical engineering and program management support the development of ABCT- AMPV and manpack solution for IBCT. Completion of Stryker MEV DVAH1 prototypes.			
FY 2024 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army		Date: March 2023	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2022	FY 2023
FY 2024 TLS BCT technical engineering and program management support the development and completion of additional Stryker MEV DVAH1 prototypes, completion of ABCT- AMPV prototypes and continued development of manpack solution for IBCT.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase in funding for FY 2024 due to additional development of Stryker MEV DVAH1 prototypes, integration and test activities across all variants.			
Title: Platform Integration and System Development		38.967	49.636
Description: Development of System Level Prototypes and integration of TLS BCT mission equipment onto vehicle platforms that will enable TLS BCT platforms to match vehicle platforms organic to the unit.			
FY 2023 Plans: Development of System Level Prototypes and integration of TLS BCT mission equipment to the AMPV vehicle platform and other IBCT identified vehicle platforms.			
FY 2024 Plans: Continued development of System Level Prototypes and integration of TLS BCT mission equipment to Stryker, Manpack, AMPV and IBCT mounted variants.			
FY 2023 to FY 2024 Increase/Decrease Statement: Increase level of effort resulting from integration and test activities across all variants.			
Title: Test Events		0.500	4.500
Description: System and Operational test events			
FY 2023 Plans: FY 2023 Operational Demonstration for Stryker MEV DVAH1 prototypes.			
FY 2024 Plans: FY 2024 Continued testing of TLS BCT systems: Stryker MEV DVAH1 prototypes and Manpack solutions testing and refinement to achieve desired characteristics.			
FY 2023 to FY 2024 Increase/Decrease Statement: FY 2024 Increase in funding due to the requirement to conduct System and Operational test efforts to achieve desired characteristics for TLS BCT systems.			
Title: New signal threat integration and signal relevancy		1.941	2.175
FY 2023 Plans:			
			1.800

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Exhibit R-2A, RDT&E Project Justification: PB 2024 Army							Date: March 2023				
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>				
B. Accomplishments/Planned Programs (\$ in Millions)							FY 2022	FY 2023	FY 2024		
Continues, but is not limited to, development and evaluation of Next Generation SIGINT, EA and Cyber capabilities into the TLS BCT baseline to increase signal processing capabilities for near peer and emerging enemy threat signals in support of Multi-Domain Task Forces and Operational Needs Statements.											
FY 2024 Plans: Continues, but is not limited to, development and evaluation of Next Generation SIGINT, EA and Cyber capabilities into the TLS BCT baseline to increase signal processing capabilities for near peer and emerging enemy threat signals in support of Multi-Domain Task Forces and Operational Needs Statements.											
FY 2023 to FY 2024 Increase/Decrease Statement: Decrease in FY24 funding due to near completion of integration and relevancy efforts in FY2024.											
Accomplishments/Planned Programs Subtotals							50.624	59.468	64.995		
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2022	FY 2023	FY 2024 Base	FY 2024 OCO	FY 2024 Total	FY 2025	FY 2026	FY 2027	FY 2028	Cost To Complete	Total Cost
• B97610: TERRESTRIAL LAYER SYSTEM BCT	39.240	8.373	84.627	-	84.627	118.417	102.585	99.359	13.003	0.000	465.604
Remarks											
D. Acquisition Strategy											
The TLS BCT program will use a tailored competitive acquisition approach to rapidly deliver an integrated ground intelligence, electronic warfare and cyber capability on multiple platform types to align with maneuver forces. The TLS BCT program will leverage authorities including, but not limited to Middle Tier of Acquisition to accelerate delivery through rapid prototyping with rapid fielding authorities or a Milestone C Decision Point.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army												Date: March 2023			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>				Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>					
Management Services (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Technical / Program Management	C/FFP	MITRE & MAG Aerospace : Aberdeen, MD	7.318	9.216	Feb 2022	3.157	Feb 2023	3.909	Feb 2024	-		3.909	0.000	23.600	-
Subtotal			7.318	9.216		3.157		3.909		-		3.909	0.000	23.600	N/A
Remarks Efforts include FFRDC support from Contract #W56KGU-18-D-0004 to continue developing and managing the Signals processing and compute environment as well as from competitive contract #W15P7T-10-D-D421 for Systems Engineering and Technical Assistance (SETA) support.															
Product Development (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Vehicle Integration and System Development	C/FFP	Lockheed Martin : Syracuse, NY	28.036	38.967	Apr 2022	49.636	Dec 2022	53.500	Dec 2023	-		53.500	0.000	170.139	-
New signal threat integration and signal relevancy	C/FFP	Lockheed Martin : Syracuse, NY	-	1.941	Jan 2022	2.175	Jan 2023	1.800	Jan 2024	-		1.800	0.000	5.916	-
Subtotal			28.036	40.908		51.811		55.300		-		55.300	0.000	176.055	N/A
Remarks Competitive OTA #W15QKN-17-9-5555 for development and integration. FY2024 funding supports continued system development and integration on at least, but not limited to the Stryker vehicle platform, the AMPV vehicle platform and the IBCT vehicle platform that will enable TLS fielded systems to match vehicle platforms organic to the fielded unit.															
Test and Evaluation (\$ in Millions)				FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 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
Test Events	MIPR	ATEC : APG, MD	2.751	0.500	Mar 2022	4.500	Mar 2023	5.786	Mar 2024	-		5.786	0.000	13.537	-
Subtotal			2.751	0.500		4.500		5.786		-		5.786	0.000	13.537	N/A
Remarks FY2024 Test & Evaluation efforts will be accomplished via a combination of various support contracts and direct Government support.															

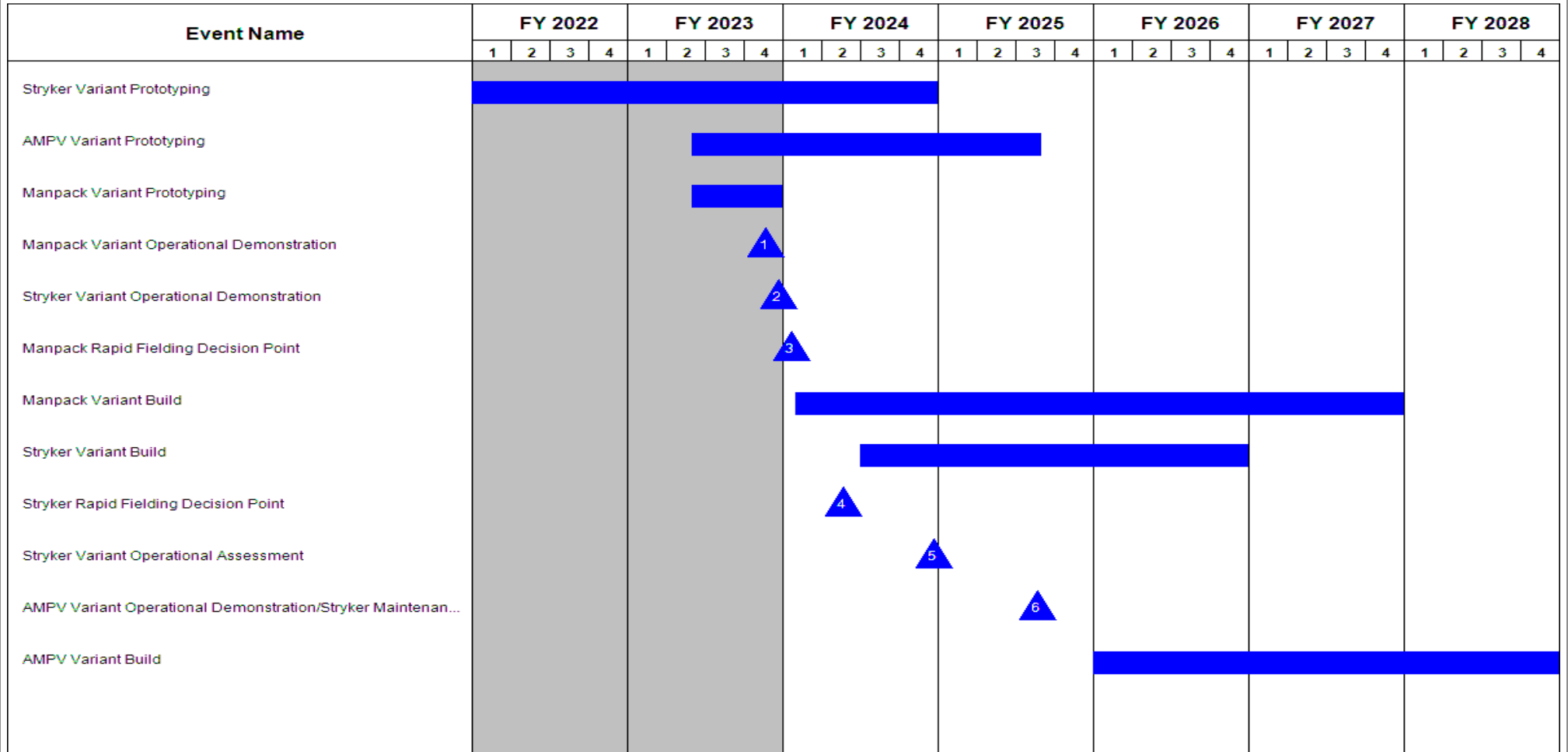
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Exhibit R-3, RDT&E Project Cost Analysis: PB 2024 Army											Date: March 2023						
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>					Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>							
					Prior Years	FY 2022		FY 2023		FY 2024 Base		FY 2024 OCO		FY 2024 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals					38.105	50.624		59.468		64.995		-		64.995	0.000	213.192	N/A

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2024 Army			Date: March 2023		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Develop</i> <i>ment</i>		Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>	



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Exhibit R-4A, RDT&E Schedule Details: PB 2024 Army			Date: March 2023
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0304270A / <i>Electronic Warfare Development</i>	Project (Number/Name) FJ5 / <i>Terrestrial Layer System</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Milestone A	2	2020	2	2020
Mid Tier Acquisition Approval	3	2020	3	2020
Stryker Variant Prototyping	3	2020	4	2024
Initial Operational Assessment	4	2021	4	2021
AMPV Variant Prototyping	2	2023	3	2025
Manpack Variant Prototyping	2	2023	4	2023
Manpack Variant Operational Demonstration	4	2023	4	2023
Stryker Variant Operational Demonstration	4	2023	4	2023
Manpack Rapid Fielding Decision Point	1	2024	1	2024
Manpack Variant Build	1	2024	4	2027
Stryker Variant Build	3	2024	4	2026
Stryker Rapid Fielding Decision Point	2	2024	2	2024
Stryker Variant Operational Assessment	4	2024	4	2024
AMPV Variant Operational Demonstration/Stryker Maintenance Demo	3	2025	3	2025
AMPV Variant Build	1	2026	4	2028