Department of Defense
Fiscal Year (FY) 2023 Budget Estimates

April 2022

Army

Justification Book Volume 2d of 2

Research, Development, Test & Evaluation, Army

RDT&E − Volume II, Budget Activity 5C

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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, $13,703,609,000.00 to remain available for obligation until September 30, 2024.

The FY 2023 Overseas Operations accounted for in the base budget are as follows:

Combat or direct combat support expenses that discontinue once combat operations end at major contingency location $12,800,000.

In-theater and in-CONUS expenses that remain after combat operations cease and have been previously funded in OCO $5,875,000.

COST STATEMENT

The following Justification Books were prepared at a cost of $474,495.00: 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.

FY 2023 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 2022.

2. Relationship of the FY 2023 Budget Submitted to Congress to the FY 2022 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:

Budget Activity	***OSDPE / Project***	***Project Title***
02	0602002A / DC4	Army Applied Innovation
02	0602002A / DC5	Team Ignite
02	0602141A / CI1	Advanced Armaments Lethality Technology
02	0602141A / CZ9	Foundational Hypersonic Weapons Research
02	0602144A / CV3	Engineer Enablers Maneuver, LOG, & Sustainment Apl
02	0602144A / DA1	SAFR Alternatives for Readiness Applied Research
02	0602145A / CU5	Platform Agnostic Armaments Applied Technology
02	0602146A / CU6	Adaptive Information Mediation and Analytics
02	0602146A / CV4	Pathfinder 3D Applied Technology
02	0602150A / CV7	High Energy Laser Direct Diode Apl Tech
02	0602150A / CV8	Vulnerability Modules for Multi-Domain Operations
02	0602150A / DA9	Radar Survivability through Dis Sensing Tech
02	0602180A / DA5	AI Enabled Talent Management Applied Research
02	0602180A / DA6	AI-Enabled Command and Coordination Apl Research
02	0602183A / CU7	Control & Autonomy for Tactical Superiority Tech
02	0602183A / CU8	Structures Tech for Enduring Efficient Resilience

02	0602183A / CU9	Systems Design Technology
02	0602184A / CV9	Technical-SAVVY Soldier Applied Research
03	0603025A / DA3	Army Advanced Innovation
03	0603040A / CN6	Predictive Maintenance Advanced Technology
03	0603040A / DA7	AI-Enabled Command and Coordination Adv Tech
03	0603041A / DA4	All Domain Convergence Engineering & Architectures
03	0603043A / CV1	Control & Autonomy for Tactical Superiority Adv
03	0603043A / CV2	Structures Platform Int Resilience & Efficiency
03	0603119A / CV5	Engineer Enablers Maneuver, LOG, & Sustainment Adv
03	0603119A / DA2	SAFR Alternatives for Readiness Advanced Tech
03	0603466A / CV6	Optimized High Energy Laser Source Adv Tech
03	0603466A / DB3	Radar Survivability through Dis Sensing Adv Tech
04	0604020A / DC8	Army Experimentation and Prototyping
05	0604641A / CF5	Robotic Combat Vehicle (BA5) NGCV-CFT
05	0604827A / S65	Platoon Power Generator
05	0604854A / 516	Paladin/FAASV
06	0605235A / CQ4	Mid-Range Capability

Program Element/Project Restructures:

Budget Activity	***Old OSDPE / Project: Title***	***New OSDPE / Project***
02	0602143A / BE6: Reactive/Resp Surfaces & Matls-Soldiers & Sys	0602184A / CW9
02	0602146A / AΘ2: Stand-In Advanced RF Effects (STARE)	0602146A / AP5
02	0602146A / AR3: Intelligent Environmental Battlefield Awareness	0602182A / CX3
02	0602146A / AR7: Sensing in Contested Environments Technology	0602182A / CX5
02	0602146A / AR9: Persistent Geophysical Sensing-Infrasound Tech	0602182A / CX4
02	0602146A / AT2: Subterranean Detection and Monitoring Technology	0602182A / CX6
02	0602146A / AV7: Atmospheric Modeling and Meterological Technology	0602182A / CW2
02	0602146A / CK1: Assurred PNT Enabling Technologies	0602182A / CZ6
02	0602148A / AI9: Future UAS Engine Technology	0602183A / CW6

02	0602148A / AJ2: Next Generation Rotorcraft Transmission Technology	0602183A / CW8
02	0602148A / AJ6: Advanced Rotors Technology	0602183A / CW3
02	0602148A / AJ8: Experimental and Computational Aeromechanics Techn	0602183A / CW5
02	0602148A / AL2: High Performance Computing for Rotorcraft App Tech	0602183A / DC2
02	0602148A / AL4: High Speed and Efficient VTOL Vehicle Technology	0602183A / CW7
02	0602148A / AL5: Air Vehicle Structures and Dynamics Technology	0602183A / CW4
02	0602148A / AL8: Holistic Situational Awareness and Dec Making Tech	0602141A / CG4
02	0602150A / AD2: High Energy Laser (HEL) Enabling and Support Techn	0602150A / DC1
02	0602150A / AD3: Maneuver Air Defense Technology	0603466A / AD4
02	0602182A / CM9: Convergent CEMA Deception	0602182A / CZ7
03	0602145A / BJ9: Autonomous Mobility Tech	0603462A / BK1
03	0602146A / AM8: Protected SATCOM Technology	0603463A / AM9
03	0602148A / AK4: Multi-Role Small Guided Missile Technology	0603465A / AK5
03	0603463A / AR4: Intelligent Env Battlefield Awareness Adv Tech	0603042A / CX7
03	0603463A / AS9: Persistent Geophysical Sensing-Infrasound Adv Tech	0603042A / CX8
03	0603463A / AR8: Sensing in Contested Environments Adv Technology	0603042A / CX9
03	0603463A / AT3: Subterranean Detection and Monitoring Adv Technology	0603042A / CZ5
03	0603465A / AJ7: Advanced Rotors Advanced Technology	0603043A / CX1
03	0603043A / AJ3: Next Generation Rotorcraft Transmission Adv Technology	0603043A / CX2
03	0603043A / AL3: HPC for Rotorcraft Applications Adv Tech	0603043A / DC3
03	0603463A / AU2: Optimization of Geospatial Data for Visualization	0603463A / AT8
03	0603463A / AV1: GEOInt/Ops Logistics Integration-Planning Adv Tech	0603463A / AU4
03	0602147A / AF1: Long Range Maneuverable Fires (LRMF) Technology	0603464A / AF2
03	0603464A / AE8: Land-Based Anti-Ship Missile (LBASM) Advanced Tech	0603464A / CZ8
03	0603465A / CH6: Adapt & Resilnt Tach Autnmy Cont&Struct Adv Tech	0603043A / CV1
03	0603465A / CH6: Adapt & Resilnt Tach Autnmy Cont&Struct Adv Tech	0603043A / CV2
03	0603465A / CH8: UAS Survivability Advance Technology	0603465A / AK3
03	0603465A / CH8: UAS Survivability Advance Technology	0603465A / CG1
03	0602148A / BZ7: Future Vertical Lift Medical Technologies	0603465A / CJ5
04	0603466A / AD1: High Energy Laser Tactical Vehicle Demo Adv Tech	0604019A / BU9
04	0305251A / FA8: Cyberspace Operations Forces and Force Support	0305251A / DD3
04	0603801A / B47: Future Vertical Lift	0603801A / CS7
04	0604117A / FI4: Maneuver - Short Range Air Defense (M-SHORAD)	0604117A / CR9
04	0605054A / FI3: Rapid Capability Development and Maturation	0604117A / CR9
04	0604117A / FI4: Maneuver - Short Range Air Defense (M-SHORAD)	0604117A / CS1

04	0604644A / MR1: Mobile Intermediate Range Missile	0604135A / MR2
04	0604644A / MR1: Mobile Intermediate Range Missile	0604135A / MR3
04	0604644A / MR1: Mobile Intermediate Range Missile	0604135A / MR4
04	0604182A / HX1: Long Range Hypersonic Weapon	0604182A / HX3
04	0604182A / HX1: Long Range Hypersonic Weapon	0604182A / HX4
04	0604182A / HX1: Long Range Hypersonic Weapon	0604182A / HX5
04	0604182A / HX1: Long Range Hypersonic Weapon	0604182A / HX6
05	0604818A / EJ5: Mounted Computing Environment (MCE)	0604805A / 593
05	0605013A / T05: Army Business System Modernization Initiatives	0605013A / BY3
05	0608041A / CD1: Defensive Cyber - Software Prototype Devel	0605041A / XU3
05	0605042A / FA1: Manpack Radio	0605236A / CQ1
05	0605042A / FA2: Rifleman Radio (RR)	0605236A / CQ1
06	0605602A / 628: Developmental Test Technology & Sustainment	0605602A / FJ3
06	0605602A / 62C: Modeling and Simulation Instrumentation	0605602A / FJ3
07	0303142A / 456: MILSATCOM System Engineering	0303142A / CO7
07	0205778A / EG2: GMLRS Alternative Warheads	0205778A / EG3

Program Terminations (including transfers to Procurement and Sustainment):

Budget Activity	***OSDPE / Project***	***Project Title***
01	0601104A / CI9	University & Industry Rsch Ctrs / Strategic University Basic Research Alliance
02	0602141A / CJ6	Lethality Technology / Advanced Energetics for Missile Technologies
02	0602143A / BB9	Soldier Lethality Technology / Human Performance Tech for Mobility & Lethality
02	0602144A / CG5	Ground Technology / Ground Vehicle Sensor Concepts and Technologies
02	0602146A / AR1	Network C3I Technology / Robust, Resilient and Intelligent C3I Technology
02	0602150A / AD5	Air and Missile Defense Technology / Next Generation Fires Radar Technology
03	0603002A / MN3	Medical Advanced Technology / Immediate Cardiopulmonary Stabilization Adv Tech
03	0603002A / MN4	Medical Advanced Technology / Advanced Life Support Advanced Technology
03	0603002A / MN5	Medical Advanced Technology / Next Generation Blood Products Advanced Technology
03	0603002A / MN9	Medical Advanced Technology / Far Forward Behavioral Health Care Advanced Tech

03	0603463A / AN2	Network C3I Advanced Technology / Narrowband SATCOM Advanced Technology
03	0603466A / AD4	Air and Missile Defense Adv Technology / Maneuver Air Defense Advanced Technology
04	0604785A / DS4	Integrated Base Defense / Integrated Base Defense
05	0604854A / HB6	Artillery Systems EMD / Mobile 155MM Howitzer

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.

Department of the Army
FY 2023 President's Budget
Exhibit R-1 FY 2023 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Apr 2022

Summary Recap of Budget Activities	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request
Basic Research	552,521	606,509	466,823
Applied Research	1,518,220	1,529,888	883,759
Advanced Technology Development	1,948,792	2,190,430	1,392,065
Advanced Component Development & Prototypes	3,589,313	3,818,276	4,098,749
System Development & Demonstration	2,979,946	3,254,230	4,031,334
Management Support	1,832,049	1,553,905	1,554,252
Operational Systems Development	1,719,691	1,466,180	1,188,403
Software and Digital Technology Pilot Programs	56,706	108,841	94,888
Total Research, Development, Test & Evaluation	**14,197,238**	**14,528,259**	**13,710,273**

Summary Recap of FYDP Programs			
General Purpose Forces	589,523	579,473	392,489
Intelligence and Communications	372,869	275,873	210,597
Research and Development	13,099,825	13,566,200	13,009,253
Central Supply and Maintenance	130,785	103,720	91,270
Administration and Associated Activities	253		
Classified Programs	3,983	2,993	6,664
Total Research, Development, Test & Evaluation	**14,197,238**	**14,528,259**	**13,710,273**

Department of the Army
FY 2023 President's Budget
Exhibit R-1 FY 2023 President's Budget
Total Obligational Authority
(Dollars in Thousands)

Apr 2022

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
1	0601102A	Defense Research Sciences	01	344,031	368,751	279,328	U
2	0601103A	University Research Initiatives	01	84,697	91,241	70,775	U
3	0601104A	University and Industry Research Centers	01	118,716	126,267	100,909	U
4	0601121A	Cyber Collaborative Research Alliance	01	5,077	5,067	5,355	U
5	0601601A	Artificial Intelligence and Machine Learning Basic Research	01		15,183	10,456	U
	Basic Research			**552,521**	**606,509**	**466,823**	
6	0602002A	Army Agile Innovation and Development-Applied Research	02			9,534	U
7	0602115A	Biomedical Technology	02	11,403	11,925		U
8	0602134A	Counter Improvised-Threat Advanced Studies	02	1,927	1,976	6,192	U
9	0602141A	Lethality Technology	02	117,484	91,626	87,717	U
10	0602142A	Army Applied Research	02	29,257	28,654	27,833	U
11	0602143A	Soldier Lethality Technology	02	201,511	205,058	103,839	U
12	0602144A	Ground Technology	02	159,358	216,550	52,848	U
13	0602145A	Next Generation Combat Vehicle Technology	02	258,341	245,525	174,090	U
14	0602146A	Network C3I Technology	02	202,256	164,804	64,115	U
15	0602147A	Long Range Precision Fires Technology	02	119,007	93,785	43,029	U
16	0602148A	Future Verticle Lift Technology	02	169,536	133,158	69,348	U
17	0602150A	Air and Missile Defense Technology	02	107,584	93,549	27,016	U
18	0602180A	Artificial Intelligence and Machine Learning Technologies	02		15,034	16,454	U
19	0602181A	All Domain Convergence Applied Research	02		25,967	27,399	U
20	0602182A	C3I Applied Research	02		12,406	27,892	U
21	0602183A	Air Platform Applied Research	02		6,597	41,588	U

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Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
22	0602184A	Soldier Applied Research	02		11,064	15,716	U
23	0602213A	C3I Applied Cyber	02	18,816	12,119	13,605	U
24	0602386A	Biotechnology for Materials - Applied Research	02		20,643	21,919	U
25	0602785A	Manpower/Personnel/Training Technology	02	20,399	18,701	19,649	U
26	0602787A	Medical Technology	02	101,341	120,747	33,976	U
	Applied Research			**1,518,220**	**1,529,888**	**883,759**	
27	0603002A	Medical Advanced Technology	03	95,146	137,804	5,207	U
28	0603007A	Manpower, Personnel and Training Advanced Technology	03	11,344	14,273	15,598	U
29	0603025A	Army Agile Innovation and Demonstration	03		22,231	20,900	U
30	0603040A	Artificial Intelligence and Machine Learning Advanced Technologies	03		909	6,395	U
31	0603041A	All Domain Convergence Advanced Technology	03		17,743	45,463	U
32	0603042A	C3I Advanced Technology	03		3,151	12,716	U
33	0603043A	Air Platform Advanced Technology	03		754	17,946	U
34	0603044A	Soldier Advanced Technology	03		890	479	U
35	0603115A	Medical Development	03	26,711	26,508		U
36	0603116A	Lethality Advanced Technology	03		8,066	9,796	U
37	0603117A	Army Advanced Technology Development	03	64,163	76,815	134,874	U
38	0603118A	Soldier Lethality Advanced Technology	03	154,161	152,369	100,935	U
39	0603119A	Ground Advanced Technology	03	196,055	280,490	32,546	U
40	0603134A	Counter Improvised-Threat Simulation	03	24,087	24,747	21,486	U
41	0603386A	Biotechnology for Materials - Advanced Research	03		53,736	56,853	U
42	0603457A	C3I Cyber Advanced Development	03	43,357	61,426	41,354	U

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Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
43	0603461A	High Performance Computing Modernization Program	03	221,161	229,123	251,964	U
44	0603462A	Next Generation Combat Vehicle Advanced Technology	03	309,860	299,712	193,242	U
45	0603463A	Network C3I Advanced Technology	03	215,337	211,068	125,565	U
46	0603464A	Long Range Precision Fires Advanced Technology	03	177,142	141,909	100,830	U
47	0603465A	Future Vertical Lift Advanced Technology	03	220,334	261,880	177,836	U
48	0603466A	Air and Missile Defense Advanced Technology	03	173,244	145,826	11,147	U
49	0603920A	Humanitarian Demining	03	16,690	19,000	8,933	U
		Advanced Technology Development		**1,948,792**	**2,190,430**	**1,392,065**	
50	0603305A	Army Missle Defense Systems Integration	04	139,518	56,702	12,001	U
51	0603308A	Army Space Systems Integration	04	25,584	25,755	17,945	U
52	0603327A	Air and Missile Defense Systems Engineering	04	47,098	15,000		U
53	0603619A	Landmine Warfare and Barrier - Adv Dev	04	56,067	46,637	64,001	U
54	0603639A	Tank and Medium Caliber Ammunition	04	106,881	73,844	64,669	U
55	0603645A	Armored System Modernization - Adv Dev	04	130,485	164,328	49,944	U
56	0603747A	Soldier Support and Survivability	04	5,312	2,897	4,060	U
57	0603766A	Tactical Electronic Surveillance System - Adv Dev	04	182,400	113,365	72,314	U
58	0603774A	Night Vision Systems Advanced Development	04	15,179	62,820	18,048	U
59	0603779A	Environmental Quality Technology - Dem/Val	04	20,906	22,921	31,249	U
60	0603790A	NATO Research and Development	04	4,589	3,777	3,805	U
61	0603801A	Aviation - Adv Dev	04	694,296	1,178,460	1,162,344	U
62	0603804A	Logistics and Engineer Equipment - Adv Dev	04	15,287	11,055	9,638	U
63	0603807A	Medical Systems - Adv Dev	04	36,006	37,053	598	U

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Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
64	0603827A	Soldier Systems - Advanced Development	04	23,905	25,925	25,971	U
65	0604017A	Robotics Development	04	92,401	80,525	26,594	U
66	0604019A	Expanded Mission Area Missile (EMAM)	04		27,872	220,820	U
67	0604020A	Cross Functional Team (CFT) Advanced Development & Prototyping	04			106,000	U
68	0604021A	Electronic Warfare Technology Maturation (MIP)	04	15,034			U
69	0604035A	Low Earth Orbit (LEO) Satellite Capability	04	21,850	19,638	35,509	U
70	0604036A	Multi-Domain Sensing System (MDSS) Adv Dev	04		50,548	49,932	U
71	0604037A	Tactical Intel Targeting Access Node (TITAN) Adv Dev	04		28,347	863	U
72	0604100A	Analysis Of Alternatives	04	9,714	10,091	10,659	U
73	0604101A	Small Unmanned Aerial Vehicle (SUAV) (6.4)	04	1,328	926	1,425	U
74	0604113A	Future Tactical Unmanned Aircraft System (FTUAS)	04	59,183	76,349	95,719	U
75	0604114A	Lower Tier Air Missile Defense (LTAMD) Sensor	04	308,805	297,629	382,147	U
76	0604115A	Technology Maturation Initiatives	04	141,109	132,561	269,756	U
77	0604117A	Maneuver - Short Range Air Defense (M-SHORAD)	04	5,776	39,376	225,147	U
78	0604119A	Army Advanced Component Development & Prototyping	04	167,990	189,483	198,111	U
79	0604120A	Assured Positioning, Navigation and Timing (PNT)	04	115,688	83,952	43,797	U
80	0604121A	Synthetic Training Environment Refinement & Prototyping	04	112,093	206,335	166,452	U
81	0604134A	Counter Improvised-Threat Demonstration, Prototype Development, and Testing	04	13,326	13,379	15,840	U
82	0604135A	Strategic Mid-Range Fires	04			404,291	U
83	0604182A	Hypersonics	04	841,666	315,131	173,168	U
84	0604403A	Future Interceptor	04		6,895	8,179	U
85	0604531A	Counter - Small Unmanned Aircraft Systems Advanced Development	04		19,148	35,110	U

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Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
86	0604541A	Unified Network Transport	04	39,192	35,172	36,966	U
87	0604644A	Mobile Medium Range Missile	04	88,100	286,445		U
88	0604785A	Integrated Base Defense (Budget Activity 4)	04	2,020	2,040		U
89	0305251A	Cyberspace Operations Forces and Force Support	04	50,525	55,895	55,677	U
		Advanced Component Development & Prototypes		**3,589,313**	**3,818,276**	**4,098,749**	
90	0604201A	Aircraft Avionics	05	7,011	6,654	3,335	U
91	0604270A	Electronic Warfare Development	05	56,624	30,840	4,243	U
92	0604601A	Infantry Support Weapons	05	89,497	79,339	66,529	U
93	0604604A	Medium Tactical Vehicles	05	8,213	9,524	22,163	U
94	0604611A	JAVELIN	05	5,983	7,094	7,870	U
95	0604622A	Family of Heavy Tactical Vehicles	05	22,254	28,445	50,924	U
96	0604633A	Air Traffic Control	05	3,383	4,405	2,623	U
97	0604641A	Tactical Unmanned Ground Vehicle (TUGV)	05			115,986	U
98	0604642A	Light Tactical Wheeled Vehicles	05	4,371	2,055		U
99	0604645A	Armored Systems Modernization (ASM) - Eng Dev	05	123,992	122,778	71,287	U
100	0604710A	Night Vision Systems - Eng Dev	05	52,959	43,417	62,679	U
101	0604713A	Combat Feeding, Clothing, and Equipment	05	2,734	1,658	1,566	U
102	0604715A	Non-System Training Devices - Eng Dev	05	27,013	26,514	18,600	U
103	0604741A	Air Defense Command, Control and Intelligence - Eng Dev	05	62,058	59,518	39,541	U
104	0604742A	Constructive Simulation Systems Development	05	9,779	22,240	29,570	U
105	0604746A	Automatic Test Equipment Development	05	5,375	8,807	5,178	U
106	0604760A	Distributive Interactive Simulations (DIS) - Eng Dev	05	7,605	12,453	8,189	U

Department of the Army
FY 2023 President's Budget
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Total Obligational Authority
(Dollars in Thousands)

Apr 2022

Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
107	0604768A	Brilliant Anti-Armor Submunition (BAT)	05	20,175			U
108	0604780A	Combined Arms Tactical Trainer (CATT) Core	05	3,438			U
109	0604798A	Brigade Analysis, Integration and Evaluation	05	18,737	21,423	21,228	U
110	0604802A	Weapons and Munitions - Eng Dev	05	277,344	297,086	263,778	U
111	0604804A	Logistics and Engineer Equipment - Eng Dev	05	53,676	54,642	41,669	U
112	0604805A	Command, Control, Communications Systems - Eng Dev	05	10,674	20,107	40,038	U
113	0604807A	Medical Materiel/Medical Biological Defense Equipment - Eng Dev	05	48,285	44,400	5,513	U
114	0604808A	Landmine Warfare/Barrier - Eng Dev	05	9,239	29,137	12,150	U
115	0604818A	Army Tactical Command & Control Hardware & Software	05	126,676	155,017	111,690	U
116	0604820A	Radar Development	05	105,271	122,607	71,259	U
117	0604822A	General Fund Enterprise Business System (GFEBS)	05	15,428	15,979	10,402	U
118	0604823A	Firefinder	05	18,278			U
119	0604827A	Soldier Systems - Warrior Dem/Val	05	6,546	6,454	11,425	U
120	0604852A	Suite of Survivability Enhancement Systems - EMD	05	62,012	96,132	109,702	U
121	0604854A	Artillery Systems - EMD	05	36,187	25,000	23,106	U
122	0605013A	Information Technology Development	05	123,659	129,380	124,475	U
123	0605018A	Integrated Personnel and Pay System-Army (IPPS-A)	05	111,078	67,701	67,564	U
124	0605028A	Armored Multi-Purpose Vehicle (AMPV)	05	76,140	35,560		U
125	0605030A	Joint Tactical Network Center (JTNC)	05	15,671	16,350	17,950	U
126	0605031A	Joint Tactical Network (JTN)	05	30,540	28,905	30,169	U
127	0605033A	Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)	05	5,758			U
128	0605035A	Common Infrared Countermeasures (CIRCM)	05	29,770	16,630	11,523	U

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Total Obligational Authority
(Dollars in Thousands)

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Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
129	0605038A	Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite	05	4,669	7,618		U
130	0605041A	Defensive CYBER Tool Development	05	28,544	18,811	33,029	U
131	0605042A	Tactical Network Radio Systems (Low-Tier)	05	20,511	28,741	4,497	U
132	0605047A	Contract Writing System	05	22,025	20,960	23,487	U
133	0605051A	Aircraft Survivability Development	05	99,403	61,768	19,123	U
134	0605052A	Indirect Fire Protection Capability Inc 2 - Block 1	05	152,399	182,257	131,093	U
135	0605053A	Ground Robotics	05	12,010	16,360	26,809	U
136	0605054A	Emerging Technology Initiatives	05	294,366	226,802	185,311	U
137	0605143A	Biometrics Enabling Capability (BEC)	05		4,326	11,091	U
138	0605144A	Next Generation Load Device - Medium	05		15,397	22,439	U
139	0605145A	Medical Products and Support Systems Development	05	919	962		U
140	0605148A	Tactical Intel Targeting Access Node (TITAN) EMD	05		54,972	58,087	U
141	0605203A	Army System Development & Demonstration	05	177,501	122,175	119,516	U
142	0605205A	Small Unmanned Aerial Vehicle (SUAV) (6.5)	05	5,780	2,275	6,530	U
143	0605224A	Multi-Domain Intelligence	05		9,313	19,911	U
144	0605225A	SIO Capability Development	05		22,713		U
145	0605231A	Precision Strike Missile (PrSM)	05		188,452	259,506	U
146	0605232A	Hypersonics EMD	05		111,473	633,499	U
147	0605233A	Accessions Information Environment (AIE)	05		16,790	13,647	U
148	0605235A	Strategic Mid-Range Capability	05			5,016	U
149	0605236A	Integrated Tactical Communications	05			12,447	U
150	0605450A	Joint Air-to-Ground Missile (JAGM)	05	7,566	2,134	2,366	U

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Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
151	0605457A	Army Integrated Air and Missile Defense (AIAMD)	05	213,956	159,873	265,288	U
152	0605531A	Counter - Small Unmanned Aircraft Systems Sys Dev & Demonstration	05		33,386	14,892	U
153	0605625A	Manned Ground Vehicle	05	162,390	202,320	589,762	U
154	0605766A	National Capabilities Integration (MIP)	05	7,670	13,454	17,030	U
155	0605812A	Joint Light Tactical Vehicle (JLTV) Engineering and Manufacturing Development Ph	05	1,500	2,564	9,376	U
156	0605830A	Aviation Ground Support Equipment	05	1,413	1,201	2,959	U
157	0303032A	TROJAN - RH12	05	3,451	3,362	3,761	U
158	0303667A	Citizen Broadband Radio System	05	900			U
159	0303767A	AMBIT - Pre-Auctioned SRF	05	9,785			U
160	0304270A	Electronic Warfare Development	05	59,755	75,520	56,938	U
	System Development & Demonstration			**2,979,946**	**3,254,230**	**4,031,334**	
161	0604256A	Threat Simulator Development	06	41,487	61,422	18,437	U
162	0604258A	Target Systems Development	06	35,279	42,404	19,132	U
163	0604759A	Major T&E Investment	06	119,231	93,617	107,706	U
164	0605103A	Rand Arroyo Center	06	12,989	32,296	35,542	U
165	0605301A	Army Kwajalein Atoll	06	221,949	240,877	309,005	U
166	0605326A	Concepts Experimentation Program	06	46,847	79,585	87,122	U
167	0605502A	Small Business Innovative Research	06	369,715			U
168	0605601A	Army Test Ranges and Facilities	06	390,366	367,125	401,643	U
169	0605602A	Army Technical Test Instrumentation and Targets	06	81,829	59,253	37,962	U
170	0605604A	Survivability/Lethality Analysis	06	36,001	36,370	36,500	U
171	0605606A	Aircraft Certification	06	2,736	2,489	2,777	U

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Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
172	0605702A	Meteorological Support to RDT&E Activities	06	6,360	6,521	6,958	U
173	0605706A	Materiel Systems Analysis	06	21,830	21,558	22,037	U
174	0605709A	Exploitation of Foreign Items	06	8,936	13,631	6,186	U
175	0605712A	Support of Operational Testing	06	54,116	55,122	70,718	U
176	0605716A	Army Evaluation Center	06	56,827	65,854	67,058	U
177	0605718A	Army Modeling & Sim X-Cmd Collaboration & Integ	06	2,478	2,633	6,097	U
178	0605801A	Programwide Activities	06	89,023	96,558	89,793	U
179	0605803A	Technical Information Activities	06	25,817	31,987	28,752	U
180	0605805A	Munitions Standardization, Effectiveness and Safety	06	50,648	63,042	48,316	U
181	0605857A	Environmental Quality Technology Mgmt Support	06	1,715	1,789	1,912	U
182	0605898A	Army Direct Report Headquarters - R&D - MHA	06	50,859	48,981	53,271	U
183	0606002A	Ronald Reagan Ballistic Missile Defense Test Site	06	74,089	80,921	90,088	U
184	0606003A	CounterIntel and Human Intel Modernization	06	5,200	5,363	1,424	U
185	0606105A	Medical Program-Wide Activities	06	18,973	39,041		U
186	0606942A	Assessments and Evaluations Cyber Vulnerabilities	06	6,496	5,466	5,816	U
187	0909999A	Financing for Cancelled Account Adjustments	06	253			U
		Management Support		**1,832,049**	**1,553,905**	**1,554,252**	
188	0603778A	MLRS Product Improvement Program	07	9,785	12,314	18,463	U
189	0605024A	Anti-Tamper Technology Support	07	8,436	8,868	9,284	U
190	0607131A	Weapons and Munitions Product Improvement Programs	07	24,666	35,828	11,674	U
191	0607134A	Long Range Precision Fires (LRPF)	07	100,146			U
192	0607136A	Blackhawk Product Improvement Program	07	8,300	14,773		U

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Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
193	0607137A	Chinook Product Improvement Program	07	49,409	67,872	52,513	U
194	0607139A	Improved Turbine Engine Program	07	232,159	260,024	228,036	U
195	0607142A	Aviation Rocket System Product Improvement and Development	07	11,321	12,417	11,312	U
196	0607143A	Unmanned Aircraft System Universal Products	07	19,460	4,594	512	U
197	0607145A	Apache Future Development	07	52,502	10,067	10,074	U
198	0607148A	AN/TPQ-53 Counterfire Target Acquisition Radar System	07		47,752	62,559	U
199	0607150A	Intel Cyber Development	07	14,652	3,611	13,343	U
200	0607312A	Army Operational Systems Development	07	35,851	28,029	26,131	U
201	0607313A	Electronic Warfare Development	07		5,673	6,432	U
202	0607665A	Family of Biometrics	07	1,276	1,144	1,114	U
203	0607865A	Patriot Product Improvement	07	178,984	125,932	152,312	U
204	0203728A	Joint Automated Deep Operation Coordination System (JADOCS)	07	43,060	25,489	19,329	U
205	0203735A	Combat Vehicle Improvement Programs	07	213,726	280,107	192,310	U
206	0203743A	155mm Self-Propelled Howitzer Improvements	07	217,959	175,076	136,680	U
207	0203744A	Aircraft Modifications/Product Improvement Programs	07	11,261	10,000		U
208	0203752A	Aircraft Engine Component Improvement Program	07	80	132	148	U
209	0203758A	Digitization	07	4,351	3,903	2,100	U
210	0203801A	Missile/Air Defense Product Improvement Program	07	1,241	127	3,109	U
211	0203802A	Other Missile Product Improvement Programs	07	15,268	10,265	9,027	U
212	0205412A	Environmental Quality Technology - Operational System Dev	07	250	262	793	U
213	0205778A	Guided Multiple-Launch Rocket System (GMLRS)	07	72,817	60,733	20,180	U
214	0208053A	Joint Tactical Ground System	07	9,510	13,379	8,813	U

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Appropriation: 2040A Research, Development, Test & Eval, Army

Line No	Program Element Number	Item	Act	FY 2021 (Base + OCO)	FY 2022 Enactment	FY 2023 Request	Sec
216	0303028A	Security and Intelligence Activities	07	23,367	24,531		U
217	0303140A	Information Systems Security Program	07	28,270	15,680	17,209	U
218	0303141A	Global Combat Support System	07	70,652	45,297	27,100	U
219	0303142A	SATCOM Ground Environment (SPACE)	07	18,002	15,222	18,321	U
222	0305179A	Integrated Broadcast Service (IBS)	07	382	5,430	9,926	U
223	0305204A	Tactical Unmanned Aerial Vehicles	07	38,151	8,410	4,500	U
224	0305206A	Airborne Reconnaissance Systems	07	28,858	24,460	17,165	U
225	0305208A	Distributed Common Ground/Surface Systems	07	40,771			U
226	0307665A	Biometrics Enabled Intelligence	07		2,066		U
227	0708045A	End Item Industrial Preparedness Activities	07	130,785	103,720	91,270	U
9999	9999999999	Classified Programs		3,983	2,993	6,664	U
		Operational Systems Development		**1,719,691**	**1,466,180**	**1,188,403**	
228	0608041A	Defensive CYBER - Software Prototype Development	08	56,706	108,841	94,888	U
		Software and Digital Technology Pilot Programs		**56,706**	**108,841**	**94,888**	
Total Research, Development, Test & Eval, Army				**14,197,238**	**14,528,259**	**13,710,273**	

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Line #	Budget Activity	Program Element Number	Program Element Title	Page
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116	05	0604820A	Radar Development	Volume 2d - 100
117	05	0604822A	General Fund Enterprise Business System (GFEBS)	Volume 2d - 111
118	05	0604823A	Firefinder	Volume 2d - 127
119	05	0604827A	Soldier Systems - Warrior Dem/Val	Volume 2d - 139
120	05	0604852A	Suite of Survivability Enhancement Systems - EMD	Volume 2d - 165
121	05	0604854A	Artillery Systems - EMD	Volume 2d - 179
122	05	0605013A	Information Technology Development	Volume 2d - 191
123	05	0605018A	Integrated Personnel and Pay System-Army (IPPS-A)	Volume 2d - 278
124	05	0605028A	Armored Multi-Purpose Vehicle (AMPV)	Volume 2d - 292
125	05	0605030A	Joint Tactical Network Center (JTNC)	Volume 2d - 302
126	05	0605031A	Joint Tactical Network (JTN)	Volume 2d - 313
127	05	0605033A	Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)	Volume 2d - 331
128	05	0605035A	Common Infrared Countermeasures (CIRCM)	Volume 2d - 338
129	05	0605038A	Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite	Volume 2d - 348
130	05	0605041A	Defensive CYBER Tool Development	Volume 2d - 355

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Program Element Title	Program Element Number	Line #	BA	Page
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Army Tactical Command & Control Hardware & Software	0604818A	115	05	Volume 2d - 1
Artillery Systems - EMD	0604854A	121	05	Volume 2d - 179
Common Infrared Countermeasures (CIRCM)	0605035A	128	05	Volume 2d - 338
Defensive CYBER Tool Development	0605041A	130	05	Volume 2d - 355
Firefinder	0604823A	118	05	Volume 2d - 127
General Fund Enterprise Business System (GFEBS)	0604822A	117	05	Volume 2d - 111
Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)	0605033A	127	05	Volume 2d - 331
Information Technology Development	0605013A	122	05	Volume 2d - 191
Integrated Personnel and Pay System-Army (IPPS-A)	0605018A	123	05	Volume 2d - 278
Joint Tactical Network (JTN)	0605031A	126	05	Volume 2d - 313
Joint Tactical Network Center (JTNC)	0605030A	125	05	Volume 2d - 302
Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite	0605038A	129	05	Volume 2d - 348
Radar Development	0604820A	116	05	Volume 2d - 100
Soldier Systems - Warrior Dem/Val	0604827A	119	05	Volume 2d - 139
Suite of Survivability Enhancement Systems - EMD	0604852A	120	05	Volume 2d - 165

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604818A *I Army Tactical Command & Control Hardware & Software*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	126.676	155.017	111.690	-	111.690	111.612	69.378	69.504	70.236	Continuing	Continuing
323: *Common Hardware Systems*	-	4.816	4.592	5.121	-	5.121	4.728	5.126	5.128	5.177	Continuing	Continuing
C29: *Centralized Technical Support Facility (CTSF)*	-	4.981	7.345	12.539	-	12.539	4.473	4.573	4.678	4.781	Continuing	Continuing
C34: *Army Tac C2 Sys Eng*	-	9.351	9.409	11.965	-	11.965	11.376	11.676	11.679	11.793	Continuing	Continuing
EJ4: *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	-	26.485	35.117	28.070	-	28.070	28.173	28.258	28.268	28.543	Continuing	Continuing
EJ5: *MOUNTED COMPUTING ENVIRONMENT (MCE)*	-	9.994	21.874	-	-	-	-	-	-	-	Continuing	Continuing
EJ6: *TACTICAL ENHANCEMENT*	-	-	7.860	-	-	-	-	-	-	-	0.000	7.860
EK9: *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	-	3.252	3.366	3.400	-	3.400	-	-	-	-	0.000	10.018
EQ8: *Mobile/Handheld Computing Environment (M/HHCE)*	-	4.967	5.105	5.298	-	5.298	5.327	5.390	5.392	5.444	Continuing	Continuing
ER9: *Expeditionary Army Command Post*	-	43.803	51.003	31.483	-	31.483	43.352	-	-	-	0.000	169.641
EW3: *Unit Task Reorganization (UTR) Development*	-	19.027	9.346	13.814	-	13.814	14.183	14.355	14.359	14.498	Continuing	Continuing

A. Mission Description and Budget Item Justification

A portion of this funding line is directly aligned to the Army Network Modernization Priority. This funding line supports the Army Network Modernization Strategy LOE 1, Unified Network, LOE 2 - Common Operating Environment and LOE 4 - Command posts. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604818A *I Army Tactical Command & Control Hardware & Software*

Project 323, Common Hardware Systems (CHS) is an ACAT III program that is a key enabler of the Army Modernization Priorities in support of the Army's Network Modernization Strategy Lines of Effort: (1) Unified Network Transport, (2) Common Operating Environment, (3) Interoperability, and (4) Command Post Mobility and Survivability. CHS is a mandated Army Strategic Source, as annotated in AR 25-1 that acquires and sustains highly flexible, cost-effective, and simplified non-developmental solutions that integrate the latest and emerging commercial information technology onto the Converged Mission Command Network. Efforts are aligned to support the Network Cross-Functional Team (CFT) capability set approach to achieve network modernization strategy goals. This funding line also supports network solution procurement and sustainment for U.S. Army Reserves, U.S. Army National Guard, U.S. Navy, U.S. Air Force, U.S. Marine Corps, and other Federal agencies. The CHS-5 contract averages approximately 315 contract actions annually.

Project C29, the Central Technical Support Facility (CTSF), is the Army's single strategic facility responsible for executing Army Interoperability Certification (AIC) system of system verification/validation checkout, testing, and configuration management for the Army's LandWarNet Baseline. The Centralized Technical Support Facility (CTSF) funding line supports the Army's Network Modernization Strategy Line of Effort LOE 1B Network Enabling Functions.

Project C34, the Army Tac C2 Sys Eng project funds the PEO Command, Control, Communications-Tactical (PEO C3T) the System-of-Systems engineering, Enterprise and Integration efforts. The system engineering efforts are to facilitate the overall network interoperability of all the various programs that must be able to seamlessly connect together while addressing their individual distinct requirements. Efforts address continuing evolution of the network within the PEO C3T portfolio of technology across capability enhancement packages, in line with the Network CFT capability set strategy, to deliver efficient and effective cross-domain technical solution.

Project EJ4, the Command Post Computing Environment (CPCE) implements an integrated, interoperable, cyber-secure, software infrastructure that serves as the host for a unified set of multiple warfighting functional applications within the command post at echelons Battalion to Army Service Component Command (ASCC); eliminating "stove-piped" legacy systems, duplicative or redundant implementations, simplifying future application development efforts, and enhancing interoperability and data sharing across multiple echelons. CPCE software infrastructure and applications reside on Tactical Server Infrastructure (TSI) hardware and BCCS/TSI servers previously fielded under the TMC/MCS program of record. CPCE/TSI provides the hardware infrastructure to host capabilities, such as movement and maneuver applications, network enabling tools (i.e. Cyber Situational Understanding and Tactical Defensive Cyber Operation Infrastructure) and warfighting function applications. This software infrastructure provides the Army's Common Operating Picture (COP) solution, enabling interoperability between command posts, mounted platforms, and dismounted handheld devices while supporting collaboration with Joint and Unified Action partners. CPCE provides common look and feel (user interface), common data strategy, interoperable tactical messaging/ chat, and essential warfighting capabilities.

Project EJ5, the Mounted Computing Environment (MCE), is one of the six computing environments (CEs) formalized by the AAE under the Common Operating Environment (COE) initiative. MCE is now called, Mounted Mission Command - Software (MMC-S), an ACAT II program, after a successful Materiel Development Decision (MDD) briefing in Feb. 2020. MMC-S standardizes end-user environments and enables streamlined deployment of new warfighting applications while leveraging existing hardware under the Joint Battle Command - Platform program. Requirements for MMC-S are established in the AROC approved COE Information Systems Initial Capability Document (IS ICD) and the approved Mounted Computing Environment Requirements Definition Package (RDP). The MMC-S will provide incremental improvements with additional application capabilities over time, and will be interoperable with Command Post and Mobile/Handheld systems.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604818A *I Army Tactical Command & Control Hardware & Software*

Project EJ6, This funding line is directly aligned to the Army Network Modernization Strategy LOE 1, Unified Network. Efforts are aligned to support the Network-Cross Functional
Team capability set approach to achieve the network modernization strategy.
TROPO: Tactical Enhancement supports the evaluation and testing requirements for Troposcatter Transmission (TROPO) capabilities procured and fielded under the Signal Modernization (SIGMOD) funding line, B00010. TROPO will provide redundancy communications in a Satellite denied environment by providing improved Line of Sight and beyond line of sight radio systems.
Enables Mission Command in a Satellite Denied environment by providing Beyond Line of Sight (BLOS) capability over longer ranges and at higher throughput than the current BLOS System. TROPO extends the network by utilizing a significantly reduced SWaP radio verses the current system. TROPO will enable Army units to reduce reliance on costly satellite bandwidth.
COMMAND POST NETWORKING: Enables Command Post networking capabilities by providing communications solutions to enable a more survivable Command Post against near peer advisories. The solutions will utilize advanced waveform and antenna improvements to decrease radio frequency detection and interception in the battlefield and will be integrated onto the appropriate platforms to increase Command Post survivability.

Project EK9, Tactical Network Operations Management's (TNOM) purpose is to create Unified Network Operations (UNO). UNO is a software centric, integrated NetOps capability being developed, as a rapid prototype - proceeding under Mid-Tier Acquisition (MTA) authority granted by the Army Acquisition Executive (AAE)'s 14 May 2019 Acquisition Decision Memorandum (ADM). Enabling common planning, configuration, monitoring, provisioning, management, and defense of the Network, UNO configures and integrates tactical and enterprise networks to allow delivery of information and communications among Soldiers at all echelons utilizing network resources prioritized according to the Commander's intent. In developing UNO, TNOM follows the Army's Development of Operations (DevOps) approach - creating Network Operations (NetOps) prototypes, gaining user feedback, making adjustments and ultimately delivering enhanced capabilities to the operational force in the shortest time possible. UNO development incorporates solutions available in industry and through government agencies - assessing them in an adapt-and-buy approach informed by experimentation, demonstration, and modernization.

Project EQ8, Mobile/Handheld Computing Environment (M/HHCE), is one of the six computing environments (CEs) formalized by the AAE under the Common Operating Environment (COE) initiative and supports the Nett Warrior (NW) also known as the Ground Soldier Systems (GSS) program. The program leverages commercial smart devices and secure Army tactical radios, Commercial 4G/LTE/WIFI and cloud-based infrastructure to provide the dismounted leader an integrated mission command and situational awareness system for use during combat operations. The NW system provides leaders electronic real-time information on friendly positions; information about enemy activity and movement; navigational data and map imagery; a collaborative planning tool; and other mission related graphics which effectively puts the power of the entire Army tactical network in the hands of the dismounted leader. The NW hardware is the computational platform that other M/HHCE systems run their applications. The M/HHCE will provide incremental improvements with additional application capabilities over time, and will be interoperable with Command Post CE and Mounted CE systems.

Project ER9, Command Post Integrated Infrastructure (CPI2), fields mobile Command Post nodes by integrating mission command solutions into vehicle platforms and mounted shelter systems to enhance the survivability and mobility of command post formations. CPI2 will replace selected elements of the legacy command post to provide improved expeditionary capability, survivability, agility, and scalability for command post formations at all echelons. By integrating mission command

warfighting functions on to vehicle platforms, a dispersed command post construct will enable the battle staff to blend in with the overall maneuver formation while giving the commander the ability to synchronize the close fight on the move.

Project EW3, Unit Task Reorganization (UTR) funding line supports the Army Network Plan Framework objective to deliver a Standards Based Network Architecture. This will enable modernizing the Mission Command Network through the coordination of a common set of network operations tools and infrastructure development supporting the unit communication staff's ability to conduct Network Planning, Network Provisioning and Network Management. Network Planning efforts include the development of an integrated planning tool suite to improve Signal Soldiers ability to plan and develop configurations for upcoming operations and deployments. Network Provisioning efforts include development of tools and technology that provide a means to deliver configurations developed during the Network Planning with little to no manual involvement by the Soldier. Network Management efforts replace stove-piped management systems and replaces them with integrated tools that provide a consolidated, as well as detailed, view of the network and its components.

The total cost of the Unified Network Operations (UNO) Middle Tier of Acquisition (MTA) effort is $84.352 million RDT&E from FY19 to FY24. The remainder (FY23-24) of the $31.397 million for UNO MTA is fully funded across the Future Years Defense Program (FYDP).

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	128.676	162.704	0.000	-	0.000
Current President's Budget	126.676	155.017	111.690	-	111.690
Total Adjustments	-2.000	-7.687	111.690	-	111.690
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-7.487			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.000	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	111.690	-	111.690
• FFRDC Transfer	-	-0.200	-	-	-

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 323 / *Common Hardware Systems*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
323: *Common Hardware Systems*	-	4.816	4.592	5.121	-	5.121	4.728	5.126	5.128	5.177	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Common Hardware Systems (CHS) is an ACAT III program that is a key enabler of the Army Modernization Priorities in support of the Army's Network Modernization Strategy Lines of Effort: (1) Unified Network Transport, (2) Common Operating Environment, (3) Interoperability, and (4) Command Post Mobility and Survivability. CHS is a mandated Army Strategic Source, as annotated in AR 25-1 that acquires and sustains highly flexible, cost-effective, and simplified non-developmental solutions that integrate the latest and emerging commercial information technology onto the Converged Mission Command Network. Efforts are aligned to support the Network Cross-Functional Team (CFT) capability set approach to achieve network modernization strategy goals. This funding line also supports network solution procurement and sustainment for U.S. Army Reserves, U.S. Army National Guard, U.S. Navy, U.S. Air Force, U.S. Marine Corps, and other Federal agencies. The CHS-5 contract averages approximately 315 contract actions annually.

CHS provides technical support, warranty support, system design, and end-of-life and configuration management services to ensure interoperability and integration of hardware throughout the computing infrastructure. CHS continuously analyzes and tracks hardware from cradle to grave; from emerging technology until end of life. The program conducts hardware evaluations that facilitate and simplify the selection of common hardware solutions across numerous Army programs, agencies, Joint Services, and other Federal Agencies including: Mission Command; Tactical Network; Tactical Radios; Intelligence Systems and Analytics; Aviation Systems; Counter Rocket, Artillery, Mortar; Communication Electronics Command; Combat Capabilities Development Command (CCDC), Army National Guard and Reserves, Navy, Air Force, Marines, the Federal Bureau of Investigation, among others. CHS rapidly procures common hardware configurations across the Capabilities Sets, the sustainment community, and tactical programs that enable the continuous modernization in support of all four Army Network Modernization Lines of Effort and Network CFT requirements. CHS logistical services include the ability to add worldwide, 72-hour turn-around repair through strategically located support centers for tactical military units. These support centers provide tailorable supply chain and cybersecurity measures, customizable warranty management, maintenance and failure rate reporting, and technical support services to support specific Army program requirements.

CHS is a model for modern acquisition strategy that strengthens the U.S. cybersecurity supply chain and manages risk by providing hardware solutions including servers, storage, clients, networking devices, tactical radios, ruggedized platforms, hand-held end devices, operational transit cases, installation kits, and peripheral devices procured from a mix of small and large businesses. CHS partners with the CECOM Integrated Logistics Support Center (ILSC) to develop a model for sustaining COTS IT using the Standard Army Supply System. CHS maintains a Public-Private Partnership (P3) with Tobyhanna Army Depot (TYAD) in order to leverage the innovation, resources and leadership skills of both TYAD and CHS in order to provide the best value to the taxpayer while delivering the best capability to the Soldier.

CHS supports Better Buying Power (BBP) initiatives by through volume discounting, economies of scale, the elimination of duplication of effort, reduced barriers to entry, price breaks, streamlined processes, reduced cycle times, and centralized contracting.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Acquisition Support	2.552	2.229	2.809
Description: Funding is provided for the following effort. ***FY 2022 Plans:*** Will continue acquisition support for CHS and customer programs. CHS rapidly procures common hardware configurations across all four Network Modernization Lines of Effort and Network Cross Functional Team (CFT). Supports tactical programs that enable the continuous modernization of a unified network requirements, the sustainment community, and DoD and Federal Government customers. Additional efforts include pre-award activities for the 6th generation CHS contract. PMO costs will be covered by OMA funding. ***FY 2023 Plans:*** Will continue acquisition support for CHS and customer programs. CHS rapidly procures common hardware configurations across all four Network Modernization Lines of Effort, Capability Sets, and Network Cross Functional Team (CFT). Supports tactical programs that enable the continuous modernization of a unified network requirements, the sustainment community, and DoD and Federal Government customers. PMO costs will be covered by OMA funding. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase from FY22 to FY23 covers the standard inflation and forecasted contract workload.			
Title: Technical and Test Support	1.705	1.607	1.700
Description: Funding is provided for the following effort. ***FY 2022 Plans:*** CHS provides technical support, environmental and survivability testing, system design, end of life/configuration management, and strengthens cyber security/supply chain management across Army tactical programs to ensure interoperability and integration of hardware throughout the computing infrastructure. CHS conducts hardware evaluations that facilitate and simplify the selection of common hardware solutions across numerous Army programs and agencies. ***FY 2023 Plans:*** CHS provides technical support, environmental and survivability testing, system design, end of life/configuration management, and strengthens cyber security/supply chain management across Army tactical programs to ensure interoperability and integration of hardware throughout the computing infrastructure. CHS conducts hardware evaluations that facilitate and simplify the selection of common hardware solutions across numerous Army programs and agencies. ***FY 2022 to FY 2023 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
The increase from FY22 to FY23 is inflation.			
Title: Logistical Service Support ***Description:*** Funding is provided for the following effort. ***FY 2022 Plans:*** CHS logistical services include worldwide 72-hour turnaround repair through strategically located support centers for tactical military units, tailorable supply chain and cybersecurity measures, manages customizable warranty, maintenance and failure rate reporting, and technical support services to support specific Army program requirements. ***FY 2023 Plans:*** CHS logistical services include worldwide support with a 72-hour turnaround for repairs, tailorable supply chain and cybersecurity measures, manages customizable warranty, maintenance and failure rate reporting, and technical support services to support specific Army program requirements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase from FY22 to FY23 is inflation.	0.359	0.386	0.408
Title: Contract Support Services ***Description:*** Funding is provided for the following effort. ***FY 2022 Plans:*** Contract Support Services are required to provide continuing expedited acquisition support for customer procurements. ***FY 2023 Plans:*** Contract Support Services are required to provide continuing expedited acquisition support for customer procurements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase from FY22 to FY23 is inflation.	0.200	0.202	0.204
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	0.168	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** 323 / *Common Hardware Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	4.816	4.592	5.121

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

CHS is currently executing an approved acquisition strategy to facilitate the procurement of commercial IT through a single step, full and open competition contract. The fifth generation of the contract (CHS-5) was awarded on 23 AUG 2018; 5 years/IDIQ. A single prime vendor was selected as the program integrator. The CHS-5 contract provides seamless, rapid, and consolidated procurement of commercial IT, customizable sustainment strategies, non-personal services, and continuous technology upgrades to support tactical programs fielding schedules, configuration management, and ruggedization.

Since the inception of the CHS-5 contract, there have been 275 technology insertions, 806 delivery orders, 98 task orders, and 292,422 items delivered to 482 unique customers. Additionally, since its inception, the CHS-5 contract yielded a cost avoidance of $277.8 million to its customers. FY21 yielded 345 actions awarded (74 TIs, 231 DOs, and 40 TOs) for a total of $375 million.

The sixth generation CHS contract (CHS-6) is in development. Extensive market research has been conducted to identify the acquisition strategy for this effort. The CHS PMO holds frequent and open discussions with industry to ensure the requirements are clearly understood and feedback is from hardware developers and manufacturers is taken into consideration to maximize competition. The CHS PMO is exploring innovative ways to shape the CHS-6 contract to allow all Federal Agencies with tactical requirements to achieve their missions and strategic initiatives by providing a rapid and streamlined process and access to critical Commercial Information Technology. The CHS-6 contract award is estimated to be 3QFY23.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) 323 / *Common Hardware Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PMO Support	Various	Various : Various	0.226	0.182	Jan 2021	-		-		-		-	0.000	0.408	-
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.168		-		-		-	0.000	0.168	-
		Subtotal	0.226	0.182		0.168		-		-		-	0.000	0.576	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Acquisition Support	C/FP	Various : Various	8.699	2.370	Dec 2020	2.229	Dec 2021	2.809	Dec 2022	-		2.809	Continuing	Continuing	Continuing
Logistical Service Support	C/FP	Various : Various	1.401	0.359	Dec 2020	0.386	Dec 2021	0.408	Dec 2022	-		0.408	Continuing	Continuing	Continuing
Technical & Test Support	C/FP	Various : Various	4.657	1.705	Dec 2020	1.607	Dec 2021	1.700	Dec 2022	-		1.700	Continuing	Continuing	Continuing
		Subtotal	14.757	4.434		4.222		4.917		-		4.917	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contract Support Services	SS/CR	APG, MD : APG, MD	-	0.200	Dec 2020	0.202	Dec 2021	0.204	Dec 2022	-		0.204	Continuing	Continuing	Continuing
		Subtotal	-	0.200		0.202		0.204		-		0.204	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.983	4.816		4.592		5.121		-		5.121	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
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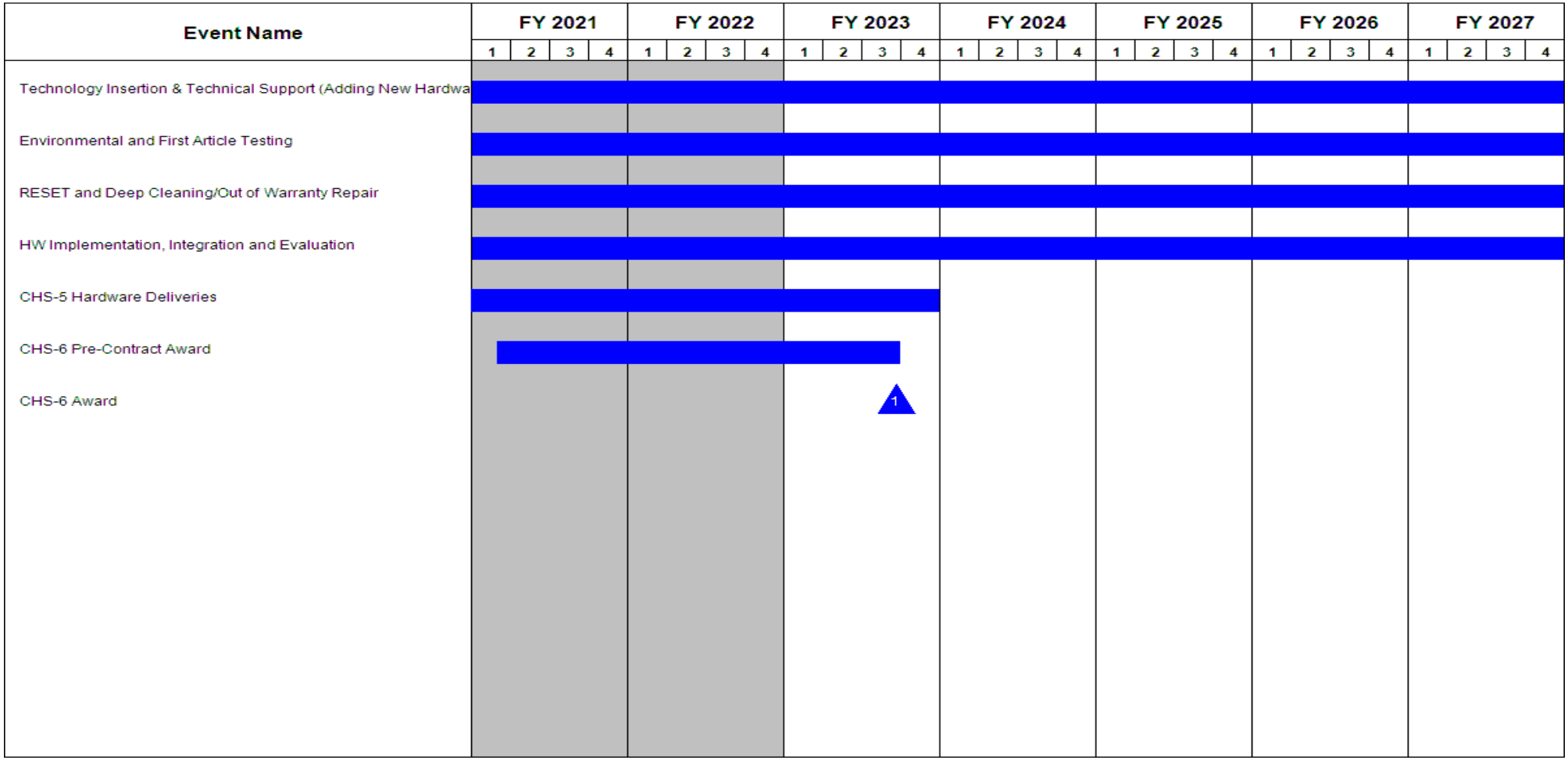

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Technology Insertion & Technical Support (Adding New Hardware to Contract)	1	2007	4	2027
Environmental and First Article Testing	1	2006	4	2027
RESET and Deep Cleaning/Out of Warranty Repair	1	2006	4	2027
HW Implementation, Integration and Evaluation	1	2006	4	2027
CHS-5 Hardware Deliveries	4	2018	4	2023
CHS-6 Pre-Contract Award	1	2020	3	2023
CHS-6 Award	3	2023	3	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C29 / *Centralized Technical Support Facility (CTSF)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
C29: *Centralized Technical Support Facility (CTSF)*	-	4.981	7.345	12.539	-	12.539	4.473	4.573	4.678	4.781	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project C29, The Centralized Technical Support Facility (CTSF): The CTSF is the Army's premier test and certification facility for System of Systems interoperability, functioning as CIO/G6's designated independent test agent and Land/WarNet/Mission Command (LWN/MC) configuration manager. The Central Technical Support Facility's (CTSF) directed mission is to perform Army Interoperability Certification (AIC) testing and configuration management for all 23 operational through tactical level Command, Computing, Control, Communications, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) systems, Mission and Space systems, Aviation systems and other individual, family, and system of systems, applications, and hardware prior to release to the field. The CTSF accomplishes this through the enforcement of a standards based architecture while supporting the development and implementation of an integrated computing infrastructure and a converged network. The CTSF provides validated test data to the Department of the Army and Joint agencies to accredit interoperability certifications. The distributed test environment of the CTSF is accomplished through the Federation of Net-centric Sites (FaNS) construct. This FaNS construct addresses distributed integration development and testing using the core infrastructure of the CTSF to harness Army and Joint expertise/resources. Through these federated resources, the CTSF executes or supports interoperability development, integration and certification testing of the systems and system of systems in the Warfighter Mission Area, to include Network Evaluation spinouts, as they become part of the Army's LandWarNet. The cited work is consistent with Strategic Planning Guidance and the Army Modernization and Strategy Plan.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Army Interoperability Certification (AIC) Testing	2.930	1.888	3.514
Description: Conduct Army Interoperability Certification (AIC), planning/coordination/scheduling/ and reporting of Common Operating Environment (COE) and software block testing (local and distributed). Additionally, provide stakeholders data collection/data analysis/data dissemination/simulation/stimulation verification/validation in support of Army geospatial interoperability certification, system of system cybersecurity posture assessment and individual system cybersecurity policy adjustment. Manage the set-up, configuration, integration, operations and maintenance of the LandWarNet/Mission Command (LWN/MC) systems within the CTSF test environments. Function as the HQDA G-6's Independent Test Agent for Program Managers of LWN/MC systems that have an Acquisition Life Cycle requirement for testing interoperability of software and associated hardware prior to fielding to the Warfighter. Act as the central control node to synchronize the HQDA G-6 accredited Federation of Net-centric Sites (FaNS) distributed AIC testing environment. Report the results of Army Interoperability Certification tests to the HQDA G-6, PM, TRADOC and AFC communities.			
FY 2022 Plans:			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue SWB11-12 test planning, test case development, test environment architecture set-up, for interoperability testing, Geospatial Information Systems (GIS) interoperability assessment, cybersecurity posture adjustment and assessment activities for the systems that comprise the Army?s tactical software baselines. Conduct COE v3.0 planning, test case development and architecture set-up to support the technical standards update timelines for the Army?s tactical software baseline. Conduct interoperability testing for the SWB11-12 and COE v3.0 systems that comprise the LWN/MC baseline to ensure the tactical integrated computing infrastructure is interoperable in a System of Systems (SoS) environment and to enable the HQDA G-6 to enforce a standards based architecture. Complete the virtualization of the technical environment and test methodology needed to virtualize the tactical network and the tactical systems required to support AIC testing. Partner with ATEC and AFC to leverage the CTSF assets in support of PMs? Operational Test activities. ***FY 2023 Plans:*** Continue SWB11-12 test planning, test case development, test environment architecture set-up, for interoperability testing, Geospatial Information Systems (GIS) interoperability assessment, cybersecurity posture adjustment and assessment activities for the systems that comprise the Army?s tactical software baselines. Conduct COE v3.0 planning, test case development and architecture set-up to support the technical standards update timelines for the Army?s tactical software baseline. Conduct interoperability testing for the SWB11-12 and COE v3.0 systems that comprise the LWN/MC baseline to ensure the tactical integrated computing infrastructure is interoperable in a System of Systems (SoS) environment and to enable the HQDA G-6 to enforce a standards based architecture. Continue the virtualization build out and scale up of the test environment to support AIC testing. Partner with ATEC and AFC to leverage the CTSF assets in support of PMs? Operational Test activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase is due to additional need for subject matter expertise personnel salaries related to the transitioning to a cloud based testing capability. Will include additional travel, training, software development and software licenses.			
Title: Engineering Services	0.162	0.195	0.199
Description: Provide network engineering support to establish and maintain tactical architectures on the CTSF test floors and to deploying/fielded units at training centers around the world (JRTC, NTC, JMRC). System engineering support provides hardware virtualization, Army End Point Security System (AESS) support, system validation and integration support to numerous PMs on the integration and risk reduction labs, and assists Army programs with interoperability assessments and AIC rehearsal. Modify and merge army data products for CTSF test architectures. Continuously seek emerging markets. Develop/Maintain Applications for CTSF Configuration Tracking System Version 4 (CMTSv4). ***FY 2022 Plans:*** Provide Network support for integration and test floors, network support to fielded units, and systems engineering and analysis support to system of systems integration activities. Enhance the Security posture of the CTSF by ensuring the latest Information			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Assurance Vulnerability Alerts (IAVAs) and Security Technical Implementation Guides (STIGs) are implemented as required by Risk Management Framework (RMF). Integrate and implement Army End Point Security System (AESS) technology, assist PMs in the development of AESS policies. Plan and conduct engineering evaluations for AIC testing and data collection in the Joint Warfighter Assessment (JWA)/Capability Integration Evaluation (CIE) to leverage the operational environment and JWA/ CIE resources. Work with Network Cross Functional Team on Network modernization and Integrated Tactical Network (ITN) design and testing. Assist integration and test architectures to include Program of Record (POR) and non-POR Soldier radio waveforms to provide PMs and Material Developers testing in realistic environments. Support Army Test and Evaluation Command (ATEC) and Army Futures Command interoperability assessments of Cross-Functional Team (CFT) solutions. Continue efforts to implement an AIC Secret Releasable test environment network that integrates Army and the Unified Action Partners (UAP). ***FY 2023 Plans:*** Provide Network support for integration and test floors, network support to fielded units, and systems engineering and analysis support to system of systems integration activities. Enhance the Security posture of the CTSF by ensuring the latest Information Assurance Vulnerability Alerts (IAVAs) and Security Technical Implementation Guides (STIGs) are implemented as required by Risk Management Framework (RMF). Integrate and implement Army End Point Security System (AESS) technology, assist PMs in the development of AESS policies. Plan and conduct engineering evaluations for AIC testing and data collection in the Joint Warfighter Assessment (JWA)/Capability Integration Evaluation (CIE) to leverage the operational environment and JWA/ CIE resources. Work with Network Cross Functional Team on Network modernization and Integrated Tactical Network (ITN) design and testing. Assist integration and test architectures to include Program of Record (POR) and non-POR Soldier radio waveforms to provide PMs and Material Developers testing in realistic environments. Support Army Test and Evaluation Command (ATEC) and Army Futures Command interoperability assessments of Cross-Functional Team (CFT) solutions. Continue efforts to implement an AIC Secret Releasable test environment network that integrates Army and the Unified Action Partners (UAP). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to anticipated standard inflation rate of 2% for CEAC rate for 1 AcqDemo work year.			
Title: Configuration Management ***Description:*** As the CTSF Configuration Management Office, provide CM functional and physical configuration management and change management to the CTSF Army Interoperability Certification test floor environment. Additionally, as the Army Configuration Management Office (ACMO), establish and maintain oversight control of the Army Master Library for the Army Interoperability Certified Fielded Baseline (AICFB). Archive system software and data products, correlated with their associated documentation, for the Army LandWarNet Mission Command Baseline (ALWNMCB), a subset of the AICFB. Establish and maintain the configuration and change management to the AICFB and the ALWNMCB for Lifecycle Software Management (LCSM). Provide support to the Army Staff (ARSTAF), Material Developers (MATDEV), Project Managers (PM), and System Owners (SO) through the orderly management of product configuration information and product change management (ChM),	1.205	1.432	1.914

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
which enables capability revisions, improved reliability and maintainability, and extended life-cycle. Maintain and improve the Configuration Management Tracking System version 3 (CMTSIII), the Army?s authoritative database management system (DBMS) for configuration management (CM) of the systems comprising Coalition Interoperability Assurance and Validation (CIAV), and the Warfighter Mission and Business Mission Areas of the Army Information Technology (IT) portfolio. Assist the HQDA G-6 conduct accreditation inspections and training for Federation of Net-centric Sites (FaNS) locations. ***FY 2022 Plans:*** Provide CM functional and physical configuration management and change management to the CTSF Army Interoperability Certification test floor environment. Provide CM functional and physical configuration management and change management to the AICFB, to include archiving the required system software, data products and documentation, while correlating the relevant data within the CMTSIII DBMS for visibility to users Army wide. Provide baseline reconciliation to the four quarterly CIO/G6 AICFB reports, identifying to commanders and their G-3/G-6 staff the Army?s AIC certified, Interoperability Capability and Limitations assessed, AIC waivered, and AIC exempted system software that is authorized to connect to the Army?s network. Assist the HQDA G-6 in conducting accreditation inspections and training for Federation of Net-centric Sites (FaNS) locations. ***FY 2023 Plans:*** Provide CM functional and physical configuration management and change management to the CTSF Army Interoperability Certification test floor environment. Provide CM functional and physical configuration management and change management to the AICFB, to include archiving the required system software, data products and documentation, while correlating the relevant data within the CMTSIII DBMS for visibility to users Army wide. Provide baseline reconciliation to the four quarterly HQDA G6 AICFB reports, identifying to commanders and their G-3/G-6 staff the Army?s AIC certified, Interoperability Capability and Limitations assessed, AIC waivered, and AIC exempted system software that is authorized to connect to the Army?s network. Assist the HQDA G-6 AICFB in conducting accreditation inspections and training for Federation of Net-centric Sites (FaNS) locations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to equipment refresh due to end of life for multiple physical media replication systems and payroll increases.			
Title: Management Operations/Program Office ***Description:*** Provide management operations consisting of planning, programming and executing funds; planning and programming for required personnel; planning, programming and executing contracts supporting AIC testing processes; identifying reimbursable tests and collecting/allocating appropriate funds; planning and programming logistics activities, managing/controlling/documenting physical assets and inventories; and perform oversight and coordination of physical security with hosting installation. ***FY 2022 Plans:***	0.448	0.406	0.387

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Program and execute funding. Plan and program manpower, identify contracting requirements and develop strategy for implementation in conjunction with CECOM Acquisition Center. Track testing schedule, prepare/coordinate/track customer funding for AIC testing activities and infrastructure support. Continue to provide field support coordination for unit training and exercises upon request. Maintain existing infrastructure; continue to enhance physical security, access control, force protection, Continuity Of Operations (COOP) and Emergency Action Plan (EAP) activities and exercises. Continue inventory accountability programs and asset control. ***FY 2023 Plans:*** Program and execute funding. Plan and program manpower, identify contracting requirements and develop strategy for implementation in conjunction with CECOM Acquisition Center. Track testing schedule, prepare/coordinate/track customer funding for AIC testing activities and infrastructure support. Continue to provide field support coordination for unit training and exercises upon request. Maintain existing infrastructure; continue to enhance physical security, access control, force protection, Continuity Of Operations (COOP) and Emergency Action Plan (EAP) activities and exercises. Continue inventory accountability programs and asset control. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease due to anticipated efficiencies related to modernization effort that is anticipated to reduce some operational costs.			
Title: Modernization ***Description:*** Technical modernization FY22-23 effort for Army Interoperability Certification (AIC) to enhance CTSF testing capabilities. Estimated cost of modernization is approximately $6M in investment with virtualization efforts and test automation. Funding provided for hardware & software integration for virtualization and automation, software licensing, and labor and other supporting integration efforts. ***FY 2022 Plans:*** Implementation of the automation and virtualization efforts to support the technical modernization of AIC testing. Funding provided for purchase of hardware & software integration, virtualization and automation, software licensing and labor and other integration efforts. ***FY 2023 Plans:*** Continuation of the automation and virtualization efforts to support the technical modernization of AIC testing. Funding provided for purchase of hardware & software integration, virtualization and automation, software licensing and labor and other integration efforts. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	0.236	3.156	6.525

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Increase is due to anticipated finalization cost to complete modernization effort. The planned modernization efforts for FY23 includes developing a cloud based Army Interoperability Certification (AIC) test capability. Will complete automation test and mission thread processes and virtualization infrastructure efforts, and data storage / reuse efforts in FY23. These combined modernization activities must be complete in FY23 in order to support the Army?s transition to the DevSecOps environment and the ability to validate the software interoperability within DevSecOps environment.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.268	-
Accomplishments/Planned Programs Subtotals	4.981	7.345	12.539

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Transition from executing a single test event at a time to multiple simultaneous test events using new universal mission threads, providing speed and efficiency to the test/acquisition timeline. Execute system of systems interoperability testing and certification through the use of Government and Systems Engineering and Technical Analysis (SETA) contract personnel experienced in product development and interoperability testing. Testing and certification occurs in a cyclical fashion, with an expectation of an annual Software Block/Capability Set test followed with cyclical multiple test events to ensure integrity of software baselines to the Warfighter. Engineering Services provides strategic integration of software into a system of systems/family of systems environment to support interoperability testing. Establish and maintain Configuration Management and version control of the Army's Interoperable Battle Command LandWarNet Baseline. Distributed testing capability uses local assets and leverages other federated test facilities to create synergy and realize efficiencies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.268		-		-		-	0.000	0.268	-
		Subtotal	-	-		0.268		-		-		-	0.000	0.268	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
MITRE Corp	FFRDC	Engineering Services : Fort Hood, TX	17.178	-		-		-		-		-	0.000	17.178	-
In-House	Allot	Engineering Services : Fort Hood, TX	2.548	-		-		-		-		-	0.000	2.548	-
		Subtotal	19.726	-		-		-		-		-	0.000	19.726	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CECOM Matrix	Allot	Program and Budget Analysis Support : Fort Hood, TX/ Aberdeen Proving Grounds, MD	5.705	0.142		0.145		0.148		-		0.148	0.000	6.140	-
In-House Support	Allot	Management Operations, Logistics Support : Fort Hood, TX	9.928	-		-		-		-		-	0.000	9.928	-
ISSA/Training/TDY	Allot	Site Support Activities : Fort Hood, TX	0.787	0.193		0.337		0.165		-		0.165	0.000	1.482	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Supplies	C/UCA	Management Operations, Logistics Support : Fort Hood, TX	1.515	0.113		0.098		0.074		-		0.074	0.000	1.800	-
Moving Costs	Allot	Management Operations, Logistics Support : Fort Hood, TX	0.001	0.001		0.001		-		-		-	0.000	0.003	-
		Subtotal	17.936	0.449		0.581		0.387		-		0.387	0.000	19.353	N/A

Remarks

Under "open-the-door" cost model, all In-house support efforts are included under Test & Evaluation.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
CECOM RS3	C/CPFF	Test, Configuration Management : Fort Hood, TX	18.744	1.836	Sep 2021	0.473	Apr 2022	2.150	Apr 2023	-		2.150	0.000	23.203	-
CECOM GSA BMO SB SITE SUPPORT SERVICES	C/T&M	Facilities, Maintenance, Security : Fort Hood, TX	12.671	1.094	Sep 2021	1.415	Mar 2022	1.364	Apr 2023	-		1.364	0.000	16.544	-
ISSA	MIPR	Utilities & NEC Support : Fort Hood, TX	4.945	-		-		-		-		-	0.000	4.945	-
ARL Matrix	MIPR	Test : Fort Hood, TX	6.374	-		-		-		-		-	0.000	6.374	-
In-House Support	Allot	Test : Fort Hood,TX	12.601	1.359		1.451		1.675		-		1.675	0.000	17.086	-
Equipment/Instrumentation	C/UCA	Test Equipment Infrastructure : Fort Hood, TX	3.197	0.007		0.001		0.438		-		0.438	0.000	3.643	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modernization	MIPR	Test, Configuration Management : Fort Hood, TX	1.092	0.236	Feb 2021	3.156		6.525		-		6.525	0.000	11.009	-
		Subtotal	59.624	4.532		6.496		12.152		-		12.152	0.000	82.804	N/A

Remarks

ARL Matrix effort became a "reimbursable" effort under Open-the-Door cost model effective in FY17; no longer "Direct" funded.
ISSA no longer funded at CTSF level.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	97.286	4.981		7.345		12.539		-		12.539	0.000	122.151	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
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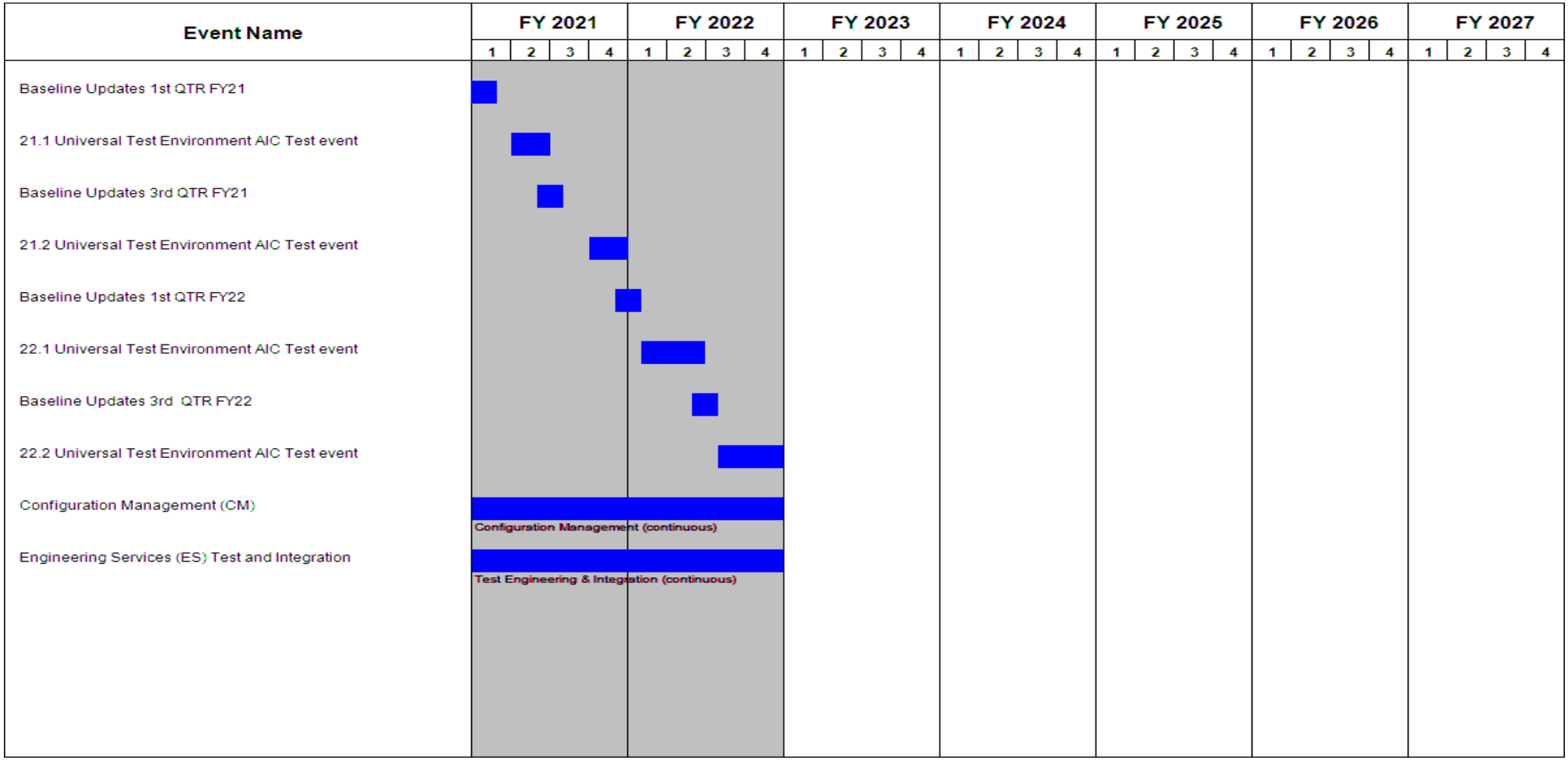

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C29 / *Centralized Technical Support Facility (CTSF)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
20.1 Universal Test Environment AIC Test event	2	2020	2	2020
Baseline Updates 3rd QTR FY20	2	2020	3	2020
20.2 Universal Test Environment AIC Test event	4	2020	4	2020
Baseline Updates 1st QTR FY21	4	2020	1	2021
21.1 Universal Test Environment AIC Test event	2	2021	2	2021
Baseline Updates 3rd QTR FY21	2	2021	3	2021
21.2 Universal Test Environment AIC Test event	4	2021	4	2021
Baseline Updates 1st QTR FY22	4	2021	1	2022
22.1 Universal Test Environment AIC Test event	1	2022	2	2022
Baseline Updates 3rd QTR FY22	2	2022	3	2022
22.2 Universal Test Environment AIC Test event	3	2022	4	2022
Configuration Management (CM)	1	2019	4	2022
Engineering Services (ES) Test and Integration	1	2019	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
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COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
C34: *Army Tac C2 Sys Eng*	-	9.351	9.409	11.965	-	11.965	11.376	11.676	11.679	11.793	Continuing	Continuing
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 the Army Network Modernization Strategy Lines of Effort (LOEs) 1-4 (Unified Network, Common Operating Environment, Interoperability, and Command Post Mobility & Survivability). Project C34, Army Tactical Command and Control Systems Engineering supports the Army's Network Modernization Strategy and coordinates technical efforts across and outside of PEO Command, Control, Communications-Tactical (PEO C3T) to ensure integration with the current and future Mission Command Network. Project C34 provides technical support for programs aligned and in support of Network Cross Functional Team (N-CFT) LOEs 1 through 4 that inform the design and solutions with specific emphasis on the ability for the different efforts to be integrated and interoperable with one another. Efforts support Army Modernization priorities including Army Unified Network Plan, Multi-Domain Operations, Joint All Domain Command and Control (JADC2), Data Modernization and emerging data-centric requirements.

Project C34, Army Tactical Command and Control Systems Engineering: This project funds the PEO C3T System of Systems engineering and integration, experimentation, acquisition management, testing, fielding and sustainment support to ensure interoperability and affordability within the PEO C3T portfolio. The effort focuses on System-of-Systems (SoS) Engineering and Integration for the Mission Command Network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies.

Fiscal Year 2023 will focus on the continued development, implementation and integration of the Command, Control, Communications, Computers, Cyber, Intelligence, Surveillance, and Reconnaissance (C5ISR) network architectures. This includes maturing the technology enhancement roadmap for SoS capability evolution across the PEO C3T portfolio that incorporates Cross Functional Team initiatives; network integration support and design products for system validation experimentation and integration testing including N-CFT led activities; integration of tactical networked capabilities for all Mission Command Network systems and integration events; integration of tactical information assurance solutions and security measures for consistent cyber protection; and support to N-CFT evaluations.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Developmental Test and Integration Test Support between Programs of Record (PORs) and platforms / Command Posts (CPs) to execute System-of-Systems (SoS) and Interoperability	1.399	1.979	1.894
Description: Funds support the following effort: ***FY 2022 Plans:*** Continue to mature/revise the design, configuration and establishment of the system of systems integration test infrastructure architecture and implementation. Continue to provide the infrastructure and support in conducting Integration testing and systems engineering for C3T systems, products, technical insertions, and systems under evaluation to ensure integration of capabilities			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
across the network. Develop integration testing tools designed to enhance DEVSECOPS implementation and more expeditious testing cycles. Expand infrastructure and support to establish and maintain an AIC FaNS facility. ***FY 2023 Plans:*** Continue to provide the infrastructure and support to conduct integration testing and systems engineering for C3T systems, products, technical insertions, and systems under evaluation, ensuring integration of capabilities across the network. Funds include sustainment of increased level of integration testing and required maintenance to support data-centric network design. Funds also include continued participation as part of the Army Interoperability Certification (AIC) Federated Net-centric Sites (FaNS) facility. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Cost decreases reflect adjustment to planned hardware procurement projections.			
Title: Conduct and Support System Interoperability Engineering and Development of System-of-Systems (SoS) Architectural Products ***Description:*** Funds support the following efforts: ***FY 2022 Plans:*** Within the PEO C3T portfolio and in conjunction with N-CFT activities, continue to assess Emerging Technologies, identify critical integrated test points, monitor developmental testing at integration points, develop architectural data processes and products, and facilitate the transition of Network capabilities to the warfighter. Provide technical support to exercises and demonstrations of Army modernization initiatives such as Mission Partner Environment SEC/REL implementation and AFC Project Convergence. ***FY 2023 Plans:*** Across the Army Unified Network and Mission Command applications within and external to PEO C3T, provide integration support for testing, exercises and experimentation. Identify critical integrated test points, monitor developmental testing at integration points, develop event architectural data processes and products, and facilitate the transition of Network capabilities to the warfighter. Provide technical support to exercises and demonstrations of Army modernization initiatives. Develop integration testing strategies designed to enhance Development Security Operations (DEVSECOPS) implementation and more expeditious testing cycles. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Cost increases reflect standard inflation associated with labor.	1.803	2.451	2.468
Title: Development and Implementation of Tactical Information Assurance (IA) ***Description:*** Funds support the following efforts:	0.273	0.286	1.284

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 Plans: Will continue to implement ARCYBER, CIO/G6 and CYBERCOM guidance for execution of Information Assurance policies and procedures at the tactical level. Continue to document the current tactical IA network architecture with the goal of developing recommendations to eliminate inconsistencies/duplications, increasing the security posture, decreasing complexity of operations, and decreasing costs. Continue to plan and design security measures and IA requirements across the tactical network for future capabilities. ***FY 2023 Plans:*** Continue to implement ARCYBER, CIO, G6 and CYBERCOM guidance for execution of Cyber Security policies and procedures at the tactical level. Continue to document the current tactical network security architecture with the goal of developing recommendations to eliminate inconsistencies/duplications, increasing the security posture, decreasing complexity of operations, and decreasing costs. Support planning of tactical implementation of integrated security approaches for the Army Unified Network. This includes support for incorporation of DoD-driven Zero Trust principles. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase provides engineering tools and support in modernizing the integrated tactical security approaches.			
Title: Tactical Network Engineering ***Description:*** Funds support the following efforts:	0.803	-	-
Title: System of Systems (SoS) Engineering and Integration Evolution of the Network ***Description:*** Funds support the following efforts: ***FY 2022 Plans:*** In Conjunction with LOE and CFT efforts, continue to implement cross PEO System of Systems Engineering and Integration processes, analysis and S&T coordination to ensure successful development Engineering and Testing of current and future systems. Continue to develop streamlined processes to support AFC and ASA(ALT) OCSE SE strategy. Develop solutions to address technical configuration management challenges introduced by CS baselines and DEVSECOPS strategies. ***FY 2023 Plans:*** Continue technical implementation of cross-PEO System of Systems Engineering and Integration analysis and processes to ensure successful development and engineering of current and future systems for Unified Network. Includes SoS engineering design for capabilities planned to field in FY 2025 and FY 2027 to include Program of Record and emerging Network	1.728	0.950	1.812

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Modernization technologies. Continue to deliver engineering products to support strategic decisions or address operational technical challenges. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Cost increase reflects increased planned analyses and Army Unified Network Plan implementation activities.			
Title: System of Systems Development ***Description:*** Funds support the following efforts: ***FY 2022 Plans:*** Continue to effectively develop technical implementation of overall System-of-Systems Engineering, Enterprise, and Integration efforts for the PEO C3T portfolio of technology and capability enhancement programs. Continue to conduct SoS engineering design for capabilities planned to field in FY 2023 and FY 2025 to include Program of Record and emerging LOE technologies. ***FY 2023 Plans:*** Continue to develop System-of-Systems Engineering tools, standards and interfaces to support DoD-driven initiatives. Tool development and implementation improves technical integration across the Army Unified Network. Tools also support integration of technical, logistics and business data for improved trade studies in support of programmatic decisions. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Cost increase from FY22 to FY23 covers the standard rate of inflation.	3.201	3.014	3.407
Title: Mission Command Network Synchronization and Integration Support ***Description:*** Funds are for the following effort: ***FY 2022 Plans:*** Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Army Modernization priorities and Cross Functional Team activities. ***FY 2023 Plans:*** Continue the support of current force and the development of future force C5ISR across the tactical network to ensure all Assistant Secretary of the Army (Acquisition, Logistics & Technology) (ASA(ALT)) programs are synchronized and redundancies and overlapping capabilities are reduced across the network and in synchronization with Army Modernization priorities and Cross Functional Team activities. Develop effective engineering strategies to integrate tactical applications for use across the Mission Command network to include support to the Common Operating Environment Technical Authority. Continue to perform network	0.144	0.381	1.100

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
planning and integration activities across all cross-domain system-of-systems future capabilities and technologies. Develop or support development of networking documentation and standards identification that defines integration of evolving Capability Set systems. Provide technical support to exercises and demonstrations of Army modernization initiatives such as Mission Partner Environment SEC/REL implementation and Army Futures Command (AFC) Project Convergence. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increased cost covers additional engineering support for other CFT-led Modernization efforts and for exercises/experimentation driving toward Joint All Domain Command and Control (JADC2).			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.348	-
Accomplishments/Planned Programs Subtotals	9.351	9.409	11.965

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Not applicable for this item.

D. Acquisition Strategy

This project provides the technical and programmatic disciplines required for systems engineering and integration, experimentation, acquisition management, testing, interoperability, support to fielding and sustainment. It will focus on System-of-Systems (SoS) Systems Engineering and Integration for the tactical network with increased emphasis on immediate Warfighter needs as well as leveraging emerging technologies. Efforts align to support the acquisition strategies of the programs that must connect to the network.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.348		-		-		-	0.000	0.348	-
		Subtotal	-	-		0.348		-		-		-	0.000	0.348	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Network Synchronization	C/CPFF	Bowhead : APG MD	6.600	3.907	Nov 2020	0.381	Nov 2021	1.794	Nov 2022	-		1.794	Continuing	Continuing	Continuing
System of Systems Development	Various	Various : APG, MD	4.800	0.790	Oct 2020	3.014	Oct 2021	3.279	Oct 2022	-		3.279	Continuing	Continuing	Continuing
System of System Architectures, Engineering, and Integration	SS/FP	MITRE : Aberdeen Proving Ground, MD/ Eatontown, NJ	107.229	4.172	Oct 2020	1.224	Nov 2021	1.245	Oct 2022	-		1.245	Continuing	Continuing	Continuing
Support System Interoperability Engineering	C/CPFF	CACI : APG, MD	-	-		1.227	Apr 2022	1.792	Nov 2022	-		1.792	Continuing	Continuing	Continuing
Dev Test and Integ Support between PORs/ Platforms	C/Various	Various : Various	-	-		1.979	Mar 2022	1.894	Nov 2022	-		1.894	Continuing	Continuing	Continuing
Development and Implementation of Tactical Information Assurance (IA)	TBD	Various : Various	-	-		0.286	Feb 2022	1.284	Oct 2022	-		1.284	Continuing	Continuing	Continuing
		Subtotal	118.629	8.869		8.111		11.288		-		11.288	Continuing	Continuing	N/A

Remarks

Product Development categories have been expanded to reflect alignment to FY23 planned program dollar categories.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) C34 / *Army Tac C2 Sys Eng*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration Evolution of the Network	MIPR	MATRIX - C5ISR : Aberdeen Proving Ground, MD	14.464	0.482		0.950	Nov 2021	0.677	Nov 2022	-		0.677	0.000	16.573	Continuing
		Subtotal	14.464	0.482		0.950		0.677		-		0.677	0.000	16.573	N/A

Remarks

Support costs capture Matrix labor associated with Integration and Test Support among PORs.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	133.093	9.351		9.409		11.965		-		11.965	Continuing	Continuing	N/A

Remarks

Total FY23 funding increase over FY22 Funding (1) provides engineering tools and support in modernizing the integrated tactical security approaches, (2) drives network design to change from network-centric to data-centric affecting application, networking, and security implementation across Army Unified Network Plan implementation activities, and (3) provides additional engineering support for other CFT-led Modernization efforts and for exercises/experimentation driving toward Joint All Domain Command and Control (JADC2).

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

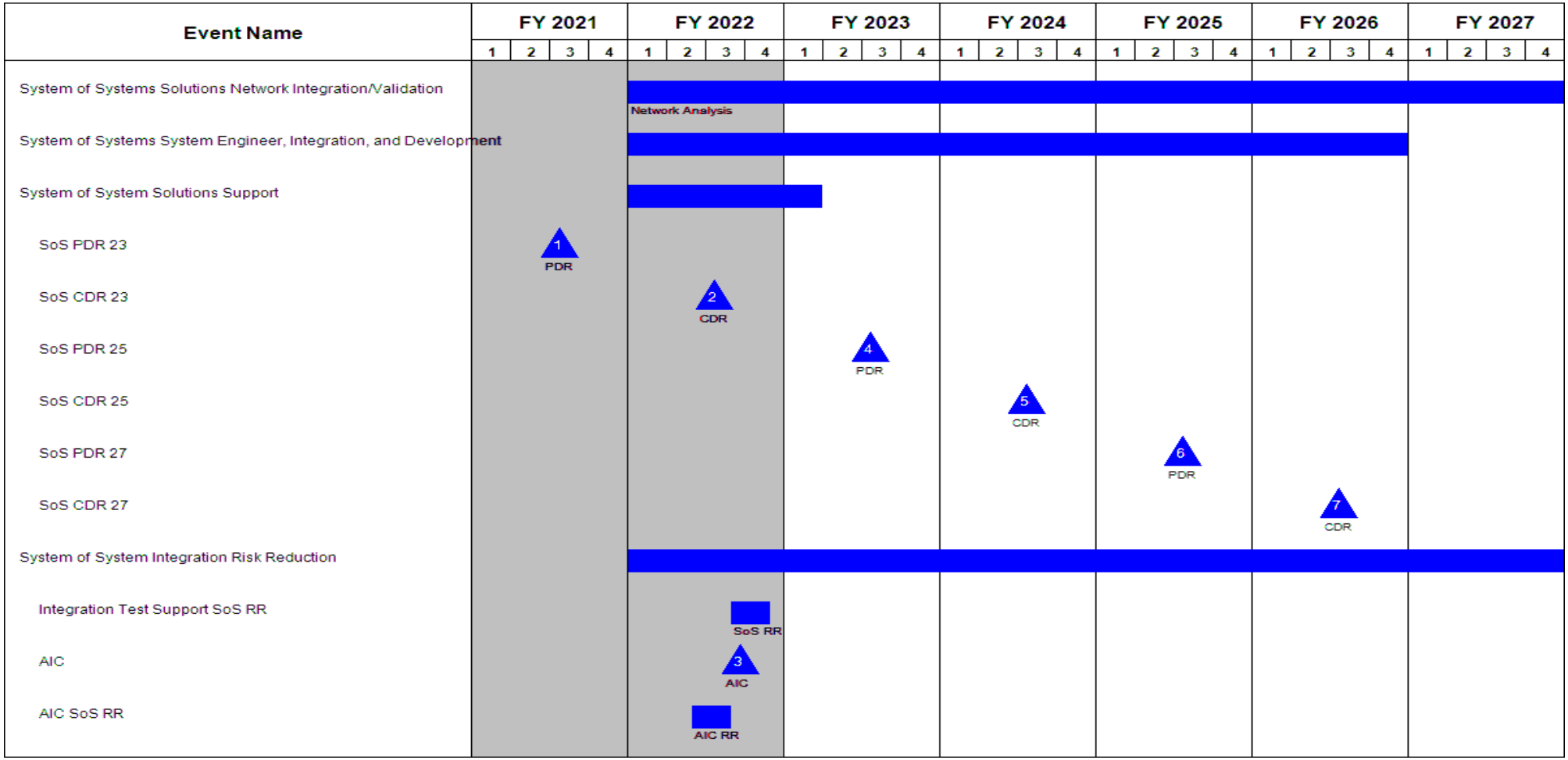


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** C34 / *Army Tac C2 Sys Eng*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System of Systems Solutions Network Integration/Validation	1	2022	4	2027
System of Systems System Engineer, Integration, and Development	1	2022	4	2026
System of System Solutions Support	1	2022	1	2023
SoS PDR 23	3	2021	3	2021
SoS CDR 23	3	2022	3	2022
SoS PDR 25	3	2023	3	2023
SoS CDR 25	3	2024	3	2024
SoS PDR 27	3	2025	3	2025
SoS CDR 27	3	2026	3	2026
System of System Integration Risk Reduction	1	2022	4	2027
Integration Test Support SoS RR	3	2022	4	2022
AIC	3	2022	3	2022
AIC SoS RR	2	2022	3	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EJ4: *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	-	26.485	35.117	28.070	-	28.070	28.173	28.258	28.268	28.543	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Army Network Cross Functional Team. Efforts are aligned with the Army Network Modernization Strategy Line of Effort (LOE) 2, Common Operating Environment (COE).

Command Post Computing Environment (CPCE) implements an integrated, interoperable, cyber-secure, software infrastructure that serves as the host for a unified set of multiple warfighting functional applications within the command post at echelons Battalion to Army Service Component Command (ASCC); eliminating "stove-piped" enduring systems, duplicative or redundant implementations, simplifying future application development efforts, and enhancing interoperability and data sharing across multiple echelons.

The CPCE software infrastructure and applications reside on Tactical Server Infrastructure (TSI) hardware and BCCS/TSI servers previously fielded under the TMC/ MCS program of record. CPCE/TSI provides the hardware infrastructure to host capabilities, such as movement and maneuver applications, network enabling tools (i.e. Cyber Situational Understanding and Tactical Defensive Cyber Operation Infrastructure) and warfighting function applications. This software infrastructure provides the Army's Common Operating Picture (COP) solution, allowing interoperability between command posts, mounted platforms, and dismounted handheld devices while supporting collaboration with Joint and Unified Action partners. CPCE provides common look and feel (user interface), common data strategy, interoperable tactical messaging/ chat, and essential warfighting capabilities.

FY 2023 funding will extend the capabilities of the CPCE software infrastructure, and support Capability Set 23 (CS23) by bringing additional warfighting function capabilities, and is focused primarily on the future Data Fabric and the convergence of existing command post capabilities managed by Army programs of record. Improvements to the CPCE infrastructure to accommodate enduring system integration will be prioritized. Additionally, as part of Increment 2 and CS23, multiple Science and Technology efforts will reach Technology Readiness Level 6 and will be integrated and tested for inclusion into the CPCE architecture. Continued RDTE efforts will include ongoing development in the area of data fabric, including ingress/egress, persistence (storage), access control and management, and querying.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: SW Dev - Core Infrastructure	17.583	28.014	19.366
Description: Provides the core software infrastructure that enables the convergence of warfighting capabilities in the command posts. The core infrastructure development provides the platform upon which applications in the areas of Sustainment, Fires, Intelligence, and Aviation can be hosted and integrated. Primary software development efforts include ongoing enhancement			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
of the Common Operating Picture (COP), more robust Geospatial map capabilities, improved user interface improved system administration tools and backwards compatibility to previously fielded enduring systems. Software development efforts focus on designing the system to reduce the training burden on the Soldier, and the creation of an Integrated Software Development Kit (ISDK) that allows external developers the ability to integrate new capabilities without rebuilding common components. Integral to SW development of the core infrastructure is a Data Fabric that will enable future advanced decision making tools based on artificial intelligence and machine learning. ***FY 2022 Plans:*** For FY22, CPCE Increment 2 efforts focus on warfighting function / legacy system convergence and the implementation and integration of emerging Science & Technology (S&T) efforts. Convergence during FY22 will focus on Intel, Fires, and Aviation capabilities. Specific S&T efforts include Geospatially-Enabled Operational Design (GEOD), Automated Analytics for the Operational Environment (A2OE), Project Rainmaker, and Information Trust. Additionally ongoing development of the movement and maneuver functions and core infrastructure improvements continue in support of Capability Set 23. This includes continued integration of the latest commercial software solutions and updates. ***FY 2023 Plans:*** CPCE Increment 2 efforts will focus on warfighting function / enduring system convergence, the implementation of Data Fabric, the integration of Science & Technology (S&T) efforts, and ensuring that CPCE software is cloud-enabled to enhance SW deployment, training, and operational system use. Convergence during FY23 will include the addition of Sustainment capabilities. Continued maturation of S&T efforts to include Geospatially-Enabled Operational Design (GEOD), Automated Analytics for the Operational Environment (A2OE), Rainmaker, and convergence of Intelligence Applications and Engineering Application (ENFIRE). Core infrastructure improvements will continue in support of Capability Set 23 and enable convergence. This includes continued integration of the latest commercial software solutions and updates, and improved collaboration tools. Increment 2 will conclude FY23 with an Operational Assessment and Deployment Decision and Increment 3 design efforts will begin.. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease commensurate with the planned scope of work to complete primary infrastructure efforts in FY23.			
Title: Hardware/Software Integration	1.150	1.550	1.489
Description: Hardware / Software Integration within CPCE/TSI consists of research, development, and engineering efforts required to select, engineer, and field CPCE software on COTS hardware server and related components. The CPCE software resides on converged Tactical Server Infrastructure (TSI) server stacks, which host multiple software infrastructure components including Microsoft Exchange, SharePoint, Defensive Cyber Operations (DCO) tools, SQL databases, Active Directory, and others. This enterprise software is tightly-coupled with, and engineered for, specific TSI hardware using virtual machine (VM) technology and must serve as the basis for all other warfighting functions and mission command system software loaded on the			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
server. Proper deployment of the software in an appropriately designed virtual machine environment is critical to the success of the program. Goals for the virtual environment are reliability of software installation, ease of maintenance, and a robust set of system administrator tools. As external capabilities are converged onto the TSI environment, additional software components must be integrated on the servers. ***FY 2022 Plans:*** For FY22, complete the updates to the CPCE Increment 1 hardware and software integration efforts. Integration will include incorporating progressive updates to the core software infrastructure, convergence of map based planning services and the aviation mission planning system into the CPCE software infrastructure. CPCE Increment 2 agile development and convergence efforts are in full effect during FY22. Integration of warfighter applications into the CPCE software and/or direct inject into the TSI hardware will be accomplished during this FY and continue through FY23, in order to meet Army Network Modernization Strategy goals for LOE 2, and Common Operating Environment functions. ***FY 2023 Plans:*** HW/SW integration efforts will continue as the program will be conducting formal Operational Assessment of CPCE Increment 2, which will include multiple converging capabilities including data fabric, S&T technologies, and external warfighting functions. The TSI baseline for CPCE Increment 2 will be developed, including automated deployment of scripts and documentation. Integration of warfighter applications into the CPCE Increment 2 software and/or direct inject into the TSI hardware will be accomplished in FY23, in order to meet Army Network Modernization Strategy goals for Line of Effort 2, and Capability Set 23. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease commensurate with the planned scope of work to meet HW/SW integration requirements in FY23.			
Title: Test and Evaluation ***Description:*** Test and evaluation efforts include the planning and conduct of Command Post Computing Environment (CPCE) T&E event including Developmental Test (DT), System Software Acceptance Testing (SSAT), Integration Events, Risk Reduction Events, and the Integrated Test Strategy and Operational Assessments. ***FY 2022 Plans:*** CPCE/TSI will continue Developmental Testing (DT), System Software Acceptance Testing (SSAT), Integration Events, Risk Reduction Events, as part of the Integrated Test Strategy for the Increment 1 update, which is expected to be released in 4QFY22 to meet Army senior leaders? objectives of maintaining the latest software baseline in the field. ***FY 2023 Plans:***	5.418	1.790	5.270

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
CPCE/TSI will complete Developmental Testing (DT), and multiple Integration and Risk Reduction events in FY23 as part of the Integrated Test Strategy for CPCE Increment 2. These events will culminate in the CPCE Increment 2/TSI Operational Assessment later in the year that will inform a fielding decision. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to the additional Developmental testing in FY2023.			
Title: Program Management ***Description:*** Program management includes efforts related to the management and operations of the Product Management office. Includes matrix and contractor personnel, program planning meetings, IPTs, and market research activities related to the potential adoption of new technology solutions into the CPCE baseline. ***FY 2022 Plans:*** Program office management of engineering and logistics teams remains a requirement in FY 2022. This support includes personnel covered by Functional Support Agreements between PM Mission Command and various Government support agencies such as the Army Research and Development Center (ARDEC), and Combat Capabilities Development Command (CCDC). Program Management efforts in the FY 2022 timeframe will also include management of all SW development, system engineering, exercise support, and testing. ***FY 2023 Plans:*** Program office management of engineering, logistics teams, SW development, system engineering, exercise support, and testing remains a requirement in FY23. This support includes personnel covered by Functional Support Agreements between PM Mission Command and various Government support agencies such as the Army Research and Development Center (ARDEC), and Combat Capabilities Development Command (CCDC). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease commensurate with program management required for FY23 planned efforts.	2.334	2.481	1.945
Title: SBIR/STTR ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638	-	1.282	-
Accomplishments/Planned Programs Subtotals	26.485	35.117	28.070

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B70000: *COE Tactical Server Infrastructure (TSI)*	86.198	99.858	94.287	-	94.287	106.611	110.237	110.509	110.419	Continuing	Continuing

Remarks

Related to CPCE is the Tactical Server Infrastructure (TSI) funding line, B70000, which funds computer hardware and software servers/hosting platforms for CPCE software.

D. Acquisition Strategy

CPCE/TSI is an Acquisition Category II program structured in increments to deliver capability every two years. Increment 1 aligns with Capability Drop (CD) 1 and Increment 2 aligns with CDs 2 & 3. Increment 3 will align with CDs 4 & 5.

In accordance with DoD direction that procurement and modification of Commercial Off-the-Shelf (COTS) products is the preferred acquisition approach, CPCE/TSI procured a COTS battle management system to serve as the underlying core infrastructure, and is modifying that COTS product to meet additional Army requirements, including backwards compatibility with enduring systems. For development of additional capabilities to be integrated into the COTS system, CPCE/TSI follows the Agile development approach (Epics, Iterations, and Sprints) that allows capabilities to be engineered, developed and tested rapidly.

The Combat Capabilities Development Command (CCDC) Armaments Center Weapons and Software Engineering Center (WSEC) and the Communications-Electronics Command (CECOM) Software Engineering Center (SEC) are prime Government partners in system development. Commercial suppliers are assigned efforts through GSA Mission Command Engineering Services vehicles and Multiple Award Task Order (MATO) contracts.

Hardware (server) platforms are COTS and procured under the Tactical Services Infrastructure (TSI) funding line through existing vehicles from GSA, Common Hardware Systems (CHS) and the Army Computer Hardware Enterprise Software and Solutions (CHESS).

CPCE Inc 0 brought the core software infrastructure and initial movement and maneuver capabilities. Inc 1 met the requirements of the CPCE Requirements Definition Package and Capability Drop 1 and focused on enhancements to Inc 0 and enabling enduring system convergence. Inc 2 will bring additional warfighting function capabilities and enhancements to existing capability.

The Product Management Office delivers the CPCE core infrastructure (underlying basis for convergence), Movement & Maneuver capabilities, and Sustainment capabilities. The Program Management Office continues to fund developmental and convergence work that enhances the capabilities of the core infrastructure, while external organizations such as other Army Programs of Record and S&T organizations fund the development of specific warfighting capabilities and technologies for integration into the core framework. Testing is conducted continually with a culminating Operational Assessment every two years. Operational Assessment testing includes the core framework and all capabilities integrated since the prior increment.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support (Gov't-Core)	Sub Allot	PM Mission Command : APG, MD	5.603	-		-		-		-		-	0.000	5.603	-
PM Support (Gov't-Matrix)	IA	Various Matrix Orgs incl CECOM SEC, ILSC, PRD, et al) : APG, MD	6.689	0.601		1.297	Oct 2021	0.637	Oct 2022	-		0.637	Continuing	Continuing	-
PM Support (SETA Contractor)	C/FFP	Multiple incl CACI and others : APG, MD	19.702	1.733	Nov 2020	1.184	Nov 2021	1.308	Nov 2022	-		1.308	Continuing	Continuing	-
SBIR/STTR	TBD	NA : NA	-	-		1.282		-		-		-	0.000	1.282	-
		Subtotal	31.994	2.334		3.763		1.945		-		1.945	Continuing	Continuing	N/A

Remarks

Decrease commensurate with program management required for FY23 planned efforts.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Requirements Engineering	Various	SW Dev Contractors and Multiple Matrix Orgs : Various Locations	23.831	-		-		-		-		-	0.000	23.831	-
Software Development - Core Infrastructure	Option/ Various	ARDEC, CCDC, Systematic : Picatinny, NJ APG, MD Centerville, VA	176.715	17.583	Oct 2020	28.014	Nov 2021	19.366	Nov 2022	-		19.366	Continuing	Continuing	-
Joint and Coalition Interoperability	Various	Multiple : Various	0.296	-		-		-		-		-	0.000	0.296	-
Hardware / Software Integration	IA	Various Matrix Orgs incl CECOM SEC,	25.897	1.150	Oct 2020	1.550	Dec 2021	1.489	Dec 2022	-		1.489	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		ARDEC, ILSC, PRD, et al) : APG Md													
		Subtotal	226.739	18.733		29.564		20.855		-		20.855	Continuing	Continuing	N/A

Remarks

Decrease in SW Dev-Core Infrastructure is commensurate with planned scope of work required in FY23.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Support	C/FFP	SSCI : Austin, TX	2.989	-		-		-		-		-	0.000	2.989	-
		Subtotal	2.989	-		-		-		-		-	0.000	2.989	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop and Conduct Tests and Assessments	MIPR	Multiple Test Agencies : Multiple Locations (Primary APG)	18.979	5.418	Oct 2020	1.790	Oct 2021	5.270	Nov 2022	-		5.270	Continuing	Continuing	-
		Subtotal	18.979	5.418		1.790		5.270		-		5.270	Continuing	Continuing	N/A

Remarks

Increase due to the addition of the Operational Assessment in FY2023.

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	280.701	26.485		35.117		28.070		-		28.070	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

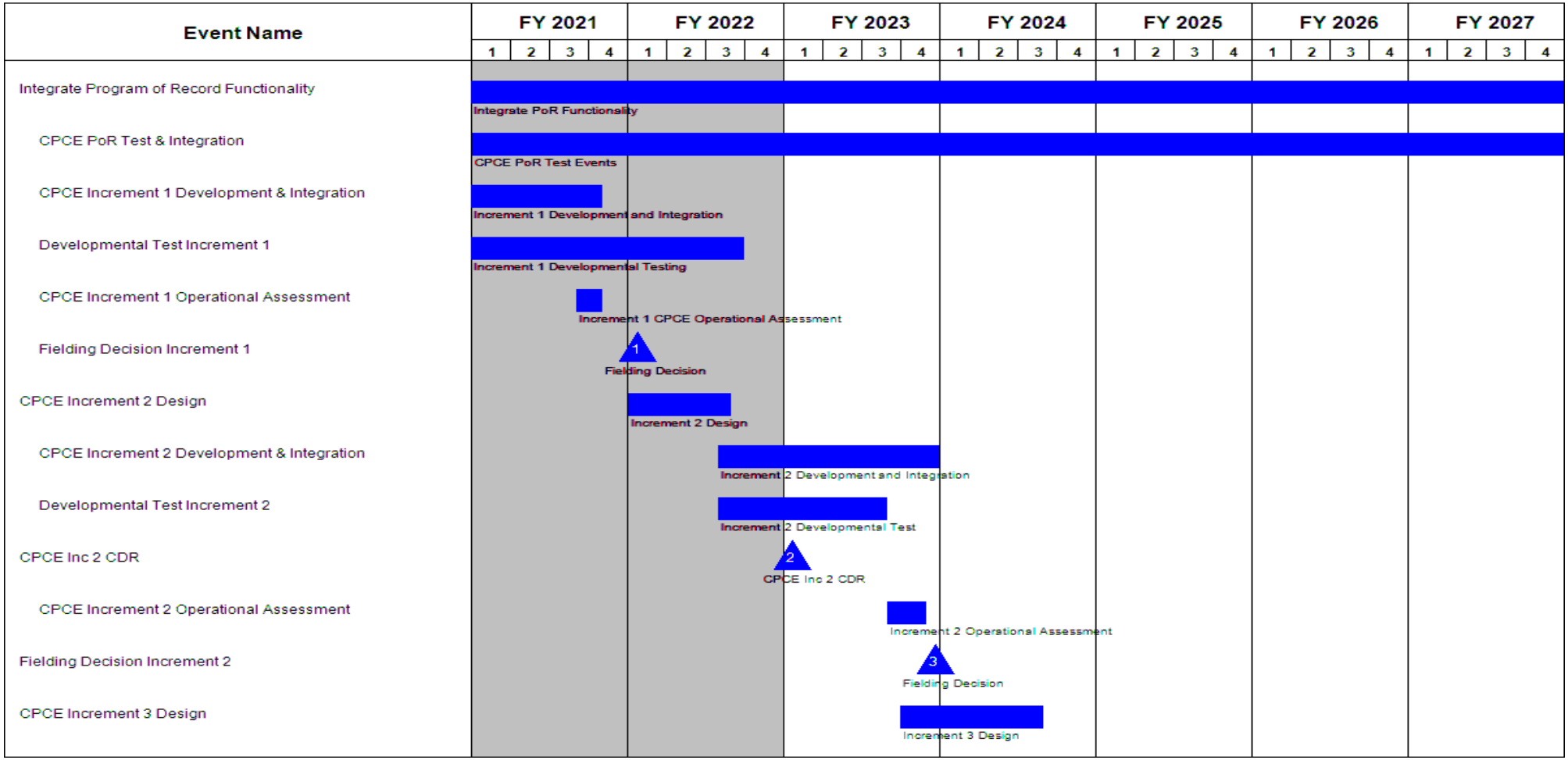


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

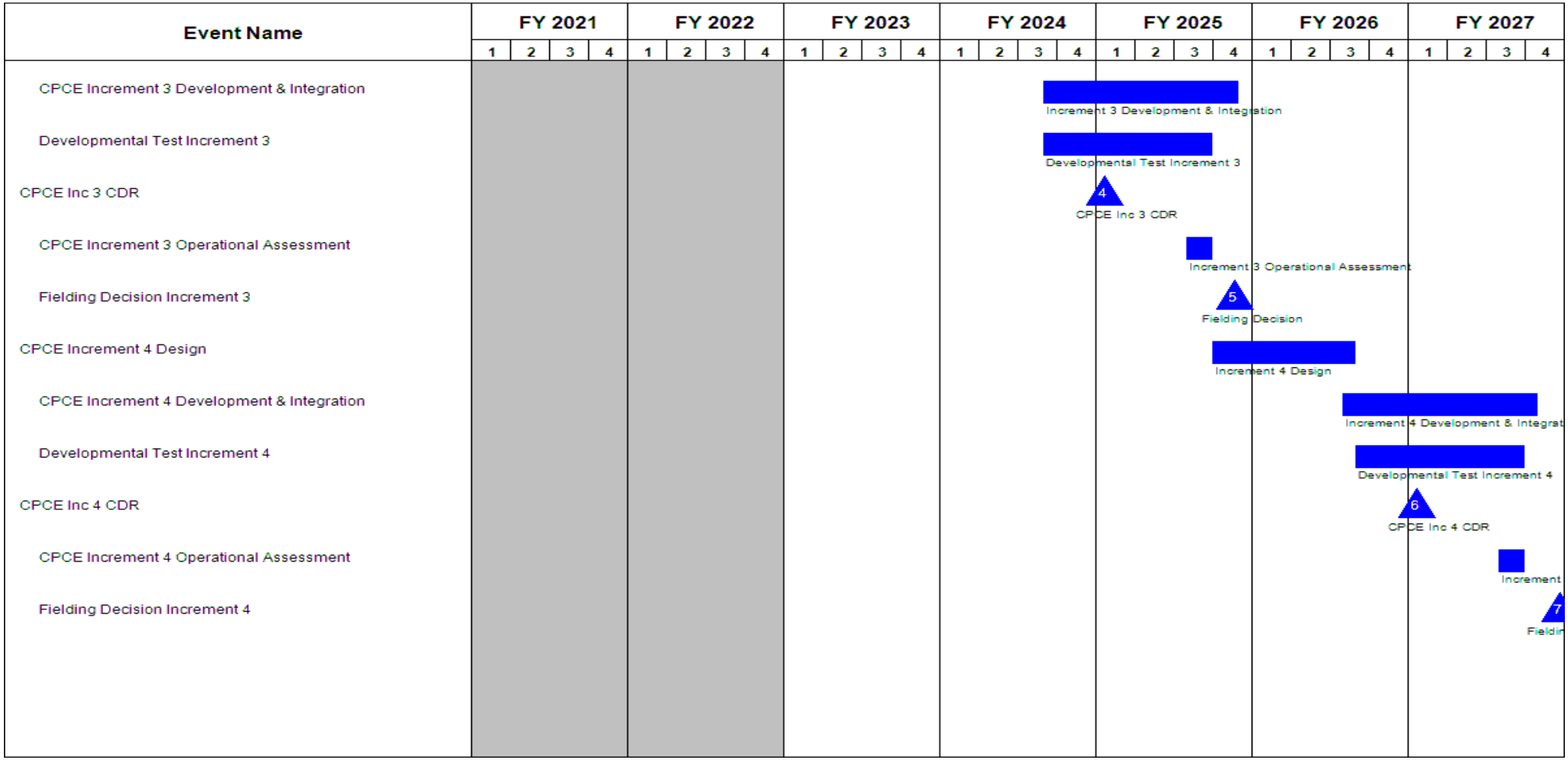


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Integrate Program of Record Functionality	2	2019	4	2027
CPCE PoR Test & Integration	1	2018	4	2027
CPCE Increment 1 Design	3	2019	2	2020
CPCE Increment 1 Development & Integration	2	2020	4	2021
Developmental Test Increment 1	3	2020	3	2022
CPCE Increment 1 Operational Assessment	3	2021	4	2021
Fielding Decision Increment 1	1	2022	1	2022
CPCE Increment 2 Design	1	2022	3	2022
CPCE Increment 2 Development & Integration	3	2022	4	2023
Developmental Test Increment 2	3	2022	3	2023
CPCE Inc 2 CDR	1	2023	1	2023
CPCE Increment 2 Operational Assessment	3	2023	4	2023
Fielding Decision Increment 2	4	2023	4	2023
CPCE Increment 3 Design	4	2023	3	2024
CPCE Increment 3 Development & Integration	3	2024	4	2025
Developmental Test Increment 3	3	2024	3	2025
CPCE Inc 3 CDR	1	2025	1	2025
CPCE Increment 3 Operational Assessment	3	2025	3	2025
Fielding Decision Increment 3	4	2025	4	2025
CPCE Increment 4 Design	4	2025	3	2026
CPCE Increment 4 Development & Integration	3	2026	4	2027
Developmental Test Increment 4	3	2026	3	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ4 / *COMMAND POST COMPUTING ENVIRONMENT (CPCE)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
CPCE Inc 4 CDR	1	2027	1	2027
CPCE Increment 4 Operational Assessment	3	2027	3	2027
Fielding Decision Increment 4	4	2027	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EJ5: *MOUNTED COMPUTING ENVIRONMENT (MCE)*	-	9.994	21.874	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Beginning with FY 2023, the Army has realigned MCE RDT&E funding for the development of the Mounted Mission Command - Software (MMC-S) from this line to the Joint Battle Command - Platform (JBC-P) RDTE line (PE 0604805A/Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Army Network Cross Functional Team.

This funding line is directly aligned to the Army Network Modernization Strategy LOE 2, Common Operating Environment (COE). PdM efforts are aligned to support the Network-Cross Functional Team (N-CFT) Capability Set approach to achieve the Army's Network Modernization Strategy.

The Mounted Computing Environment (MCE) supports N-CFT LOE 2 by providing:
- Critical Interoperability features that bridge the communications gap between the Command Post Computing Environment (CPCE) and Mobile Handheld Computing Environment (Nett Warrior)
- Data mediation, message format translation, and waveform exchanges across all CEs delivering improved information dissemination
- Mounted Common Operating Picture (COP) data sources, shared blue / red situational awareness, and Position / Location Information across the CEs
- Common, reusable services that enable Warfighting Function (WfF) convergence for rapid capability development and delivery with reduced costs for external PORs
- Mounted platform data sensor collection, processing, and disbursement applications that enable and enhance WfFs on the battlefield
- Foundational Cross-Cutting Capabilities (CCCs) that integrate with Joint C5ISR and strike capabilities

The MCE, which is one of six Computing Environments (CE) under the COE, internally develops and hosts applications (apps) developed by programs external to Project Manager Mission Command (PM MC) to provide robust WfF capabilities. MCE RDTE funding is executed to develop Mounted Mission Command-Software (MMC-S) (described below) to enable these convergence efforts.

Requirements for MMC-S (MCE) are established in the Army Requirements Oversight Council (AROC)-approved COE Information Systems Initial Capability Document (IS ICD) and the MCE Requirements Definition Package (RDP). MMC-S will support the next-generation network, transceiver, and more mature cross-Computing Environment (CE) interfaces.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

At the Materiel Development Decision (MDD) review, the Milestone Decision Authority (MDA) signed an Acquisition Decision Memorandum (ADM) in June 2020 designating MMC-S as an ACAT II program of record (POR) under the MCE RDP.

MMC-S employs a Developmental Operations (DevOps) process to incrementally develop capability to satisfy Warfighter requirements and inform fielding decisions. DevOps activities will incorporate new capabilities and enhancements driven by the RDP and based on user feedback. Furthermore, MMC-S will provide the foundation to support third-party application convergence onto the MMC-S baseline. MMC-S utilizes the Android Tactical Assault Kit (TAK), which is a geospatial infrastructure and military situational awareness application that allows for precision targeting, surrounding land formation intelligence, situational awareness, navigation, and data sharing.

FY 2022 funding supports the continued development of the MMC-S baseline, version 3.1, for a Development Test (DT) and Capability Set 23 (CS23) Operational Demonstration (Op Demo) culminating in a Limited Deployment Decision in 4QFY22. Furthermore, FY 2022 funding begins the second phase of MMC-S development, version 3.2, and implementation of new capabilities to support additional networks and bolster cross-Computing Environment (CE) interfaces. These efforts are aligned to CS23.

FY 2023 MCE RDTE funding has been realigned to JBC-P (PE 0604805A, Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Software Development	9.447	15.841	-
Description: MMC-S provides an integrated mission command capability across Platforms, through all echelons, delivering simplicity, intuitiveness, core services and applications, a common look and feel, and functionality across all Warfighting Functions (WfF); Fires, Logistics, Intelligence, and Maneuver. Software development is focused on enhanced situational awareness functions, cross-cutting data exchange services, and Mission Command applications displayed on the next-generation common geospatial solution [map] through a graphical user interface that delivers a "common look and feel" across the CEs. ***FY 2022 Plans:*** FY 2022 funding will continue development and incorporation of baseline capabilities of MMC-S version 3.1 focused on infrastructure, core utilities, backwards compatibility, and WfF application convergence into a holistic system of systems, while ensuring subsystems function together in accordance with program requirements, specifications, and interoperability requirements. These efforts require extensive development of complex capabilities to ensure robust features are delivered to the Warfighter. FY 2022 funding will begin development of the next SW version, MMC-S version 3.2, that will focus on multiple platforms and programs such as: Platform Integration (Stryker, JLTV, Abrams, Bradley, AMPV), Sensor Integration (Long-Range Acquisition System (LRAS), Improved Target Acquisition System (ITAS), Fire-Support Sensor System (FS3), Netted Lethality Upgrades,			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Precision Fires - Mounted Integration, finalize OTA Updates (Over The Network Keying (OTNK), Map Updates), Remote Display, Improved Route Planning / Navigation, Network Path Diversity (Smart Routing / APACE), additional 3rd Party Application Integration, Message Standards Migration, Netted asset (Non A-PNT), and VICTORY migration. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Beginning in FY 2023, MCE RDTE funding has been realigned to PE 0604805A, Proj 593			
Title: Software/Systems Engineering ***Description:*** Perform Software and Systems Engineering (SE) in support of the development of MMC-S (MCE) capabilities, applications and services, to include, but not limited to, executing engineering studies, software architecture development, system analysis, technical readiness assessments, technical exchange meetings and events, and development of related reports and deliverables described in the MCE RDP. SEs will coordinate the development of common infrastructure components with CPCE and M/HHCE to define and incorporate the COE cross-cutting capabilities. ***FY 2022 Plans:*** In FY 2022, MMC-S will continue required version 3.1 systems engineering activities, and begin version 3.2 SE activities to integrate 3rd party PoR applications onto the baseline software architecture, and platform integration onto the Army's wheeled platforms. MMC-S will continue DevOps with Army units in order to receive user feedback on MMC-S versions 3.1 and 3.2 to inform software development, refinement, and inform fielding decisions. SE activities will directly support MMC-S version 3.1?s LUT and AIC to inform the LDD in support of CS23. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Beginning in FY 2023, MCE RDTE funding has been realigned to PE 0604805A, Proj 593	-	0.972	-
Title: Test and Evaluation ***Description:*** Test and evaluation (T&E) efforts consist of planning and execution for required test events to inform fielding decisions and ensure the safe delivery of capability to the Warfighter. T&E events include: Development Operations (DevOps), Developmental Tests (DT), Software Assurance Tests, CS23 Integration Events, Risk Reduction Tests, Operational Demonstrations (Op Demos), Army Interoperability Certification (AIC) , Security Control Assessment-Validation, and Initial Operational Test and Evaluation (IOT&E). ***FY 2022 Plans:*** MMC-S will execute an MMC-S version 3.1 Limited User Test (LUT), to measure effectiveness, suitability, and survivability and provide an Adversary Assessment (AA) report to support the MMC-S v3.1 Software Materiel Release (SMR) review in 3Q23. The Army Interoperability Certification (AIC) will be executed to certify that MMC-S is interoperable and integrated with other systems on the tactical network. Both the LUT and AIC are required prior to the Limited Deployment Decision (LDD) in 4QFY22. MMC-S	0.068	3.339	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
will execute version 3.2 DevOps events to inform development efforts. In addition, version 3.1 CS23 Integration Events will inform the v3.1 LDD and the development of MMC-S v3.2 DevOps plans. MMC-S will utilize DevOps to enhance the MMC-S baseline to meet Warfighter requirements. Resources will support required instrumentation Verification, Validation, and Accreditation (VV&A) activities in preparation for the FY23 version 3.1 IOT to inform FDD. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Beginning in FY 2023, MCE RDTE funding has been realigned to PE 0604805A, Proj 593			
Title: PM Support (Matrix & Contractor) ***Description:*** Program management includes overall management of program execution, major text events, reporting, technical support, and logistical support. Includes participation in program planning meetings, Integrated Project Teams, Technical Exchange Meetings, stakeholder management, 3rd party application convergence, and Science and Technology efforts and convergence. These efforts are continuous for the life of the program. They are not tied to specific versions of MMC-S. ***FY 2022 Plans:*** Will continue to provide Technical area contract support includes system development and engineering changes to MMC-S, system analysis of Program of Record (PoR) systems and future systems for integration and convergence, technical readiness assessments, and stakeholder technical exchange meetings and events. This support includes the creation and implementation of Functional Support Agreements (FSAs) between PM Mission Command and various Government support agencies, such as the Combat Capabilities Development Command (CCDC) C5ISR (Command, Control, Computers, Communications, Cyber, Intelligence, Surveillance and Reconnaissance) Center, and other PEOs (e.g. PEO GCS). Program Management efforts in FY 2021 include business area support to ensure funding and contracts are planned and available for SW development, system engineering, and test efforts. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Beginning in FY 2023, MCE RDTE funding has been realigned to PE 0604805A, Proj 593	0.479	0.924	-
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.798	-
Accomplishments/Planned Programs Subtotals	9.994	21.874	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

MCE is the Army's initiative to provide simple and intuitive Mission Command on-the-Move (MCoTM) and situational awareness down to the platoon level. It is standards based, protected, and supports incremental improvements and WfF app capability enhancements. MMC-S leverages existing JBC-P hardware and network, and is deployed as a SW only upgrade to replace JBC-P SW. The MMC-Software will exploit the MMC-Transport (BFT 3 network) and hardware capability-maturation, continuously enhancing capabilities, security, and network resiliency that outpaces adversarial countermeasures and threats. MMC-S provides a common user-experience that enables leaders to lead and fight their formations from anywhere on the battlefield. MMC-S serves as the data mediator between disparate CEs, the Command Post Computing Environment (CPCE) and the Mobile Handheld Computing Environment (Nett Warrior), enabling seamless Mission Command and Common Operating Picture (COP) generation across all three CEs.

MMC-S utilizes an incremental development approach, leveraging DevOps, to ensure capability is delivered quickly, satisfies requirements, and addresses Warfighter feedback. This agile development process injects enhancements into the baseline software, making it easier and faster to incorporate technological advances. The product office conducts commercial software assessments to determine applicability and suitability for inclusion in the MMC-S baseline.

Software development increments and fielding decisions are agile and are programmatically aligned with the two-year Army Capability Sets within the five-year Requirements Development Package (RDP; i.e. - IT Box). MMC-S is developed in Capability Assessment Packages (CAP), which are small groupings of requirements and capability that are manageable, tailorable, and scalable to meet Warfighter needs. The CAPS are developed by the Lead Systems Integrator (LSI) in three to twelve month timeframes. Collections of CAPs form MMC-S Engineering Releases (ER) / Capability Drops (CDs), which build upon one another leading to a complete incremental release (i.e. version 3.1). Incremental releases will be fielded with the Army Capability Sets. LDD in 4QFY22 for Increment v3.1 is aligned to CS23. Full Deployment Decision (FDD) for MMC-S v3.1 is scheduled for 4QFY23. FDD for MMC-S v3.2 is scheduled for 4QFY24, aligned to CS25. FDD for MMC-S v3.3 is scheduled for 4QFY26, aligned to CS27.

At the Materiel Development Decision (MDD) review, the Milestone Decision Authority (MDA) signed an Acquisition Decision Memorandum (ADM) in June 2020 designating MMC-S as an ACAT II program of record (POR) under the MCE RDP.

Beginning with FY 2023, the Army has realigned MCE RDT&E funding for the development of the Mounted Mission Command - Software (MMC-S) from this line to the JBC- P RDTE line (PE 0604805A/Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM Support (Matrix & Contractor)	Various	PM Mission Command : Aberdeen Proving Ground, MD	5.664	0.479	Nov 2020	0.924	Nov 2021	-		-		-	Continuing	Continuing	-
SBIR/STTR Transfer	Various	Various : Various	-	-		0.798		-		-		-	0.000	0.798	-
		Subtotal	5.664	0.479		1.722		-		-		-	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	Various	PM Mission Cmd, Multiple Matrix Orgs and SW Dev Contractors : Aberdeen Proving Ground, MD	36.808	9.447	Dec 2020	15.841	Dec 2021	-		-		-	Continuing	Continuing	-
Software/Systems Engineering	Various	PM Mission Cmd, Multiple Matrix Orgs and SW Dev Contractors : Aberdeen Proving Ground, MD	21.540	-		0.972	Nov 2021	-		-		-	Continuing	Continuing	-
		Subtotal	58.348	9.447		16.813		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test, Evaluation and Integration	MIPR	Multiple Test Agencies; Multiple Locations : Aberdeen Proving Ground, MD	8.927	0.068	Nov 2020	3.339	Nov 2021	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	8.927	0.068		3.339		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	72.939	9.994		21.874		-		-		-	Continuing	Continuing	N/A

Remarks

Beginning with FY 2023, the Army has realigned MCE RDT&E funding for the development of the Mounted Mission Command - Software (MMC-S) from this line to the JBC- P RDTE line (PE 0604805A/Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

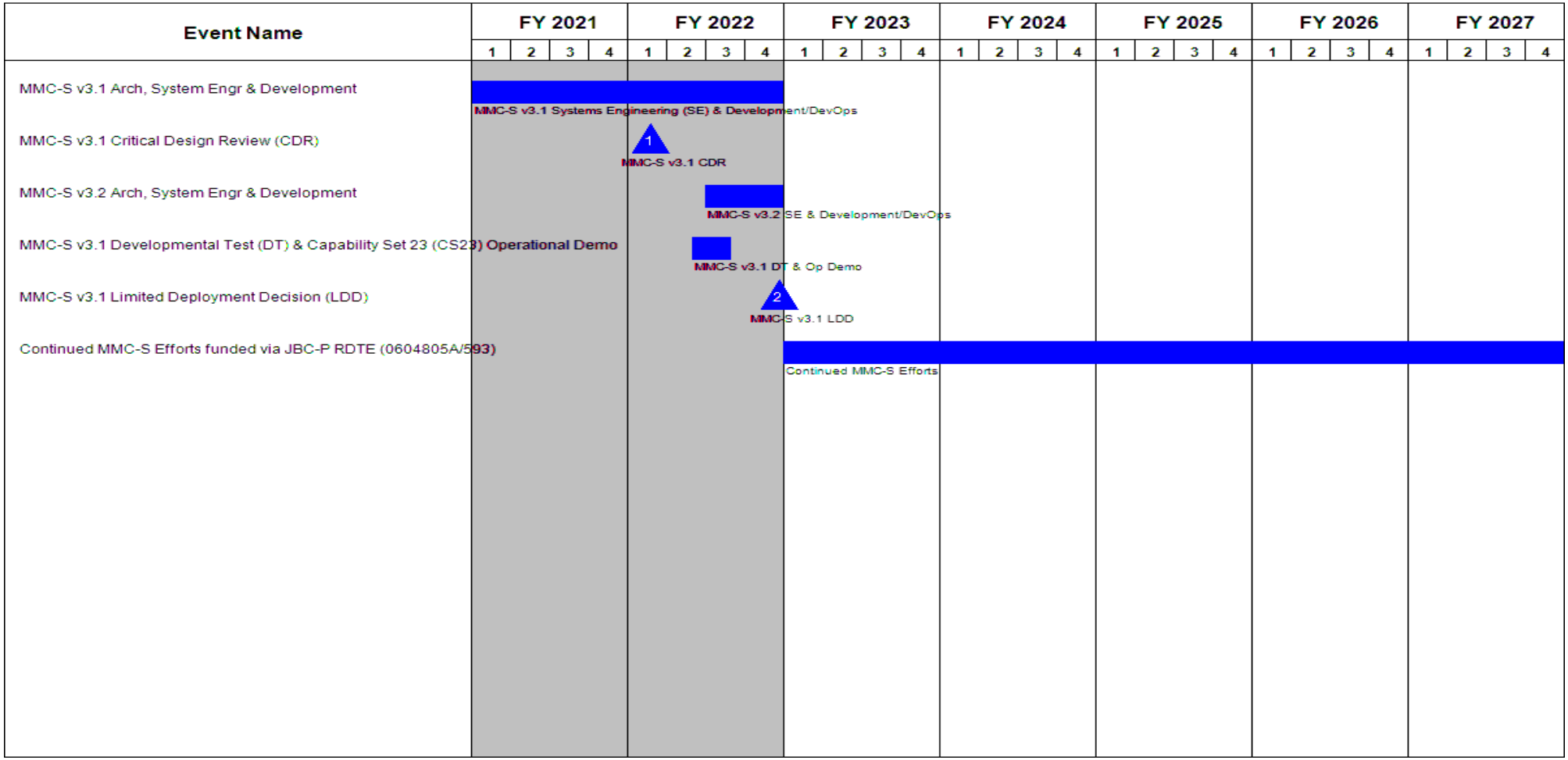


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

Note

Beginning with FY 2023, the Army has realigned MCE RDT&E funding for the development of the Mounted Mission Command - Software (MMC-S) from this line to the JBC- P RDTE line (PE 0604805A/Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ5 / *MOUNTED COMPUTING ENVIRONMENT (MCE)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
MMC-S v3 Test & Integration	3	2017	4	2018
MMC-S v3.1 Arch, System Engr & Development	1	2019	4	2022
MMC-S v3 Customer Test	1	2019	1	2019
MMC-S Materiel Development Decision (MDD) Briefing	2	2020	2	2020
N-CFT's ITN 19 Experimentation Event	2	2020	2	2020
MMC-S v3.1 Critical Design Review (CDR)	1	2022	1	2022
MMC-S v3.2 Arch, System Engr & Development	3	2022	4	2022
MMC-S v3.1 Developmental Test (DT) & Capability Set 23 (CS23) Operational Demo	2	2022	3	2022
MMC-S v3.1 Limited Deployment Decision (LDD)	4	2022	4	2022
Continued MMC-S Efforts funded via JBC-P RDTE (0604805A/593)	1	2023	4	2027

Note

Beginning with FY 2023, the Army has realigned MCE RDT&E funding for the development of the Mounted Mission Command - Software (MMC-S) from this line to the JBC- P RDTE line (PE 0604805A/Proj 593). These funds will support continued MMC-S development as part of the MMC Family of Systems (MMC FoS) strategy for modernizing and replacing the JBC-P capability. Consolidating the RDTE funding enables agile development and flexibility in support of the MMC FoS.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ6 / *TACTICAL ENHANCEMENT*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EJ6: *TACTICAL ENHANCEMENT*	-	-	7.860	-	-	-	-	-	-	-	0.000	7.860
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Army Network Modernization Strategy LOE 1, Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

TROPO: Tactical Enhancement supports the evaluation and testing requirements for Troposcatter Transmission (TROPO) capabilities procured and fielded under the Signal Modernization (SIGMOD) funding line, B00010. TROPO will provide redundancy communications in a Satellite denied environment by providing improved Line of Sight and beyond line of sight radio systems.
Enables Mission Command in a Satellite Denied environment by providing Beyond Line of Sight (BLOS) capability over longer ranges and at higher throughput than the current BLOS System. TROPO extends the network by utilizing a significantly reduced SWaP radio verses the current system. TROPO will enable Army units to reduce reliance on costly satellite bandwidth.

COMMAND POST NETWORKING: Enables Command Post networking capabilities by providing communications solutions to enable a more survivable Command Post against near peer advisories. The solutions will utilize advanced waveform and antenna improvements to decrease radio frequency detection and interception in the battlefield and will be integrated onto the appropriate platforms to increase Command Post survivability.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: IOT&E for TROPO systems	-	5.060	-
Description: Funds support TROPO IOT&E ***FY 2022 Plans:*** $5,060K funds TROPO IOT&E testing requirement ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No FY23 RDTE funding.			
Title: Command Post Networking	-	2.513	-
Description: Funds support Command Post Networking ***FY 2022 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
$2,800K funds Command Post Networking efforts ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No FY23 RDTE funding.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.287	-
Accomplishments/Planned Programs Subtotals	-	7.860	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B00010: *Signal Modernization Program*	151.179	140.036	179.853	-	179.853	175.020	213.471	214.078	214.030	Continuing	Continuing

Remarks

B00010: OPA funding line for Signal Modernization (SIGMOD)

D. Acquisition Strategy

These funds will be used to conduct System Evaluation and Formal Testing of the various Signal Mod capabilities, specifically the TROPO systems. This is in order to facilitate integration into the Tactical Networks. These test events will meet all mandatory testing requirements with full ATEC oversight. This Acquisition Strategy will integrate proven Commercial-Off-The-Shelf (COTS) capabilities into existing Tactical Network nodes to expand and enhance network capacity and user access. The TROPO capabilities are acquired as ACAT III programs to replace legacy equipment in the field while utilizing DoDI 5000.02 standard acquisition approaches, starting with Milestone C Determination for TROPO (4QFY18).

The Acquisition Strategy will integrate proven Commercial-Off-the-Shelf (COTS) capabilities into existing Tactical Network nodes to provide a more secure network connection between command posts, command post vehicles and end user devices.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ6 / *TACTICAL ENHANCEMENT*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sig Mod	SS/FP	TBD : TBD	1.392	-		-		-		-		-	0.000	1.392	-
Army Withhold and Unit Task Reorganization (UTR) Realignment	SS/FFP	Harris Corp : Arlington, VA	7.777	-		-		-		-		-	0.000	7.777	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.287		-		-		-	0.000	0.287	-
		Subtotal	9.169	-		0.287		-		-		-	0.000	9.456	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NCW-R	SS/CPFF	CODES1403AALION SCIENCE AND TECHNOLOGY CORPORATION : 202BURR RIDGE IL 60527-0849FACILITY	27.416	-		-		-		-		-	0.000	27.416	-
		Subtotal	27.416	-		-		-		-		-	0.000	27.416	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
TRILOS Testing	MIPR	ATEC : Aberdeen Proving Ground, MD	19.823	-		-		-		-		-	0.000	19.823	-
TROPO Testing	MIPR	ATEC : Aberdeen Proving Ground, MD	-	-		5.060	Apr 2022	-		-		-	0.000	5.060	-
Command Post Networking	C/Various	Various : Various	-	-		2.513	Apr 2022	-		-		-	0.000	2.513	-
		Subtotal	19.823	-		7.573		-		-		-	0.000	27.396	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EJ6 / *TACTICAL ENHANCEMENT*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	56.408	-		7.860		-		-		-	0.000	64.268	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

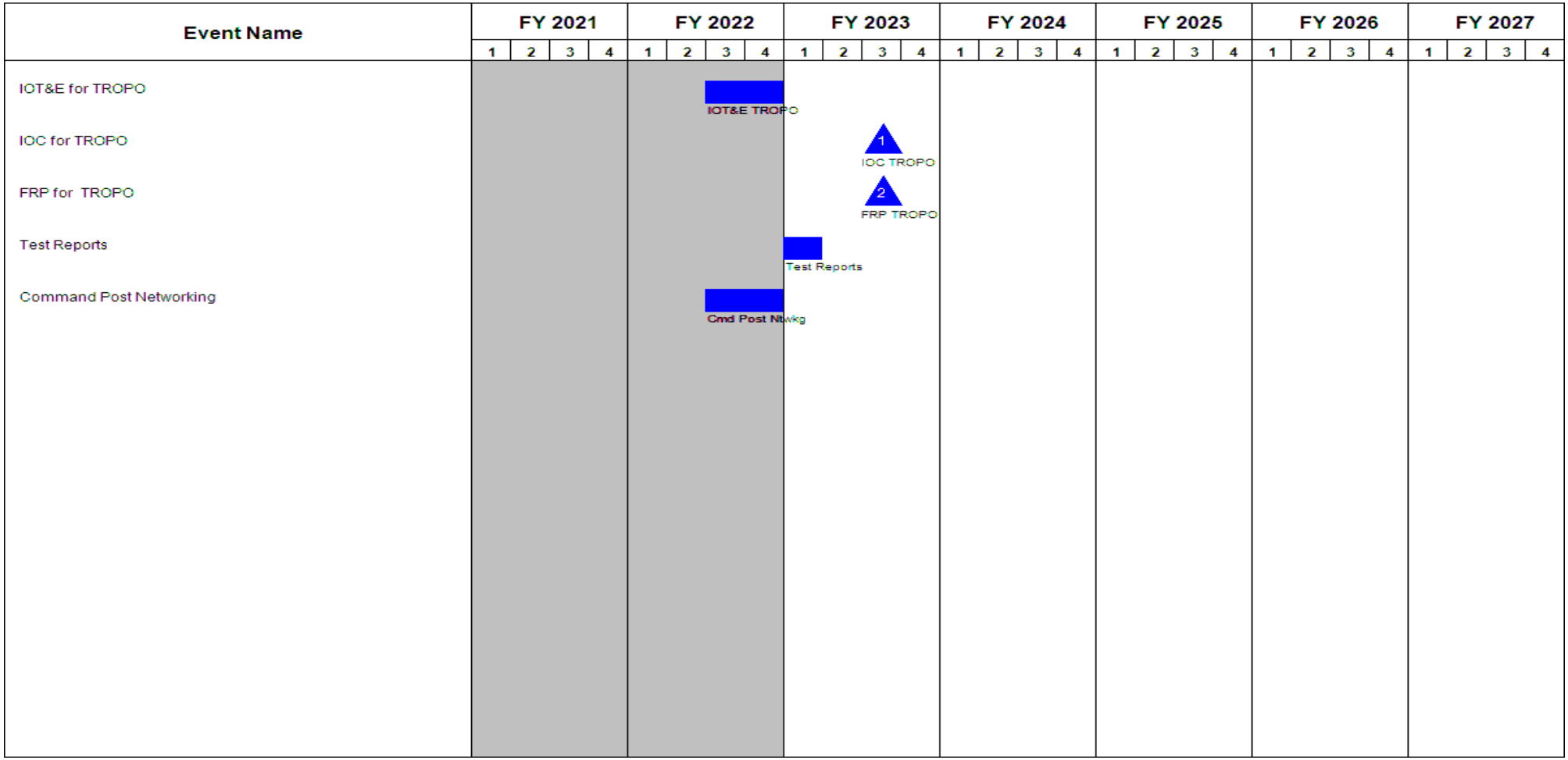


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EJ6 / *TACTICAL ENHANCEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
IOT&E for TROPO	3	2022	4	2022
IOC for TROPO	3	2023	3	2023
FRP for TROPO	3	2023	3	2023
Test Reports	1	2023	1	2023
Command Post Networking	3	2022	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EK9: *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	-	3.252	3.366	3.400	-	3.400	-	-	-	-	0.000	10.018
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Network Modernization Strategy LOE 1, Unified Network in support of efforts the Network-Cross Functional Team (CFT) capability set approach to achieve the Army's Network Modernization strategy and initiatives.

Unified Network Operations (UNO) delivers an integrated Network Operations (NetOps) capability, based upon an open framework, for common planning, configuration, management, monitoring, and defense of the Network. This will be accomplished through the integration, co-hosting, and federation of multiple NetOps systems. UNO aligns with the Army's intent to develop NetOps prototypes, conduct Development Operations (DevOps), get user feedback, make adjustments and ultimately deliver enhanced capabilities to the operational force in the shortest time possible.

The total cost of the Unified Network Operations (UNO) Middle Tier of Acquisition (MTA) effort is $84.352 million RDT&E from FY19 to FY24. The remainder (FY23-24) of the $31.397 million for UNO MTA is fully funded across the Future Years Defense Program (FYDP). In accordance with the National Defense Authorization Act (NDAA) policy for MTA funding, UNO MTA RP leverages funds from Tactical Network Operations Management (TNOM) 654818/EK9 and Unit Task Reorganization (UTR) 654818/EW3 to achieve its required funding levels.

FY 2023 funding supports UNO MTA Rapid Prototyping (RP) efforts of UNO v1.1 via NetOps capabilities that build upon current efforts, efforts that align with Chief of Staff of the Army (CSA) guidance to provide delivery of simplified NetOps capabilities across the tactical network, and include emerging capability requirements stemming from Network CFT initiatives and directed requirements. UNO will also support the delivery of integrated capabilities to plan, install, operate, maintain, and secure the Army's end-to-end network in support of the commander's mission priorities. Army's approved requirements for UNO are found in the Integrated Tactical Network (ITN) Abbreviated - Capability Definition Document (A-CDD) dated 26 June 2019. UNO Information Systems-Initial Capabilities Document (IS-ICD) was approved 28 June 2021. Program office anticipates transition of UNO MTA RP to UNO PoR beginning in FY24.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Product Development	3.252	3.243	3.400
Description: Network Planner provides the product development of workflows that guide Soldiers through planning the Tactical Radios, SATCOM, Line of Sight (LOS) and TROPO systems, automates the analysis process to recommend locations to place LOS Nodes based on Area of Responsibility, improves Planning accuracy for Antenna & Radio templates, based on updated			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023

performance parameters, simplifies configuration operations through the use of a centralized network database and supports Unit Task Reorganization (UTR), and provides consistent look and feel with embedded training.

Network Management provides the product development into the Network Common Operational Picture (COP) for all tactical networks systems, management to Tactical Radios, SATCOM LOS and TROPO systems, network status information to monitor and adjust the network to meet mission requirements, and consistent look and feel with embedded training.

FY 2022 Plans:

FY 2022 funding will support MTA Rapid Prototyping efforts of UNO via NetOps capabilities that build upon current efforts, expand those efforts to address CSA priorities, and include emerging capability requirements stemming from Network CFT initiatives and directed requirements. Support development, assessments, and deliveries of integrated capabilities to plan, install, operate, maintain, and secure the Army's end-to-end network in support of the commander's mission priorities.

UNO's MTA will support prototyping of NetOps capabilities that enable command and control of the Tactical Network which will provide simplicity via a Common Operating Picture (COP), a flexible framework enabling rapid integration of future commercial/ government tools, and reliable network information to the Soldiers.

The Network Planner and Network Management capabilities will support Network CFT initiatives and directed requirements utilizing the adapt and buy approach, as well as modernization, put forth by Army leadership.

Continues product development of the simplified Network Planner functionality, which enables automated NetOps capabilities to plan, manage and operate the Tactical Network via user workflows and reduces the cognitive burden to the Soldiers. Will continue development of Radio Planning capabilities in order to plan and create configuration files for emerging Integrated Tactical Network (ITN) radios and waveforms.

Continues product development of the simplified Network Management functionality, which enables the management and troubleshooting of the network elements that comprise the Tactical Network by monitoring local nodes for network health status, performance, location, and security, in addition to displaying monitored data to the local operator. Will continue enhancement and integration of the Federated Data Repository, which reduces time in task to the Soldiers and enables rapid Unit Task Reorganization (UTR).

FY 2023 Plans:

FY 2023 funding will support UNO MTA Rapid Prototyping (RP) efforts of UNO via NetOps capabilities that build upon current efforts, expand those efforts to address CSA priorities, and include emerging capability requirements stemming from Network

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
CFT initiatives and directed requirements. Funding will also support development, assessments, and deliveries of integrated capabilities to plan, install, operate, maintain, and secure the Army's end-to-end network in support of the commander's mission priorities. The UNO MTA RP will support prototyping of NetOps capabilities that enable command and control of the Tactical Network which will provide simplicity via a Common Operating Picture (COP), a flexible framework enabling rapid integration of future commercial/ government tools, and reliable network information to the Soldiers. The Network Planner and Network Management capabilities will support Network CFT initiatives and directed requirements utilizing the adapt and buy approach, as well as modernization, put forth by Army leadership. The UNO MTA RP will continue product development of the simplified Network Planner functionality, which enables automated NetOps capabilities to plan, manage and operate the Tactical Network via user workflows and reduces the cognitive burden to the Soldiers. Will continue development of Radio Planning capabilities in order to plan and create configuration files for emerging Integrated Tactical Network (ITN) radios and waveforms. The UNO MTA RP will continue product development of the simplified Network Management functionality, which enables the management and troubleshooting of the network elements that comprise the Tactical Network by monitoring local nodes for network health status, performance, location, and security, in addition to displaying monitored data to the local operator. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 to FY23 increase to Product Development resourcing remains consistent within inflation.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.123	-
Accomplishments/Planned Programs Subtotals	3.252	3.366	3.400

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EW3: *Unit Task Reorganization (UTR) Development*	19.027	9.346	13.814	-	13.814	14.183	14.355	14.359	14.498	Continuing	Continuing

Remarks

In accordance with the National Defense Authorization Act (NDAA) policy for MTA funding, UNO MTA leverages funds from Tactical Network Operations Management (TNOM) 654818/EK9 and Unit Task Reorganization (UTR) 654818/EW3 to achieve its required funding levels. Network Management Systems (NMS) (BA9301/BA9312) funding was removed following the Materiel Development Decision for the Ruggedized Applications Platform - Tactical Radios (RAP-TR) program of record in Oct 2021.

D. Acquisition Strategy

Unified Network Operations (UNO) (EK9) supports a mid-tier acquisition (MTA) authority granted by the Army Acquisition Executive (AAE)'s 14 May 2019 Acquisition Decision Memorandum (ADM). UNO Information Systems-Initial Capabilities Document (IS-ICD) was approved 28 June 2021. Program office anticipates transition of UNO MTA RP to UNO PoR beginning in FY24.

UNO leverages the MTA Rapid Prototyping acquisition pathway/strategy for developing NetOps Solutions. Using incremental development and Commercial Off-The-Shelf (COTS) innovative technologies, UNO demonstrates new Plan, Manage, Provision, and Secure Network capabilities for Army modernization and operational needs. The UNO RP MTA utilizes DevOps to incorporate Soldier feedback to mitigate cost, schedule, and performance risks early in program lifecycle, receive analysis of technology/design maturity and component integration/interoperability, and provide refined requirements as well as leave behind operational residual capabilities to units for continuous user feedback and refinement of the product.

The objective of the UNO MTA RP is to develop and deliver prototypes into experimentation events for user feedback through FY 2024 within simulated operational environment(s) in order to provide operational capabilities within five years of the development of its approved requirement. UNO will complete transition from UNO MTA RP to a suitable acquisition pathway for software capability fielding in FY 2024 to meet Unified Network requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY 2022 SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.123		-		-		-	0.000	0.123	-
		Subtotal	-	-		0.123		-		-		-	0.000	0.123	N/A

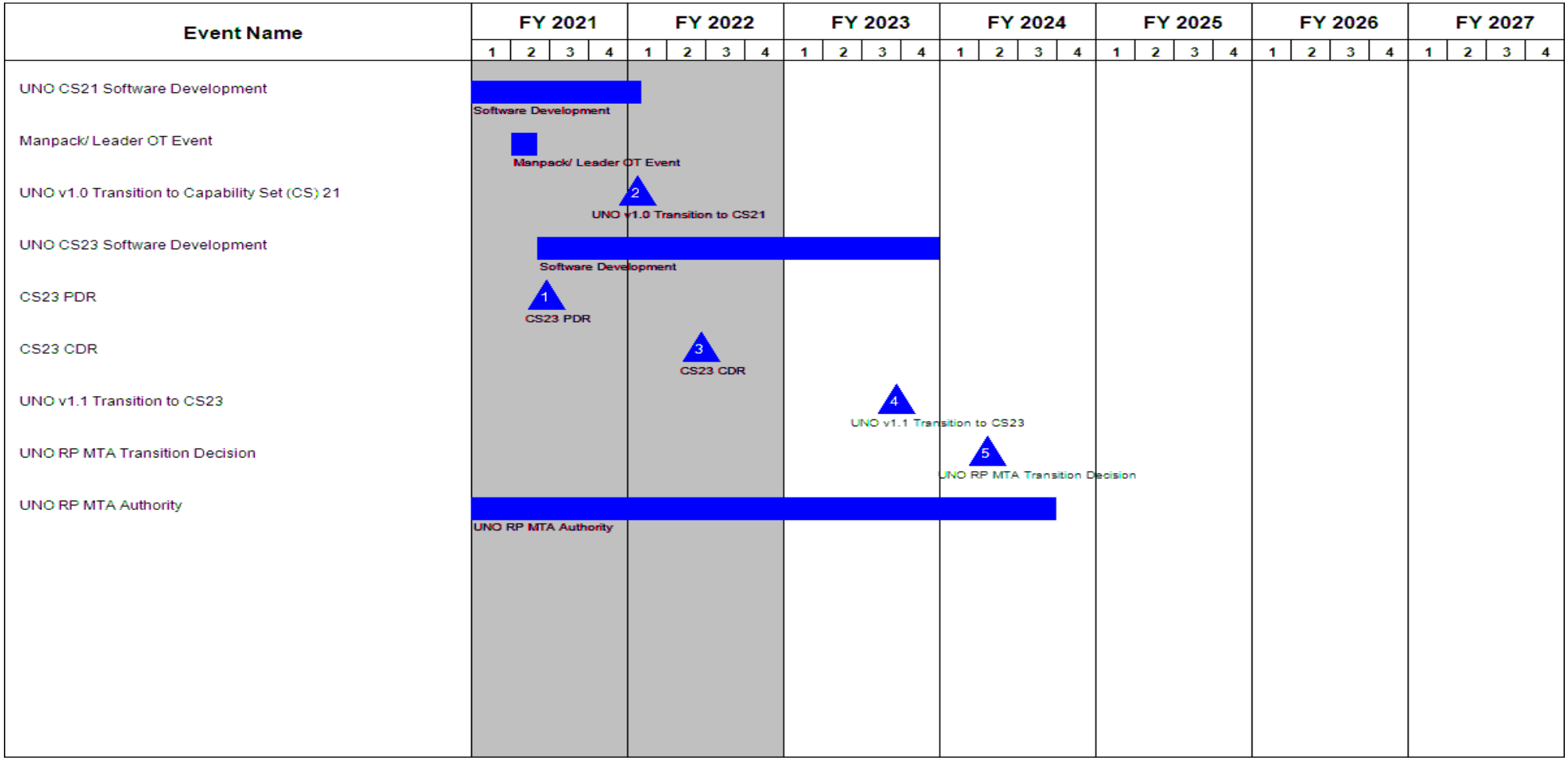
Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/FFP	Various : Various	10.035	3.252	Apr 2021	3.243	Apr 2022	3.400	Jan 2023	-		3.400	0.000	19.930	-
		Subtotal	10.035	3.252		3.243		3.400		-		3.400	0.000	19.930	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	10.035	3.252		3.366		3.400		-		3.400	0.000	20.053	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*



Note

UNO MTA leverages both Tactical Network Operations Management (TNOM) 654818/EK9 and Unit Task Reorganization (UTR) 654818/EW3 in accordance with the National Defense Authorization Act (NDAA) policy for MTA funding.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

UNO MTA RP will support rapid prototyping efforts of UNO via NetOps capabilities that build upon current efforts, expand those efforts to address CSA priorities, and include emerging capability requirements stemming from Network Cross Functional Team (CFT) initiatives and directed requirements. Support delivering integrated capabilities to plan, install, operate, maintain, and secure the Army's end-to-end network in support of the commander's mission priorities. UNO capabilities will expand on Network CFT initiatives and directed requirements including Network Management and Integrated Planner utilizing the Capability Set strategy put forth by Army leadership.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EK9 / *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
UNO CS21 Software Development	3	2019	1	2022
Manpack/ Leader OT Event	2	2021	2	2021
UNO v1.0 Transition to Capability Set (CS) 21	1	2022	1	2022
UNO CS23 Software Development	2	2021	4	2023
CS23 PDR	2	2021	2	2021
CS23 CDR	2	2022	2	2022
UNO v1.1 Transition to CS23	3	2023	3	2023
UNO RP MTA Transition Decision	2	2024	2	2024
UNO RP MTA Authority	3	2019	3	2024

Note

UNO MTA leverages both Tactical Network Operations Management (TNOM) 654818/EK9 and Unit Task Reorganization (UTR) 654818/EW3 in accordance with the National Defense Authorization Act (NDAA) policy for MTA funding.

UNO MTA RP will support rapid prototyping efforts of UNO via NetOps capabilities that build upon current efforts, expand those efforts to address CSA priorities, and include emerging capability requirements stemming from Network Cross Functional Team (CFT) initiatives and directed requirements. Support delivering integrated capabilities to plan, install, operate, maintain, and secure the Army's end-to-end network in support of the commander's mission priorities. UNO capabilities will expand on Network CFT initiatives and directed requirements including Network Management and Integrated Planner utilizing the Capability Set strategy put forth by Army leadership.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army										Date: April 2022		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*				Project (Number/Name) EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
EQ8: *Mobile/Handheld Computing Environment (M/HHCE)*	-	4.967	5.105	5.298	-	5.298	5.327	5.390	5.392	5.444	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project EQ8 - The Common Operating Environment (COE) is an approved set of computing technologies and standards that enables secure and interoperable applications to be developed and executed rapidly across a variety of computing environments. The Mobile/Handheld Computing Environment (M/HHCE) is one of the six computing environments under the COE, which provides the standards for all Army hand held applications enabling the use of common End User Devices by Soldiers, thereby eliminating redundant devices and reducing the Soldiers' load.

Nett Warrior (NW) and Integrated Visual Augmentation System (IVAS) are the instantiation of the M/HHCE and comply with the technical standards documented by the M/HHCE and provide the dismounted common computational platform for other products relevant to dismounted Soldiers. Through compliance with the M/HHCE, software applications from other programs are integrated with the NW and IVAS systems, reducing the need for duplicate hardware resulting in reduced Soldier Load. The M/HHCE is directly aligned to the Army Network Modernization Strategy Line of Effort (LOE) 1 (Unified Network). M/HHCE also supports the Army Network Modernization Strategy LOE 2 (Common Operating Environment). These efforts are aligned to the Army's Tactical Network Capability Set development and fielding plans by utilizing (1) interoperable data, message, and waveforms, (2) sensors and applications that enable operations across domains and (3) integration with Joint C4ISR and strike capabilities. NW leverages commercial smart phone devices and secure Army tactical radios to provide the dismounted leader an integrated mission command and situational awareness capability for use during combat operations. NW applied feedback from conventional and Special Operations units to procure and implement Secret and Secure But Unclassified (SBU) networking equipment for BCTs and the Security Force Assistance Brigades to enable faster, more flexible Mission Command data exchanges with Joint and Coalition forces while maintaining the existing integrated mission command capability with Mounted CE (e.g., JBCP) system. NW uses Commercial-Off-The-Shelf (COTS) and Non Developmental (NDI) computational & communication equipment to create a robust and flexible Integrated Tactical Network that enables faster and more accurate decision making in fights at the tactical level.

Requirements for the M/HH CE are established in the AROC approved COE Information Systems Initial Capability Document (IS ICD), the M/HHCE Requirements Definition Package (RDP), and the NW Capability Development Document in lieu of Capability Production Document. M/HHCE is a signature effort under the Network CFT (Common Operating Environment focused on dismounted Soldier). The Network CFT is one of the six Army modernization priorities per Army Modernization Strategy 2019. M/HHCE employs a Developmental Operations (DevOps) process to incrementally develop capability over time to satisfy requirements and meet fielding decisions. FY 2023 funding will continue DevOps activities to incorporate new capability and enhancements based on user feedback, as well as lay the groundwork to support migration of third-party applications onto the M/HHCE software baselines. Additionally, FY 2023 funding provides for integration/test equipment and risk reduction events/preparation to support Army Interoperability Certification (AIC) scheduled for 2QFY23.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

M/HHCE RDT&E resources are used to improve and add software applications / ATAK plug-ins and support NW system integration to enhance Soldier capabilities, network performance, and network resiliency.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Test and Evaluation	1.070	1.052	1.139
Description: Test and evaluation efforts include the planning and conduct of combined COE events with Command Post/Mounted Computing Environment, Software Acceptance Testing, System Integration Events, Risk Reduction Events, Security Penetration Testing and Operational Assessment like annual Army Expeditionary Warrior Experiment (AEWE) to gain Soldier Touch point feedback on new capabilities. ***FY 2022 Plans:*** Continue NW system test and 3rd party applications evaluation for technical verification at developmental test events and user verification. Support planned assessment of Integrated Tactical Network (ITN) in ABCT. Conduct yearly environmental testing to characterize commercial & military items, Information Assurance penetration prevention testing of integration of commercial devices, software and accessories into NW baseline. Support Army Expeditionary Warrior Experiment (AEWE) assessment to gain Soldier touch point feedback on dismounted capabilities. ***FY 2023 Plans:*** Conduct NW test and 3rd party applications evaluation for technical verification at developmental test events and user verification. Support NW as a baseline JWA system including: Brigade level support, equipping, training, and spares for NW; conduct yearly environmental testing; and Information Assurance penetration prevention testing for new commercial smart devices, software and accessories. Support Army Expeditionary Warrior Experiment (AEWE) assessments to gain Soldier touch point feedback on emerging dismounted capabilities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Slight increase due to testing of new ITN capability set.			
Title: Hardware and Software Integration and Evaluation for Capability Improvements	1.420	1.386	1.120
Description: Hardware and Software Integration and Evaluation for Capability Improvements ***FY 2022 Plans:*** Continue to evaluate next future End User Devices (EUD) and associated hardware components to stay aligned with commercial and Army evolving requirements. Provide NW software / hardware updates to support incorporation of 3rd party software applications onto NW EUD platform, and cyber security improvements. Complete integration of Dismounted Assured PNT Gen 1 integration into the NW. Extending Vertical Height Antenna capability to support Battalion comms ranges. Continue to mature			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
PANTHER (SBIR) capability within NW to provide non-GPS based approach for determining approximate position location information. Start DARPA SHARE multi-level security integration on EUD. ***FY 2023 Plans:*** Evaluate next End User Devices (EUD) and associated hardware components to stay aligned with commercial and Army evolving requirements. Provide NW software / hardware updates to support incorporation of 3rd party software applications onto NW EUD platform, Army Interoperability Certification (AIC) and cyber security testing. Support DARPA integration and transition of future technologies. Update software to M/HHCE standards as revised to maintain compliance with COE. Start DARPA SHARE multi-level security integration on EUD. Integrate PANTHER (SBIR) capability within NW to provide non-GPS based approach for determining approximate position location information. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Slight decrease due to reduction in planned improvements and more focus on integration of external programs.			
Title: Software Development & Integration ***Description:*** Funding is provided for the following efforts. ***FY 2022 Plans:*** Continue software development incorporating the Army's Common Operating Environment (COE) Cross-Cutting Capabilities into NW. Continue software updates to ITN component software based on security and operational requirements in support CS23 ITN efforts. Complete Dismounted Assured PNT Gen 1.x plug-ins and Intra Soldier Wireless software manager to support routing of data to various soldier carried devices. Update NW software development kit with added NW functionality. Complete NW tactical cloud IL5 ecosystem (SBU) to IL6 (to handle up to secret) integration efforts to allow for over the air updates to fielded NW systems for STIG compliance, OS, application updates and remote troubleshooting. Transition from S&T, in conjunction with IVAS program, early spirals of Leader Planning & Decision Tools (Semi-Automated Route planning tool) and Remote Aerial Sensing capabilities to further integrate RF Sensing network traffic and visualizing radio frequency emitters in the battlespace NW & IVAS from CDC-Soldier Center Soldier Sensored Soldier Science and Technology TTA. ***FY 2023 Plans:*** Evaluate next generation NW / ATAK map engines and Operating System (OS) trade studies software development efforts with NW. Update NW Software Development Kit (SDK) with new functionality. Continue software upgrades to ITN component software based on security and operational requirements. Continue incorporating the Army's Common Operating Environment (COE) Cross-Cutting Capabilities into NW software to support CS25 ITN. Continue development of NW's next generation Service Oriented Architecture and Tactical Assault Kit plug-ins.	1.433	1.516	1.948

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Complete NW tactical cloud IL5 ecosystem (SBU) to IL6 (to handle up to secret) integration efforts to allow for over the air updates to fielded NW systems for STIG compliance, OS, application updates and remote troubleshooting. Complete transition from S&T, in conjunction with IVAS program, of Leader Planning & Decision Tools (Semi-Automated Route planning tool) and Remote Aerial Sensing capabilities to further integrate RF Sensing network traffic and visualizing radio frequency emitters in the battlespace NW & IVAS from CDC-Soldier Center Soldier Sensored Soldier Science and Technology TTA. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Slight increase due to integration costs associated with an increase of external stakeholders using NW as the common platform.			
Title: Conduct SEPM Support to NW ***Description:*** Conduct Systems Engineering and Program Management Support to Nett Warrior ***FY 2022 Plans:*** Continue to conduct government systems / software engineering and program management support for NW program. Will collect input from Soldiers to improve NW size, weight, power, fightability, safety and effectiveness via surveys. Will manage system configuration, and execute test, development and integration planning including investigation and analysis of emerging innovative commercial technologies to reduce the size, weight, power, cost, increase NW and ITN functionality. ***FY 2023 Plans:*** Continue to conduct government systems / software engineering and program management support for NW program. Will collect input from Soldiers to improve NW and IVAS size, weight, power, fightability, safety and effectiveness via surveys. Will manage system configuration, and execute test, development and integration planning including investigation and analysis of emerging innovative commercial technologies to reduce the size, weight, power, cost, and increase NW and IVAS, and ITN functionality. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Slight decrease due to labor shift supporting integration efforts.	0.750	0.585	0.390
Title: M/HHCE Governance ***Description:*** Development of the M/HHCE standards and M/HHCE governance. ***FY 2022 Plans:***	0.294	0.380	0.492

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Continue to provide Mobile Handheld Computing Environment (M/HHCE) governance and standards development for external program integration with NW and IVAS to eliminate separate handheld devices and reduce Soldier load. Maintain compliance with overarching COE standards. ***FY 2023 Plans:*** Continue to provide Mobile Handheld Computing Environment (M/HHCE) governance and standards development for external program integration with NW and IVAS to eliminate separate handheld devices and reduce Soldier load. Maintain compliance with overarching COE standards to support CS25 ITN. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Slight increase due to labor price fluctuations.			
Title: SBIR/STTR Transfer ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638. ***FY 2023 Plans:*** Funding transferred in accordance with Title 15 USC ?638. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638.	-	0.186	0.209
Accomplishments/Planned Programs Subtotals	4.967	5.105	5.298

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• R80501: *Ground Soldier System*	137.481	150.244	124.953	-	124.953	172.593	181.607	176.863	176.785	Continuing	Continuing

Remarks

D. Acquisition Strategy

To capitalize on commercial industry's investment in advanced smart device technology as well as innovation and changes within Army, Nett Warrior (NW) and IVAS require annual RDT&E funding for integration and evaluation of new technology. Through this process and at low cost, the Army is able to integrate and evaluate for combat utility the hundreds of millions spent in product development by the major commercial device manufactures. The NW and IVAS programs provide situational awareness and mission command to dismounted combat leaders through secure smart devices, a central power source, cables and the Integrated Tactical Network voice and data transport layers. NW and IVAS fund development and evaluation of new technology and software integration through a combination of competitively awarded contracts and Other Transaction Authorities (OTAs). Various existing follow on procurement contracts are utilized to procure a combination of COTs and

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

GOTs equipment to include supporting services. The NW program completed LRIP/MS C in 2012 followed by two LRIP decisions in 2013-14 in preparation for IOT&E under DOT&E oversight in 4QFY14-1QFY15. This IOT&E event led to an additional NW Low Rate Initial Production (LRIP) decision in 2015 and a Full Rate Production Decision in October 2017. Now in production, NW seeks operational feedback and uses the DevOps process to identify and implement new capabilities. M/HHCE standards are updated annually under the M/HHCE governance process.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering & Program Management Support	Various	Various : Various	7.401	0.750		0.585		0.390		-		0.390	Continuing	Continuing	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.186		0.209		-		0.209	Continuing	Continuing	-
		Subtotal	7.401	0.750		0.771		0.599		-		0.599	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Hardware/Software Integration & Evaluation	Various	Various : Various	13.276	1.420		1.386		1.120		-		1.120	Continuing	Continuing	-
MHH Governance	MIPR	Various : Various	10.351	0.294		0.380		0.492		-		0.492	Continuing	Continuing	-
		Subtotal	23.627	1.714		1.766		1.612		-		1.612	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development and Integration	Various	Various : Various	5.548	1.433		1.516		1.948		-		1.948	Continuing	Continuing	-
		Subtotal	5.548	1.433		1.516		1.948		-		1.948	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	Various	Various : Various	6.294	1.070		1.052		1.139		-		1.139	Continuing	Continuing	-
		Subtotal	6.294	1.070		1.052		1.139		-		1.139	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.870	4.967		5.105		5.298		-		5.298	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

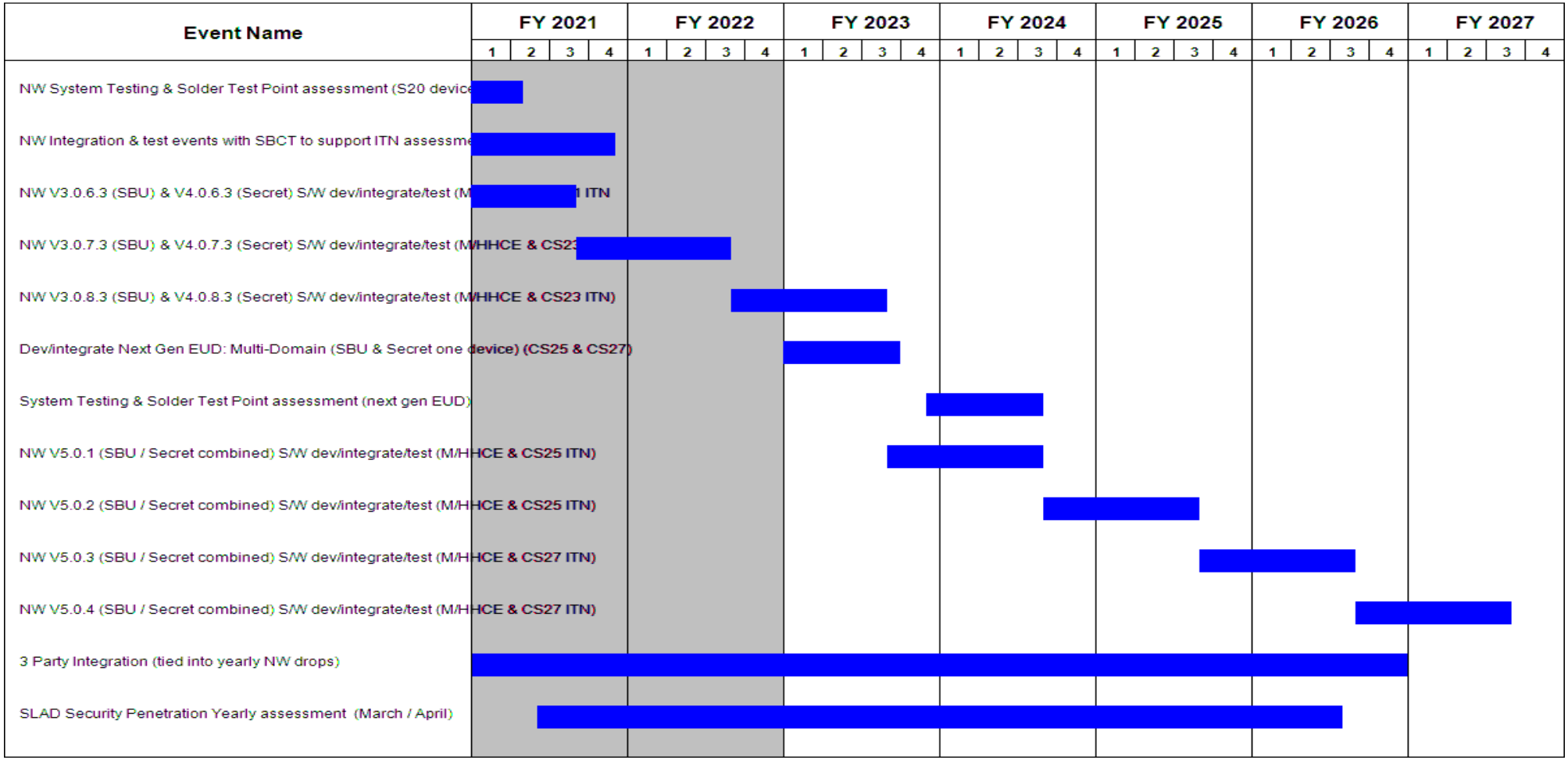

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

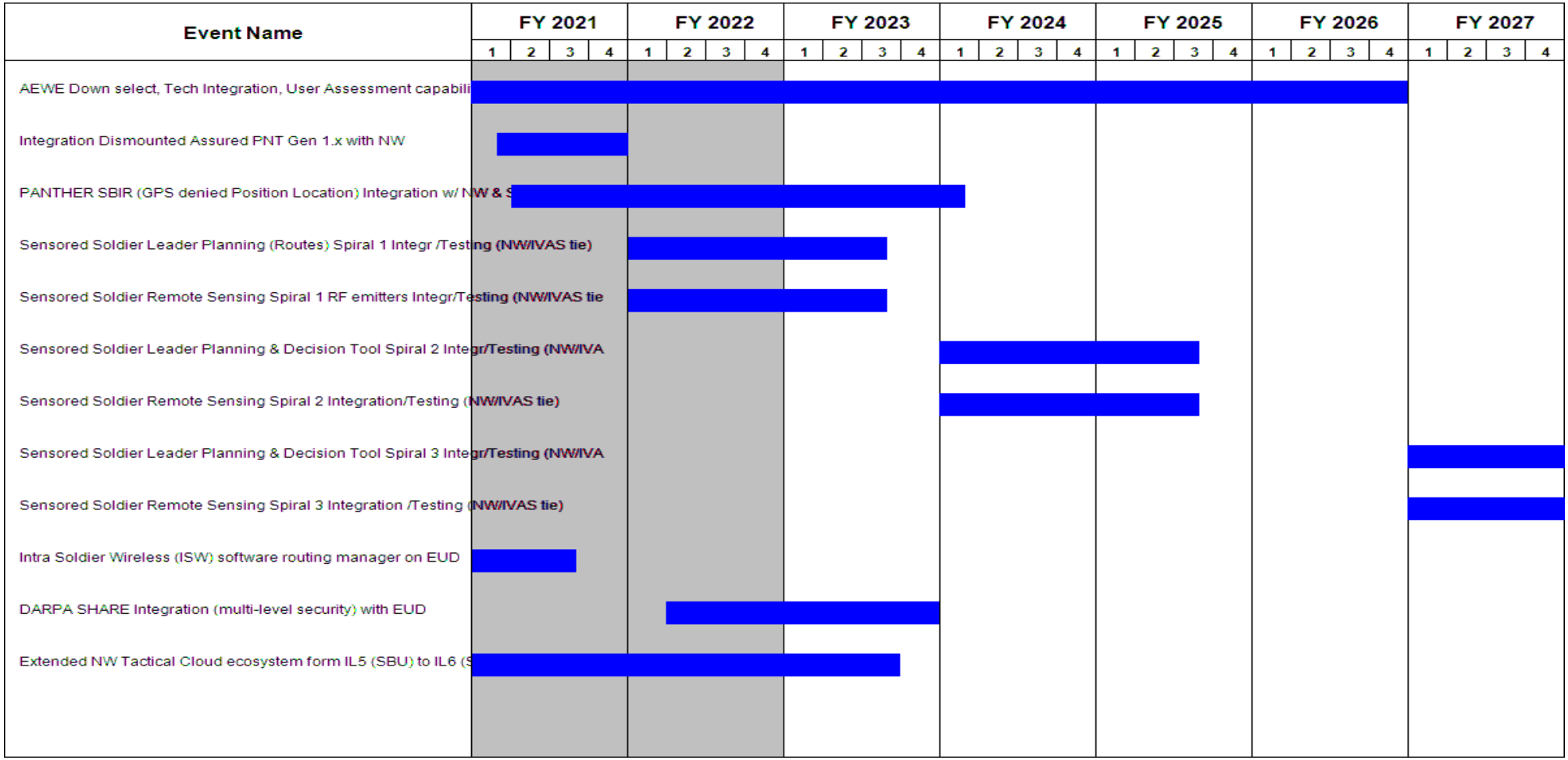

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NW V3.0.5.3 (SBU) & V4.0.5.3 (Secret) S/W dev/integrate/test (M/HHCE & CS21 ITN)	1	2020	3	2020
Galaxy S20 TE EUD & Case (support part CS21 & CS23): Development / integration	2	2020	4	2020
NW System Testing & Solder Test Point assessment (S20 device)	1	2021	1	2021
NW Integration & test events with SBCT to support ITN assessment	4	2020	4	2021
NW V3.0.6.3 (SBU) & V4.0.6.3 (Secret) S/W dev/integrate/test (M/HHCE & CS21 ITN	3	2020	3	2021
NW V3.0.7.3 (SBU) & V4.0.7.3 (Secret) S/W dev/integrate/test (M/HHCE & CS23 ITN)	3	2021	3	2022
NW V3.0.8.3 (SBU) & V4.0.8.3 (Secret) S/W dev/integrate/test (M/HHCE & CS23 ITN)	3	2022	3	2023
Dev/integrate Next Gen EUD: Multi-Domain (SBU & Secret one device) (CS25 & CS27)	1	2023	3	2023
System Testing & Solder Test Point assessment (next gen EUD)	4	2023	3	2024
NW V5.0.1 (SBU / Secret combined) S/W dev/integrate/test (M/HHCE & CS25 ITN)	3	2023	3	2024
NW V5.0.2 (SBU / Secret combined) S/W dev/integrate/test (M/HHCE & CS25 ITN)	3	2024	3	2025
NW V5.0.3 (SBU / Secret combined) S/W dev/integrate/test (M/HHCE & CS27 ITN)	3	2025	3	2026
NW V5.0.4 (SBU / Secret combined) S/W dev/integrate/test (M/HHCE & CS27 ITN)	3	2026	3	2027
3 Party Integration (tied into yearly NW drops)	1	2020	4	2026
SLAD Security Penetration Yearly assessment (March / April)	2	2021	3	2026
AEWE Down select, Tech Integration, User Assessment capability (Yearly)(May-Feb)	3	2020	4	2026
Integration Dismounted Assured PNT Gen 1.x with NW	1	2020	4	2021
PANTHER SBIR (GPS denied Position Location) Integration w/ NW & Soldier Touch Pt	2	2021	1	2024
Sensored Soldier Leader Planning (Routes) Spiral 1 Integr /Testing (NW/IVAS tie)	1	2022	3	2023
Sensored Soldier Remote Sensing Spiral 1 RF emitters Integr/Testing (NW/IVAS tie	1	2022	3	2023
Sensored Soldier Leader Planning & Decision Tool Spiral 2 Integr/Testing (NW/IVA	1	2024	3	2025
Sensored Soldier Remote Sensing Spiral 2 Integration/Testing (NW/IVAS tie)	1	2024	3	2025

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EQ8 / *Mobile/Handheld Computing Environment (M/HHCE)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sensored Soldier Leader Planning & Decision Tool Spiral 3 Integr/Testing (NW/IVA	1	2027	3	2028
Sensored Soldier Remote Sensing Spiral 3 Integration /Testing (NW/IVAS tie)	1	2027	3	2028
Intra Soldier Wireless (ISW) software routing manager on EUD	1	2021	3	2021
DARPA SHARE Integration (multi-level security) with EUD	2	2022	4	2023
Extended NW Tactical Cloud ecosystem form IL5 (SBU) to IL6 (Secret)	1	2021	3	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) ER9 / *Expeditionary Army Command Post*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
ER9: *Expeditionary Army Command Post*	-	43.803	51.003	31.483	-	31.483	43.352	-	-	-	0.000	169.641
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Command Post Integrated Infrastructure (CPI2) is executed in a two Increment approach. Increment 0 scope is aligned to the Command Post (CP) Directed Requirement (DR) signed 14 Dec 2017. Increment 0 is to develop a CPI2 design on the Family of Medium Tactical Vehicles (FMTV) based platforms and experiment with a Stryker based, Mobile Command Group. Increment 1 scope is aligned to the CPI2 CDD and extends CPI2 capability designs onto the Stryker, AMPV, and JLTV platforms.

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Army Network, Modernization Priority 1. This funding line is directly aligned to the Army Network Modernization Strategy Line of Effort (LOE) #4 Command Post.

The Command Post Integrated Infrastructure (CPI2) program addresses the Army requirements for more mobile, scalable, interoperable, and agile command posts. Currently fielded command posts are too large and take too long to setup and teardown making them vulnerable to near peer detection and targeting technologies. By integrating mission command warfighting functions onto formation appropriate vehicle platforms, a dispersed command post construct will enable the battle staff to blend in with the overall maneuver formation while giving the commander the ability to synchronize the close fight on the move. This dispersed mobile command post consists of Mission Command Platforms (MCPs) and Command Post Support Vehicles (CPSVs). The MCP is a formation appropriate vehicle that provides digital workstations for all mission command warfighting functions. The CPSV is the hub of the dispersed command post; it hosts mission command servers, radios, local area network components and a secure wireless capability. Specific to Corps/Div, CPI2 will provide a Mobile Command Group (MCG) hosted on formation appropriate platforms for Corps and Div. The MCG provides Commanders and Staff with the ability to employ high priority functions while on the move.

Increment 0 experimentation will design and prototype a MCP and CPSV capability for two Brigade Combat teams (BCT's), a Division Main, and a Division MCG. Increment 0 focuses on integrating CPI2 MCP and CPSV capability on the Family of Medium Tactical Vehicles (FMTV) platforms and shelter systems to provide mobile capability and increased survivability to the Command Post. The MCP and CPSV prototypes were evaluated and tested via 3 Operational Assessments which provided soldier feedback and data to inform an Increment 0 Milestone C decision for a limited production set of 5 BCTs. Division Main and Division MCG tests will inform Inc 1 designs and potentially drive future requirement updates as how best to execute CPI2 at the Division Main.

Increment 1 initiated at Milestone B (ADM signed June 2021); with a focus on the development and prototype/testing of the MCP/CPSV/MCG for formation-appropriate platforms (Stryker, AMPV and JLTV) that were not addressed in Increment 0. These combined capabilities will enable the Army to employ command posts across the operational spectrum, from early entry to major combat operations that will resolve current command post issues with set up and tear down, survivability, mobility, suitability and footprint.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

FY 2023 funding will support continuing efforts for the design, development, prototyping, and testing of CPI2 MCP/CPSV capabilities on or in formation appropriate platforms for Stryker, AMPV and JTLV. Funding also provides for acquisition of equipment to support product development, testing, logistical support and program management.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Product Development	34.714	38.899	19.882
Description: Includes the costs for design/integration/fabrication and prototyping efforts to address capability gaps identified in current Army command post formations. Also includes equipment and ancillary items necessary to prototype a distributed CPI2 implementation utilizing the Mission Command Platform, Command Post Support Vehicle and Mobile Command Group.			
FY 2022 Plans: FY 2022 funds continue design engineering, and prototype development of Mission Command Platforms and Command Post Support Vehicles for formation appropriate platforms (APMV, JLTV, Stryker) by executing funds on their existing platform contracts. FY22 also funds engineering change proposals for updates to improve CPI2 designs based on soldier feedback from Operational Assessments. This funding will be executed by Program Executive Office Command, Control, Communications - Tactical (PEO-C3T).			
FY 2023 Plans: FY 2023 funds executed the design engineering, and prototype development of Mission Command Platforms and Command Post Support Vehicles for formation appropriate platforms (APMV, JLTV, Stryker) through their existing platform contracts.			
FY 2022 to FY 2023 Increase/Decrease Statement: Decrease from FY22 to FY23 is a result of not having to buy Stryker prototype vehicles in FY23.			
Title: Systems Test and Evaluation	3.930	3.502	4.646
Description: Costs required for test activities to inform CPI2 solution set.			
FY 2022 Plans: FY22 funds provide for safety confirmation for platforms and shelter systems, testing for the Towable Expeditionary Shelter System (TESS), test articles and test planning. This funding will be executed by Program Executive Office Command, Control, Communications -Tactical (PEO-C3T).			
FY 2023 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Conduct test events for formation appropriate vehicles (APMV, JLTV). Conduct Developmental Testing sessions to determine the preparedness and investigate potential issues for the Limited User Test (LUT) event. Conduct the Safety Testing to receive Material Release and support the LUT Event on FMTV based MCP, CPSV to inform a Milestone C in FY24. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase is due to additional test events in FY23 to include Safety Confirmation, Developmental Test and a Limited User Test (LUT) which will include testing CPI2 capability with an Army Brigade Combat Team.			
Title: Support Costs ***Description:*** Program costs for training and development of data packages. ***FY 2022 Plans:*** Funding supports updates necessary to technical data packages and training for test events as well as initial design updates to Technical Data Packages for the platforms in the CPI2 formations. Includes retrograde of the two test units. This funding will be executed by Program Executive Office Command, Control, Communications - Tactical (PEO-C3T). ***FY 2023 Plans:*** Funding supports updates necessary to technical data packages, training for test events, as well as maintenance for the platforms in the CPI2 Division formation. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program increase is aligned to project schedules as vehicle development shifts from design to logistical documentation.	0.963	2.351	3.175
Title: Program Office Management ***Description:*** Contractor/Matrix Labor support and program travel. ***FY 2022 Plans:*** Contract and Matrix personnel to support CPI2 in achieving mission requirements to include managing multiple design/prototyping efforts, test events and training. This funding will be executed by Program Executive Office Command, Control, Communications - Tactical (PEO-C3T). ***FY 2023 Plans:*** Contract and Matrix personnel to support CPI2 in achieving mission requirements to include managing multiple design/prototyping efforts, test events and training. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	4.196	4.388	3.780

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Decrease is driven by a decrease in program design and development in FY23.			
Title: SBIR/STTR Transfer	-	1.863	-
Description: Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	43.803	51.003	31.483

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B29801: *CPI2*	23.000	49.410	60.455	-	60.455	77.042	92.383	92.581	92.540	Continuing	Continuing

Remarks

D. Acquisition Strategy

The CPI2 Materiel Development Decision (MDD) Acquisition Decision Memorandum (ADM) was signed on 21 June 2018 and directs CPI2 to be executed in two Increments. Increment 0 will deliver an initial capability of CPI2 for 5 Brigade Combat Teams (BCT) in alignment with a signed Directed Requirement (Dec 2017); utilizing the Army Family of Medium Tactical Vehicles (FMTV) as the primary mover. Increment 1 will expand on Inc 0 to deliver CPI2 to to a select 86 Army units per approved Capability Development Document (CDD) signed April 2020. Inc 1 expands CPI2 capability to Stryker, AMPV and JLTV vehicle platforms.

Increment 0 development is focused on the design/development of a Mission Command Platform (MCP) and a Command Post Support Vehicle (CPSV) on Family of Medium Tactical Vehicles (FMTV) platforms and associated shelter systems to develop a more mobile, survivable command post. The capability developed will address a Brigade Combat Team (BCT), a Division Main and a platform based Mobile Command Group (MCG) to one Division. Increment 0 prototypes and integrates available Commercial Off The Shelf (COTS), as well as Government Programs of Record (PoR) equipment, that provide mission command and communications functions within the command post. Increment 0 is working with the Government and Industry to capitalize on experiences with mobile Command Posts (CP). CPI2 Increment 0 developed BCT #1 through experimentation conducted with Combat Capabilities Development Center (CCDC) via a Functional Support Agreement (FSA). CPI2 executed a full and open competition under Other Transaction Authority (OTA) to award a contract for design and prototyping the MCP/CPSV for BCT #2. The government and industry led designs for the FMTV based MCP/CPSV were tested through three Operational Assessments. The results from these events provide data necessary to inform an Increment 0 Milestone C decision (FY22), which will then authorize production of 3 new BCT's and any necessary updates/retrofit to the first two experimental units to satisfy the scope of the CP DR to deliver 5 BCTs of CPI2 capability.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

The Division Main effort is executed via an Indefinite Delivery Indefinite Quantity (IDIQ) contract. CPI2 development with a Stryker based Mobile Command Group (MCG) to 1 Division via an FSA with Project Manager (PM) Stryker Brigade Combat Team (SBCT). The Division Main and MCG serve to provide a baseline for user inputs for any future CPI2 CDD updates. Any production decisions for Division and MCG would be addressed in the Increment 1 Milestone C (FY24).

Increment 1 will execute requirements of the CDD to replace designated legacy command post systems at Corps, Division, Brigades, Battalions and select Multi-Functional Support Brigades (MFSB). The approved Increment 1 Milestone B (Acquisition Decision Memorandum signed June 2021) authorized CPI2 to begin prototype development not addressed in Increment 0; specifically for design and test of Stryker, JLTV and AMPV vehicle platforms for formation appropriate MCP, CPSV and MCG. CPI2 will award funds on existing Programs of Record (PoR) contracts for the design/development of these platforms.

The Increment 1 Milestone C decision will initiate LRIP production and fielding of CPI2 FMTV platforms and shelter systems. CPI2 will pursue a full and open award to contract with industry for the engineering, installation and production of the MCP/CPSV/MCG solution for vehicle platforms and shelter systems. An operational test will be conducted to asses CPI2 on the FMTV platform prior to a Full Rate Production decision. CPI2 will be responsible for delivering CPI2 equipment to the vendor for installation. Vehicle platforms will be supplied to CPI2; funded and provided by the existing Army vehicle PoR contracts. Due to the differing durations for development of the formation appropriate platforms (Stryker, AMPV, JLTV); each PoR will assess the CPI2 solution via their individual Functional Qualification Test (FQT). Upon successful test, CPI2 will coordinate with the Milestone Decision Authority (MDA) to request authority to fund the CPI2 installation vendor via Engineering Change Proposal (ECP) to accommodate installation on the Stryker, AMPV, and JLTV platforms.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Civilian Labor	Allot	PM MC : Aberdeen Proving Ground MD	0.108	-		-		-		-		-	Continuing	Continuing	Continuing
SETA Support	MIPR	CACI : Aberdeen Proving Ground, MD	2.620	1.964	Nov 2020	-		-		-		-	0.000	4.584	-
SETA Support	MIPR	Booz Allen Hamilton : Aberdeen Proving Ground, MD	-	-		2.063	Feb 2022	1.780	Dec 2022	-		1.780	Continuing	Continuing	Continuing
Matrix Support	MIPR	Various : Aberdeen Proving Ground, MD	3.739	2.232	Nov 2020	2.325	Nov 2021	2.000	Dec 2022	-		2.000	Continuing	Continuing	Continuing
SBIR/STTR Transfer	TBD	TBD : TBD	-	-		1.863		-		-		-	0.000	1.863	-
		Subtotal	6.467	4.196		6.251		3.780		-		3.780	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
BCT 1 Design/Fabrication/ Installation	MIPR	CCDC-C5ISR : Aberdeen Proving Ground, MD	7.809	1.624	Dec 2020	-		-		-		-	Continuing	Continuing	Continuing
BCT 2 Design/Fabrication/ Installation	C/FFP	ELBIT : Ft.Worth, Texas	9.757	10.363	Nov 2020	-		-		-		-	Continuing	Continuing	Continuing
Division Design/ Fabrication/Installation	C/IDDQ	SERCO (Formerly BRTRC) : Ft.Bliss, Texas	5.340	3.723	Nov 2020	-		-		-		-	Continuing	Continuing	Continuing
Mobile Command Group Experimentation	MIPR	PM SBCT : Warren, MI	0.425	1.116	Feb 2021	-		-		-		-	Continuing	Continuing	Continuing
CPI2 Core Kits	Various	Multiple : Multiple	9.670	4.689	Mar 2021	1.150	Dec 2021	-		-		-	Continuing	Continuing	-
Rigid Wall Shetler Design	MIPR	CCDC-C5ISR : APG, MD	-	1.483	May 2021	-		-		-		-	Continuing	Continuing	Continuing
Ancillary Items	MIPR	Various : Various	4.638	1.175	Oct 2020	0.864	Dec 2021	-		-		-	Continuing	Continuing	Continuing
Engineering Changes	Option/ FFP	ELBIT : Ft.Worth, Texas	-	5.440	Jun 2021	1.322	Dec 2021	-		-		-	Continuing	Continuing	Continuing

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) ER9 / *Expeditionary Army Command Post*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stryker MCP Design/ Development	Allot	PM SBCT : Detroit, MI	-	4.300	Jul 2021	25.681	May 2022	12.483	Jan 2023	-		12.483	Continuing	Continuing	Continuing
AMPV MCP Design/ Development	Allot	PM AMPV : Detroit Aresnal, MI	-	-		4.552	Mar 2022	5.826	Jan 2023	-		5.826	Continuing	Continuing	Continuing
JLTV MCP/CPSV Design/ Development	Allot	PM JLTV : Detroit , MI	-	-		5.330	Apr 2022	1.573	Jan 2023	-		1.573	Continuing	Continuing	Continuing
TESS Design/ Development (Medium/ Large)	Allot	PdM FSS : Natick, MA	0.954	0.801	May 2021	-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	38.593	34.714		38.899		19.882		-		19.882	Continuing	Continuing	N/A

Remarks

1) CPI2 funds existing contracts managed by Stryker, AMPV and JLTV to execute design/development/vehicle prototype development.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Tech Manuals/Training Development Packages	Various	Various : Various	3.025	0.963	Mar 2021	1.001	May 2022	1.320	Dec 2022	-		1.320	Continuing	Continuing	Continuing
Maintenance	Option/ Various	Various : Ft Bliss, TX	-	-		1.350	Dec 2021	1.855	Dec 2022	-		1.855	0.000	3.205	-
		Subtotal	3.025	0.963		2.351		3.175		-		3.175	Continuing	Continuing	N/A

Remarks

1) Tech Manuals increase is driven by Stryker, AMPV and JLTV platform required updates to tech manuals, training and maintenance manuals based on the CPI2 designs.
2) Contract support and maintenance for the Division unit level experimentation and Mobile Command Group for continuous feedback in the try, buy and assess model.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) ER9 / *Expeditionary Army Command Post*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Test and Evaluation	MIPR	Various : Various	0.740	3.930	Nov 2020	3.502	May 2022	4.646	Feb 2023	-		4.646	Continuing	Continuing	Continuing
		Subtotal	0.740	3.930		3.502		4.646		-		4.646	Continuing	Continuing	N/A

Remarks

1) System Test and Evaluation increase is driven by an increase in the number of test events in FY23. Events include the LUT, Development Test and Safety Confirmation Test.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	48.825	43.803		51.003		31.483		-		31.483	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

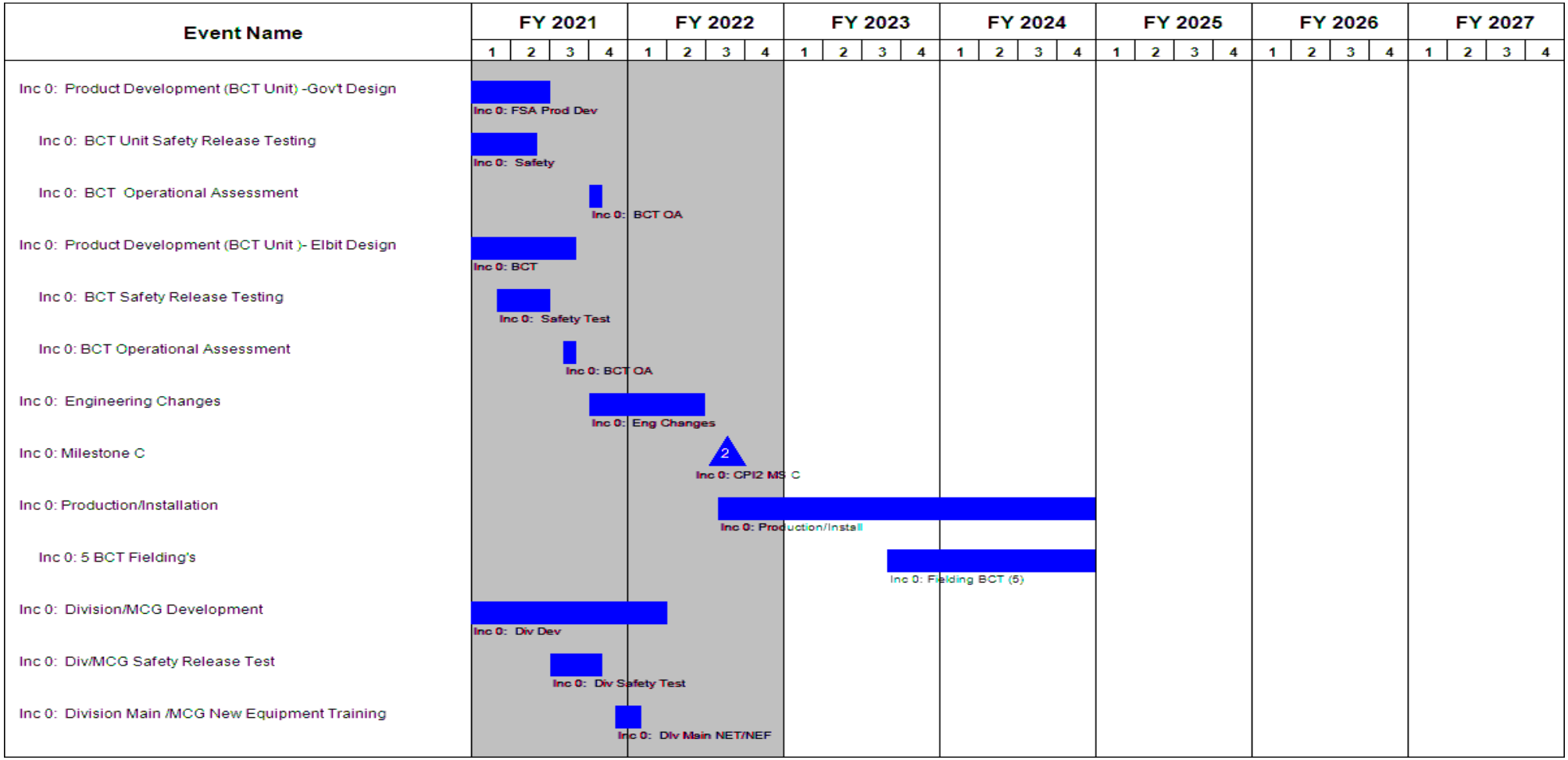
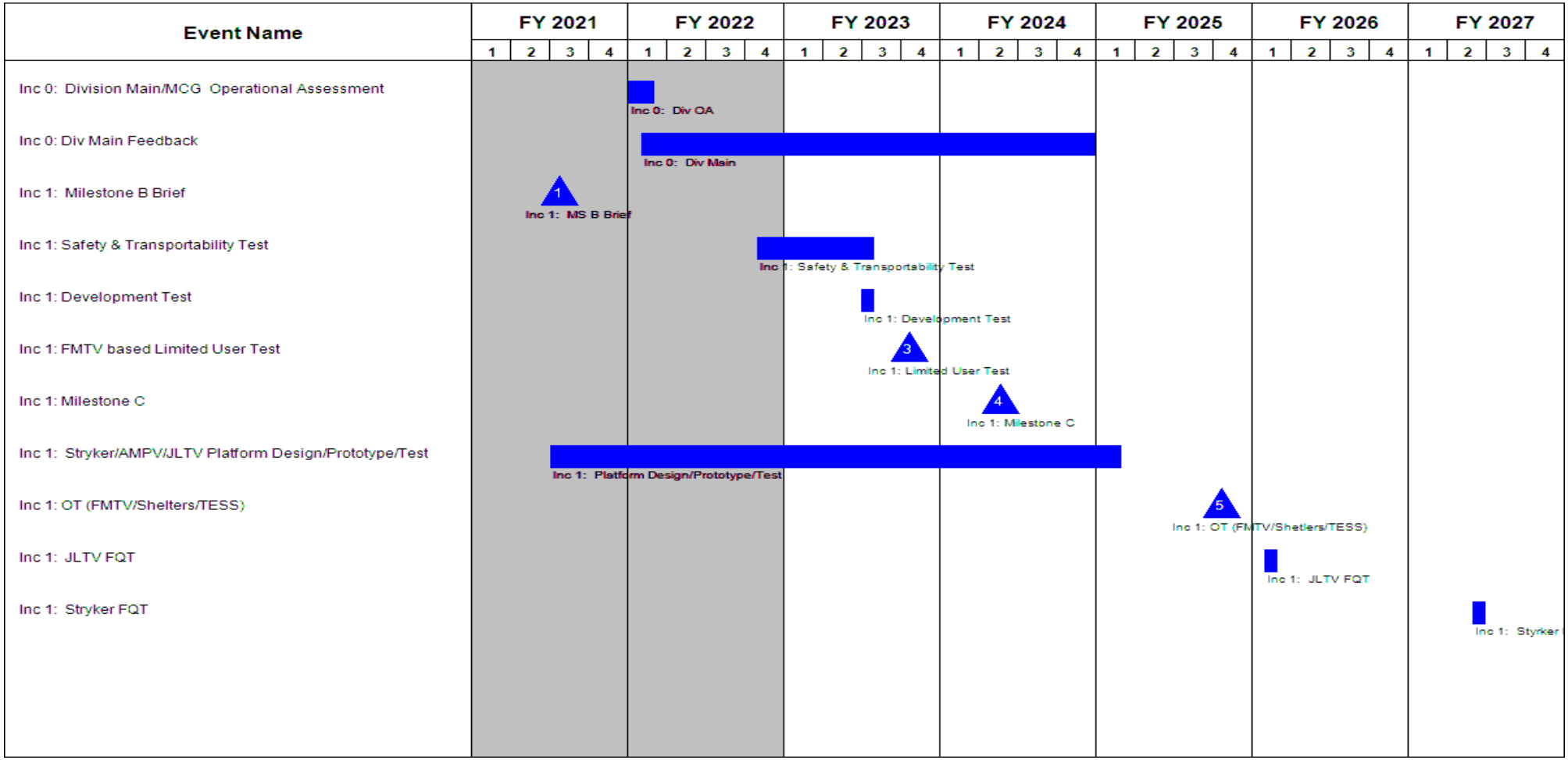


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*



Note

1) Increment 0 Milestone C is scheduled for May 2022. This is a slip from the projection of 1QFY22 that was presented in PB22.
2) FY23 Risk Reduction Event is now formally called the Limited User Test (LUT) as it is a feeder to the Inc 1 Milestone C.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Command Post Directed Requirement Signed	1	2018	1	2018
CPI2 MDD	3	2018	3	2018
Inc 0: MS A	2	2019	2	2019
Inc 0: Product Development (BCT Unit) -Gov't Design	2	2019	2	2021
Inc 0: BCT Unit Safety Release Testing	4	2020	2	2021
Inc 0: BCT Operational Assessment	4	2021	4	2021
Inc 0: Product Development (BCT Unit)- Elbit Design	4	2019	3	2021
Inc 0: BCT Safety Release Testing	1	2021	2	2021
Inc 0: BCT Operational Assessment	3	2021	3	2021
Inc 0: Engineering Changes	4	2021	2	2022
Inc 0: Milestone C	3	2022	3	2022
Inc 0: Production/Installation	3	2022	4	2024
Inc 0: 5 BCT Fielding's	3	2023	4	2024
Inc 0: Division/MCG Development	4	2019	1	2022
Inc 0: Div/MCG Safety Release Test	3	2021	4	2021
Inc 0: Division Main /MCG New Equipment Training	4	2021	1	2022
Inc 0: Division Main/MCG Operational Assessment	1	2022	1	2022
Inc 0: Div Main Feedback	1	2022	4	2024
Inc 1: Capablity Development Document Approved	3	2020	3	2020
Inc 1: Milestone B Brief	3	2021	3	2021
Inc 1: Safety & Transportability Test	4	2022	3	2023
Inc 1: Development Test	3	2023	3	2023

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** ER9 / *Expeditionary Army Command Post*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Inc 1: FMTV based Limited User Test	4	2023	4	2023
Inc 1: Milestone C	2	2024	2	2024
Inc 1: Stryker/AMPV/JLTV Platform Design/Prototype/Test	3	2021	1	2025
Inc 1: OT (FMTV/Shelters/TESS)	4	2025	4	2025
Inc 1: JLTV FQT	1	2026	1	2026
Inc 1: Stryker FQT	2	2027	2	2027

Note

1) Increment 0 Milestone C is scheduled for May 2022. This is a slip from the projection of 1QFY22 that was presented in PB22.
2) FY23 Risk Reduction Event is now formally called the Limited User Test (LUT) as it is a feeder to the Inc 1 Milestone C.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EW3 / *Unit Task Reorganization (UTR) Development*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EW3: *Unit Task Reorganization (UTR) Development*	-	19.027	9.346	13.814	-	13.814	14.183	14.355	14.359	14.498	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line provides support to the Army's Network Modernization Strategy LOE 1, Unified Network. Efforts are aligned to support the Network-Cross Functional Team (CFT) capability set approach to achieve the Army's Network Modernization strategy and initiatives.

UTR supports the Army Network Plan Framework objective to deliver a Standards Based Network Architecture. This will enable the modernization of the Mission Command Network through the coordination of a common set of network operations tools and infrastructure development supporting the unit communication staff's ability to Manage the Network through the (1) development of an integrated planning tool suite to improve Signal Soldiers ability to plan and develop configurations for upcoming operations and deployments; (2) development of tools and technology that provide a means to deliver configurations with little to no manual involvement by the Soldier and (3) replacement of stove-piped management systems with integrated tools that provide a consolidated, as well as detailed, view of the network and its components.

The total cost of the Unified Network Operations (UNO) Middle Tier of Acquisition (MTA) effort is $84.352 million RDT&E from FY19 to FY24. The remainder (FY23-24) of the $31.397 million for UNO MTA is fully funded across the Future Years Defense Program (FYDP). In accordance with the National Defense Authorization Act (NDAA) policy for MTA funding, UNO MTA will leverage funds from 654818/EW3 and 654818/EK9 to achieve its required funding levels.

FY 2023 UTR funding will be used to continue development of network components that support centralized data, security, and information exchanges; continue development of Radio Planning capabilities in order to plan and create configuration files for emerging Integrated Tactical Network (ITN) radios and waveforms; continue development of network device and provisioning systems; and continue the development of a network manager that monitors and displays network health status, performance, location and security to local operator.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Network Provisioning	5.649	-	-
Description: UTR is implementing tools and technology to reduce the amount of time and troops required to provision network devices with configurations developed during the planning process. This provides a means to deliver configurations without requiring manual involvement by the Soldier, and for devices to report configuration and operational status in accordance with the Standards Based Architecture. The Rapid Provisioning Systems (RPS) Master Node installation in the Mission Command Support Center (MCSC) in FY 20 provided Integrated global patch management capabilities into across Brigade Combat Teams (BCTs).			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Network Management	12.620	8.720	13.331

Description: UTR introduces improvements to the way the network is managed, reducing closed management systems and replacing them with integrated tools that provide a consolidated, as well as detailed, view of the network and its components.

Integrated management of Transportable Tactical Command Communications (T2C2)- Heavy and Lite, Satellite Transportable Terminal (STT), Tactical Communications Node (TCN)-Lite, Scalable Class of Unified Terminals (SCOUT) was provided as part of the Network Manager (NOMS) and deployed in FY 20 to Expeditionary Signal Battalion (ESB?s) and part of CS 21. The initial Tactical Radio Integration Kit (TRIK) Management interface was developed and provided in CS 21 as part of Integrated Tactical Network (ITN).

FY 2022 Plans:
- Complete delivery of vendor neutral Application Programming Interface (API) that supports network health status across warfighting applications and S6 tools & services as well as communication across various services.
- Continue development of network components that support centralized data, security, and information exchanges, enabling Signal Soldier activities.
- Implementation of Bandwidth efficient & NSA approved Over the Network and Over the Air capabilities to provision and reconfigure tactical radios that support Integrated Visual Augmentation System (IVAS), Hand Held Computing Environment (HH CE) & Mounted Computing Environment (MCE).
- Continue product development of Network Management functionality enabling the ability to manage and troubleshoot the network devices that comprise the Tactical Network, monitor nodes for network health status, performance, location, and security, in addition to displaying monitored data to the local operator. Extend management interfaces for services (Network Manager & Battalion (BN) and Below Manager).
- Continue development of the Tactical radio planner to include planning for additional waveforms, Demand Assigned Multiple Access (DAMA), Satellite Communications (SATCOM), Planning.
- Integration of Tactical Network Initialization & Configuration (TNIC) Initialization Process through Initialization Tool Suite.
- Continue development of SATCOM planner as replacement for the Tactical Network Toolkit (TNT) Network Management System (NMS) planner for SATCOM systems targeting deployment in CS 23.
- Continue development of consolidated Satellite Access Requests & receipt of Satellite Access Authorizations.

FY 2023 Plans:
- Complete delivery of vendor neutral Application Programming Interface (API) that supports network health status across warfighting applications and S6 tools & services as well as communication across various services.
- Continue development of network components that support centralized data, security, and information exchanges, enabling Signal Soldier activities.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
- Implementation of Bandwidth efficient & NSA approved Over the Network and Over the Air capabilities to provision and reconfigure tactical radios that support Integrated Visual Augmentation System (IVAS), Hand Held Computing Environment (HH CE) & Mounted Computing Environment (MCE). - Continue product development of Network Management functionality enabling the ability to manage and troubleshoot the network devices that comprise the Tactical Network, monitor nodes for network health status, performance, location, and security, in addition to displaying monitored data to the local operator. Extend management interfaces for services (Network Manager & Battalion (BN) and Below Manager (INB2)). - Continue development of the Tactical radio planner to include planning for additional waveforms, Demand Assigned Multiple Access (DAMA), Satellite Communications (SATCOM), Planning. - Integration of Tactical Network Initialization & Configuration (TNIC) Initialization Process through Initialization Tool Suite. - Continue development of SATCOM planner as replacement for the Tactical Network Toolkit (TNT) Network Management System (NMS) planner for SATCOM systems targeting deployment in CS 23. - Continue development of consolidated Satellite Access Requests & receipt of Satellite Access Authorizations. - Analysis and studies of network planning/management/cybersecurity capabilities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 to FY23 increase is a result of expanded development on Network Management and Planning capabilities.			
Title: System of Systems Engineering and Portfolio Management ***Description:*** Systems engineering and program management support to include development and maintenance of the NetOps architecture, Systems Engineering Plan, Risk Management Plan, Rapid Prototyping, IPT Management, Requirements Engineering, Integrated Master Schedule, and budget formulation and execution. ***FY 2022 Plans:*** Continue Systems of Systems Engineering and program management across NetOps portfolio.. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY23 System of Systems Engineering and Portfolio Management funding has been moved to more accurately reflect UNO Program Management requirements.	0.758	0.283	-
Title: Program Management ***Description:*** The UNO Program Office will support the continuation of NetOps component development. The UNO Program Office will also support the transition of UNO MTA RP to a suitable acquisition pathway for software capability fielding in FY2024 to meet Unified Network requirements. ***FY 2023 Plans:***	-	-	0.483

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
The UNO Program Office will support the continuation of NetOps component development. The UNO Program Office will also support the transition of UNO MTA RP to a suitable acquisition pathway for software capability fielding in FY2024 to meet Unified Network requirements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase to Program Management Support reflects UNO MTA management requirements and supports the transition of UNO MTA RP to a suitable acquisition pathway for software capability fielding in FY2024 to meet Unified Network requirements.			
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638	-	0.343	-
Accomplishments/Planned Programs Subtotals	19.027	9.346	13.814

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EK9: *TACTICAL NETWORK OPERATIONS AND MANAGEMENT*	3.252	3.366	3.400	-	3.400	-	-	-	-	0.000	10.018

Remarks

In accordance with the National Defense Authorization Act (NDAA) policy for MTA funding, UNO MTA leverages funds from Unit Task Reorganization (UTR) 654818/EW3 and Tactical Networks Operations Management (TNOM) 654818/EK9 to achieve its required funding levels.

D. Acquisition Strategy

Unit Task Reorganization (UTR) is an overarching effort that supports the establishment of a standards-based network architecture and integration of requirements across multiple efforts in the tactical network. UTR resources are applied directly to current products which are modified through Engineering Change Proposals and Modified Work Orders to comply with network standards. This enables current systems to share the information, reducing time and task for soldiers as well as new systems to access the network. Efforts are enduring to react to evolving prioritization of requirements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EW3 / *Unit Task Reorganization (UTR) Development*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	TBD	Various : Various	-	-		-		0.483		-		0.483	Continuing	Continuing	Continuing
SBIR/STTR	TBD	TBD : TBD	-	-		0.343		-		-		-	0.000	0.343	-
		Subtotal	-	-		0.343		0.483		-		0.483	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Network Provisioning	C/IDIQ	Microsoft : Redmond, WA	12.386	1.000	Nov 2020	-		-		-		-	0.000	13.386	-
Network Provisioning	MIPR	Matrix Organizations : APG MD	6.983	2.665	Nov 2020	-		-		-		-	0.000	9.648	-
Network Provisioning	FFRDC	MITRE : Mclean, VA	4.852	1.393	Oct 2020	-		-		-		-	0.000	6.245	-
Network Provisioning	C/CPFF	Telesis : Mclean, VA	6.957	0.321	Mar 2021	-		-		-		-	0.000	7.278	-
Network Provisioning	Option/ CPAF	ESP : APG, MD	0.654	0.370	Nov 2020	-		-		-		-	0.000	1.024	-
Network Management	C/FFP	Various : TBD	34.881	12.120	Apr 2021	8.720	Jan 2022	13.331	Jan 2023	-		13.331	Continuing	Continuing	Continuing
Network Management	MIPR	C5ISR : APG, MD	0.467	0.400	Nov 2020	-		-		-		-	0.000	0.867	-
		Subtotal	67.180	18.269		8.720		13.331		-		13.331	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System of Systems Engineering and Portfolio Management	C/CPAF	Various : APG MD	3.115	0.758	Nov 2020	0.283	Feb 2022	-		-		-	0.000	4.156	-
		Subtotal	3.115	0.758		0.283		-		-		-	0.000	4.156	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604818A / *Army Tactical Command & Control Hardware & Software*	Project (Number/Name) EW3 / *Unit Task Reorganization (UTR) Development*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	70.295	19.027		9.346		13.814		-		13.814	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*

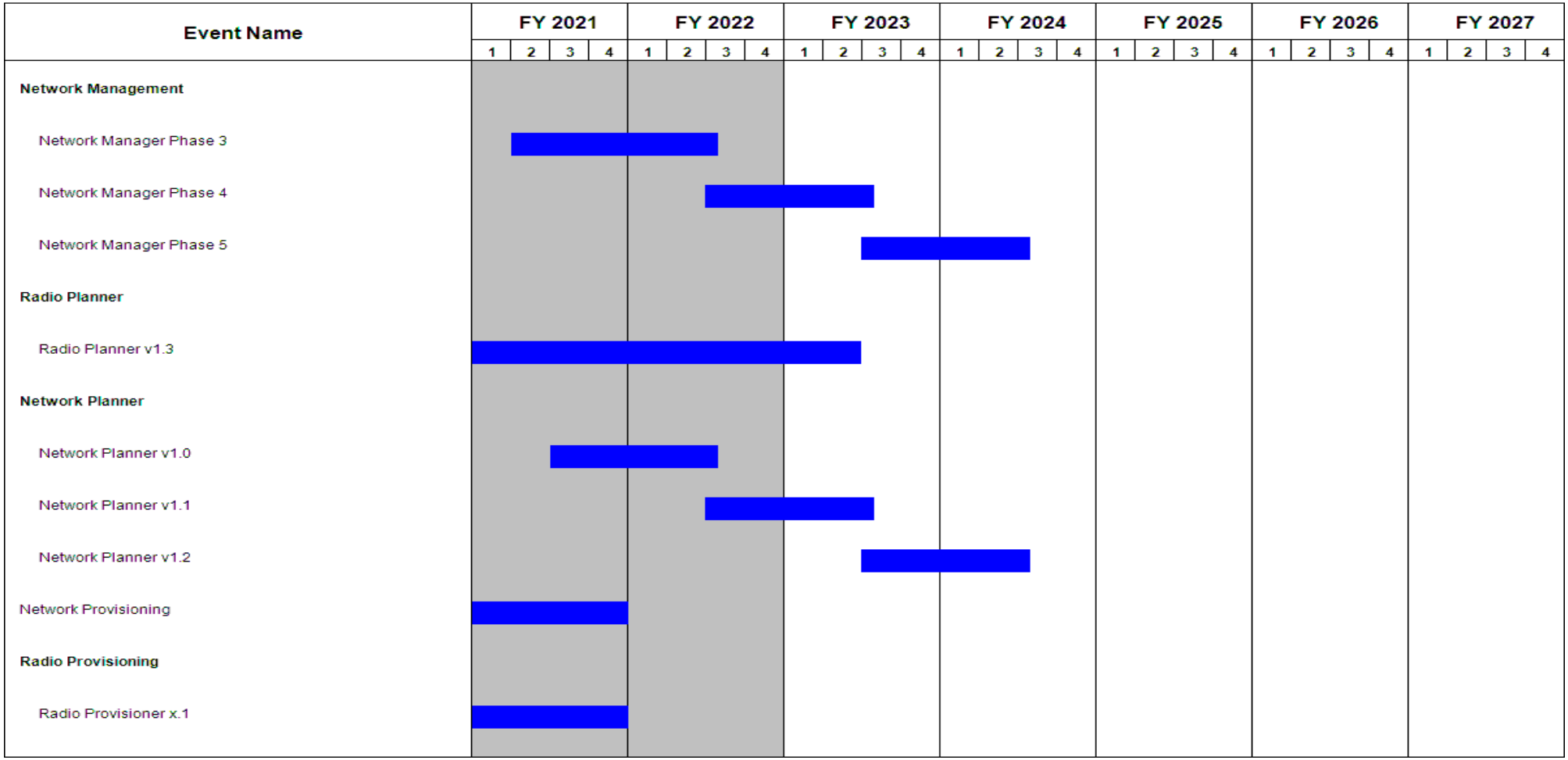
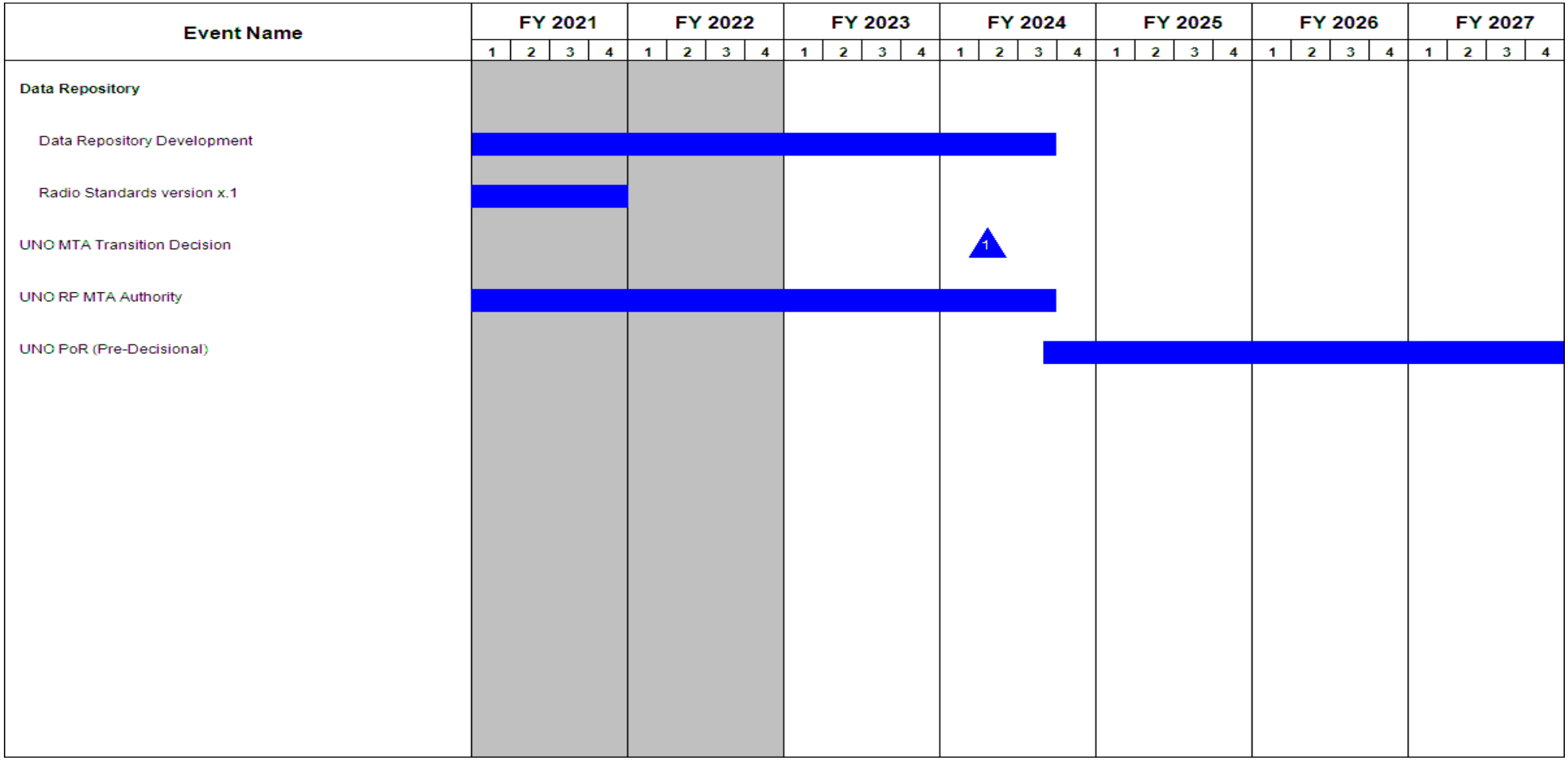


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*



Note

UNO MTA leverages funds from Unit Task Reorganization (UTR) 654818/EW3 and Tactical Network Operations Management (TNOM) 654818/EK9.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604818A / *Army Tactical Command & Control Hardware & Software*	**Project (Number/Name)** EW3 / *Unit Task Reorganization (UTR) Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Network Management	1	2019	3	2024
Network Manager Phase 3	2	2021	3	2022
Network Manager Phase 4	3	2022	3	2023
Network Manager Phase 5	3	2023	3	2024
Radio Planner	1	2019	2	2021
Radio Planner v1.3	1	2021	2	2023
Network Planner	1	2020	3	2024
Network Planner v1.0	3	2021	3	2022
Network Planner v1.1	3	2022	3	2023
Network Planner v1.2	3	2023	3	2024
Network Provisioning	1	2019	4	2021
Radio Provisioning	1	2019	4	2022
Radio Provisioner x.1	1	2021	4	2021
Data Repository	1	2019	3	2024
Data Repository Development	1	2021	3	2024
Radio Standards version x.1	4	2020	4	2021
UNO MTA Transition Decision	2	2024	2	2024
UNO RP MTA Authority	3	2019	3	2024
UNO PoR (Pre-Decisional)	3	2024	4	2027

Note

UNO MTA leverages funds from Unit Task Reorganization (UTR) 654818/EW3 and Tactical Network Operations Management (TNOM) 654818/EK9.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army												Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604820A *I Radar Development*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	105.271	122.607	71.259	-	71.259	74.055	31.655	8.578	8.662	0.000	422.087
E10: *Sentinel*	-	105.271	122.607	71.259	-	71.259	74.055	31.655	8.578	8.662	0.000	422.087

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of the Sentinel Radar program and will provide for an incrementally fielded Integrated Air and Missile Defense Fire Control System/capability for the composite Army Air and Missile Defense Brigades. The Sentinel system is a key component of the Army Integrated Air and Missile Defense (AIAMD) architecture, providing critical air surveillance of the forward areas. The AIAMD architecture is an integrated fires development effort that includes survivability, resiliency, and effectiveness improvements against advanced threats from near-peer adversaries. This effort includes 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.

Sentinel A3 consists of a radar-based sensor with its prime mover/power, Identification Friend or Foe (IFF), and Forward Area Air Defense (FAAD) Command, Control and Intelligence (C2I) interfaces. The radar is deployed in both an air defense role and a force protection role for Counter-Rocket, Artillery, and Mortar (C-RAM) missions. The sensor is an advanced three-dimensional battlefield X-Band air defense phased-array radar with an instrumented range of 75 kilometers. Sentinel is capable of operating day or night, in adverse weather conditions, in the battlefield environments of dust, smoke, aerosols and enemy countermeasures. It provides 360-degree azimuth coverage for acquisition tracking. Sentinel contributes to the digital battlefield by automatically detecting, classifying, identifying and reporting targets (cruise missiles, unmanned aircraft systems, rotary wing and fixed wing aircraft). Sentinel acquires targets sufficiently forward of the battle area to allow weapons reaction time and engagement at optimum ranges. Sentinel's integrated IFF reduces the potential for fratricide of US and Coalition aircraft.

The Sentinel A4 Active Electronically Scanned Array (AESA) is the next generation of radar technology to replace the current phase and frequency scanned array used by Sentinel today. Sentinel A4 hardware and software upgrades will extend the range for ground-based surveillance and situational awareness; will have faster and more accurate Non-Cooperative Target Recognition (NCTR) for clearing fires and preventing fratricide; will improve track accuracy, and management of larger track loads; and improve operation in severe/urban clutter. The system will provide simultaneous multi-mission capability and provides hemispherical surveillance to detect and track small targets, such as Unmanned Aircraft Systems (UAS) and Cruise Missiles, in clutter and will detect and track slow targets, such as UAS and Rotary Wing aircraft, at low altitudes in clutter. The system will detect, track, and classify Rocket, Artillery, and Mortar (RAM) threats and will support M-SHORAD, AIAMD, IFPC and Combat Command Operational requirements with Fire Control quality tracks. Sentinel A4 will incorporate the upgraded AN//TPX-61 IFF with M-Code capability added by replacing the GB-Gram card with M-Code GB-Gram cards.

Sentinel program will develop nascent capability and support Army demonstration and test initiatives to increase integrated offensive and defensive capability across warfighter functions and multiple domains.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army					Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*			R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*		
B. Program Change Summary ($ in Millions)	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**
Previous President's Budget	105.271	127.919	0.000	-	0.000
Current President's Budget	105.271	122.607	71.259	-	71.259
Total Adjustments	0.000	-5.312	71.259	-	71.259
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.312			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	71.259	-	71.259

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
E10: *Sentinel*	-	105.271	122.607	71.259	-	71.259	74.055	31.655	8.578	8.662	0.000	422.087
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project resources the following;
Sentinel A4 detects, tracks, and classifies RAM threats and will support Integrated Air and Missile Defense Battle Command System (IBCS) requirements and contributes sensor support for mitigating current and future Indirect Fire Protection Capability Increment 2 mission requirements as well as Mobile Short Range Air Defense (M-SHORAD) battalions. FY 2023 funding supports the material buy and initial integration for five (5) Initial Operational Test and Evaluation (IOT&E) Systems. Integration for the IOT&E systems will complete in FY2024. These IOT&E systems will field in support of IOT&E testing scheduled to begin in 1QFY2025.

Electronic Attack/Electronic Protect (EA/EP) addresses the electronic countermeasures (ECM) gap. This effort continues through the life of the radar, addressing both changing threats and electronic counter measure gaps.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Product Development	102.259	110.950	55.481
Description: Funding is provided for the following Product Development efforts: ***FY 2022 Plans:*** Continue integration of firmware, software and hardware for Sentinel A4 EMD assets. Supports build and integration of five (5) Sentinel A4 User Operational Evaluation Systems (UOES) to serve as soldier touch points for feedback prior to initiating Low Rate Initial Production (LRIP). Provides UOES assets to support test events for emerging requirements. Continue to perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation for Sentinel A3. ***FY 2023 Plans:*** Will continue to build and integration of five (5) Sentinel A4 User Operational Evaluation Systems (UOES) to serve as soldier touch points for feedback prior to initiating Low Rate Initial Production (LRIP). Will provide UOES assets to support test events for emerging requirements. Will initiate build of five (5) Initial Operational Test and Evaluation (IOT&E) assets for delivery in support of system IOT&E. Will continue to perform technical assessments, concept studies, cost reduction, risk reduction, threat analysis, and required documentation for Sentinel A3. ***FY 2022 to FY 2023 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY2022 fully funds build of five (5) User Operational Evaluation Systems (UOES) and continues to support EMD efforts for Sentinel A4. The decrease in FY2023 funds the initial material buy and integration for five (5) Initial Operational Test and Evaluation (IOT&E) assets for the Sentinel A4 program.			
Title: Test & Evaluation ***Description:*** Funding is provided for the following Test and Evaluation efforts: ***FY 2022 Plans:*** Supports Developmental Test for Sentinel A4 EMD assets. Conducts software qualification test and hardware verification testing, field testing against representative targets. Prepare logistics products and required documentation for materiel release of software and hardware upgrades for Sentinel A3. ***FY 2023 Plans:*** Supports completion of Developmental Test for Sentinel A4 EMD assets. Supports Sentinel A4 Limited User Test (LUT) and Operational Test Agency (OTA) Milestone Assessment Report (OMAR). Will conduct software qualification test and hardware verification testing, field testing against representative targets. Prepares logistics products and required documentation for materiel release of software and hardware upgrades for Sentinel A3. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase from FY2022 to FY2023 is due to completion of DT and execution of LUT and OMAR in FY2023.	3.012	7.182	15.778
Title: FY22 SBIR/STTR Transfer ***Description:*** SBIR/STTR $4.475M transferred in accordance with Title 15 USC ?638. ***FY 2022 Plans:*** SBIR/STTR $4.475M transferred in accordance with Title 15 USC ?638. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** SBIR/STTR $4.475M transferred in accordance with Title 15 USC ?638.	-	4.475	-
Accomplishments/Planned Programs Subtotals	105.271	122.607	71.259

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• WK5057: *Sentinel Mods*	92.380	47.642	166.736	-	166.736	165.199	234.255	234.248	235.052	Continuing	Continuing
• EF9: *System Integration and Test*	-	-	-	-	-	-	-	-	-		

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• EX2: *Lower Tier Air Missile Defense (LTAMD) Capability*	308.805	297.629	382.147	-	382.147	89.187	89.984	90.002	90.874	0.000	1,348.628
• FM3: *Future Interceptor*	-	6.895	8.179	-	8.179	8.210	8.202	8.205	8.285	0.000	47.976
• C53101: *MSE Missile*	678.148	771.696	1,037.093	-	1,037.093	978.741	982.922	991.265	1,002.608	Continuing	Continuing
• EY7: *IFPC Increment 2 - Block 1*	152.399	182.257	131.093	-	131.093	59.266	10.774	10.778	-	0.000	546.567
• C62002: *IFPC INC 2-I BLOCK 1 SYSTEM*	62.461	19.053	18.924	-	18.924	386.383	670.667	712.994	722.152	0.000	2,592.634
• FI4: *Maneuver - Short Range Air Defense (M-SHORAD)*	5.776	39.376	10.363	-	10.363	10.403	10.393	10.397	10.394	0.000	97.102
• C14300: *M-SHORAD - Procurement*	517.287	331.575	135.747	-	135.747	58.336	205.657	487.003	487.120	Continuing	Continuing
• S40: *Army Integrated Air and Missile Defense*	213.956	159.873	265.288	-	265.288	289.312	344.958	182.204	131.523	0.000	1,587.114
• BZ5075: *IAMD Battle Command System*	198.587	296.872	438.967	-	438.967	412.920	457.335	458.445	457.608	Continuing	Continuing
• 0604741A: *Air Defense Command, Control and Intelligence - Eng Dev*	62.058	59.518	39.541	-	39.541	34.335	49.488	48.268	54.448	Continuing	Continuing
• AD5070: *AIR & MSL Defense Planning & Control Sys*	62.517	67.193	72.619	-	72.619	-	-	-	-	0.000	202.329

Remarks

These programs are an integral part of the Army Integrated Air and Missile Defense (AIAMD) architecture.

D. Acquisition Strategy

Sentinel A3 and its predecessors were procured from Raytheon as a non-developmental item. The US Government does not have adequate data rights for the Sentinel A3 and its predecessors; therefore no other contractor has the technical ability to modify the Sentinel A3 radar or Sentinel A3 software. The modifications for Sentinel A3 fall into these categories: Electronic Attack/Electronic Protect; Signal Data Processor; North Finding Module; Medium Bandwidth; Resiliency and Software Assurance Modification (RSAM); Counter Rocket Artillery and Mortar (C-RAM), Low Slow Small, Unmanned Aircraft Systems, Cruise Missiles; and Mode S. Electronic Attack/ Electronic Protect will be an ongoing effort to ensure Sentinel A3 remains relevant in the field until A4 is fielded.

For the Sentinel A4 modification, Lockheed Martin was competitively awarded a Fixed Price Incentive Firm (FPIF) contract to develop a modified Sentinel with a new Active Electronically Scanned Array (AESA) antenna. The contract award to Lockheed Martin includes EMD with priced options for LRIP. Fifteen RDTE funded assets are on contract with Lockheed Martin including five (5) EMD prototypes, five (5) UOES assets and five (5) IOT&E assets. A contract is planned to support full rate production in FY2025.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

Sentinel 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 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	Various	Various : Multiple	12.509	4.592	Nov 2020	4.679	Nov 2021	4.768	Nov 2022	-		4.768	Continuing	Continuing	Continuing
FY22 SBIR/STTR Transfer	TBD	Various : Various	-	-		4.475		-		-		-	0.000	4.475	-
		Subtotal	12.509	4.592		9.154		4.768		-		4.768	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sentinel A3 Modifications	Various	Raytheon & Various : Fullerton, CA / Various	11.436	-		-		-		-		-	0.000	11.436	-
Electronic Attack/ Electronic Protect	Various	Raytheon & Various : Fullerton, CA / Various	25.859	5.313	Jan 2021	5.327	Jan 2022	4.000	Jan 2023	-		4.000	Continuing	Continuing	-
Active Electronically Scanned Array (A4)	C/FPIF	Lockheed Martin & Search, Track, Acquire, Radiate, Eliminate (PM STARE) : Syracuse, NY and Huntsville, AL	113.679	91.160	Jan 2021	100.944	Jan 2022	46.713	Jan 2023	-		46.713	Continuing	Continuing	-
Mode S	Various	Raytheon & Various : Fullerton, CA / Various	7.823	-		-		-		-		-	0.000	7.823	-
Resiliency and Software Assurance Modification (RSAM) upgrade	Various	Raytheon & Various : Fullerton, CA / Various	2.209	-		-		-		-		-	0.000	2.209	-
Counter Rocket Artillery and Mortars	Various	Raytheon & Various : Fullerton, CA / Various	3.677	1.194	Jan 2021	-		-		-		-	0.000	4.871	-
		Subtotal	164.683	97.667		106.271		50.713		-		50.713	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604820A / *Radar Development*	Project (Number/Name) E10 / *Sentinel*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Sentinel A3 Modifications	Various	Raytheon & Various : Fullerton, CA / Various	3.440	-		-		-		-		-	0.000	3.440	-
Electronic Attack/ Electronic Protect	Various	Raytheon & Various : Fullerton, CA / Various	4.724	1.816	Jan 2021	0.840	Jan 2022	0.225	Jan 2023	-		0.225	Continuing	Continuing	-
Mode S	Various	Raytheon & Various : Fullerton, CA / Various	3.012	-		-		-		-		-	0.000	3.012	-
Resiliency and Software Assurance Modification (RSAM) upgrade	Various	Raytheon & Various : Fullerton, CA / Various	0.500	-		-		-		-		-	0.000	0.500	-
Counter Rocket Artillery and Mortars	Various	Raytheon & Various : Fullerton, CA / Various	0.220	1.196	Jan 2021	-		-		-		-	0.000	1.416	-
Active Electronically Scanned Array (A4)	C/FPIF	Lockheed Martin & Search, Track, Acquire, Radiate, Eliminate (PM STARE : Syracuse, NY and Huntsville, AL	-	-		6.342	Jan 2022	15.553	Jan 2023	-		15.553	Continuing	Continuing	-
		Subtotal	11.896	3.012		7.182		15.778		-		15.778	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	189.088	105.271		122.607		71.259		-		71.259	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

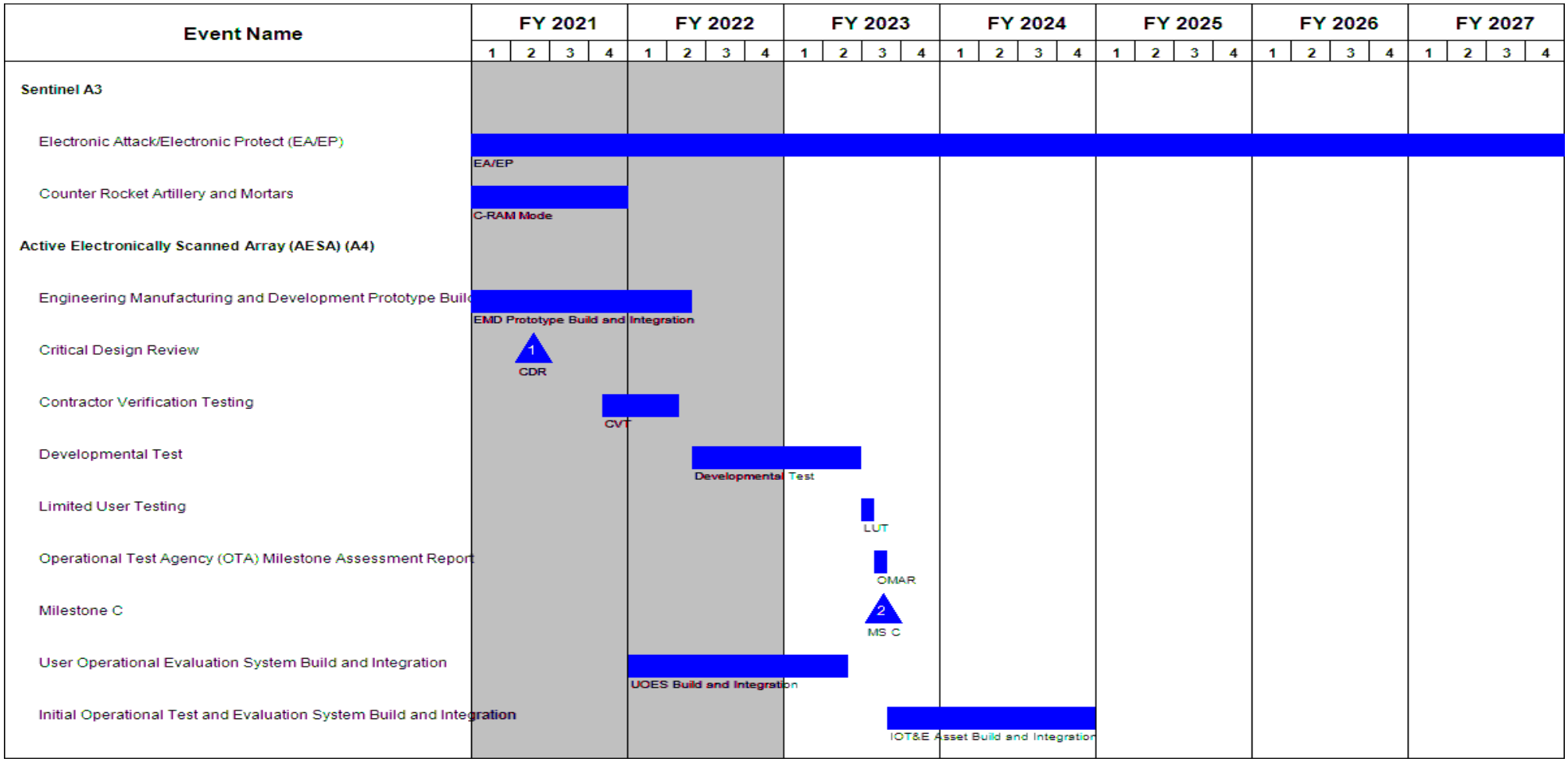


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

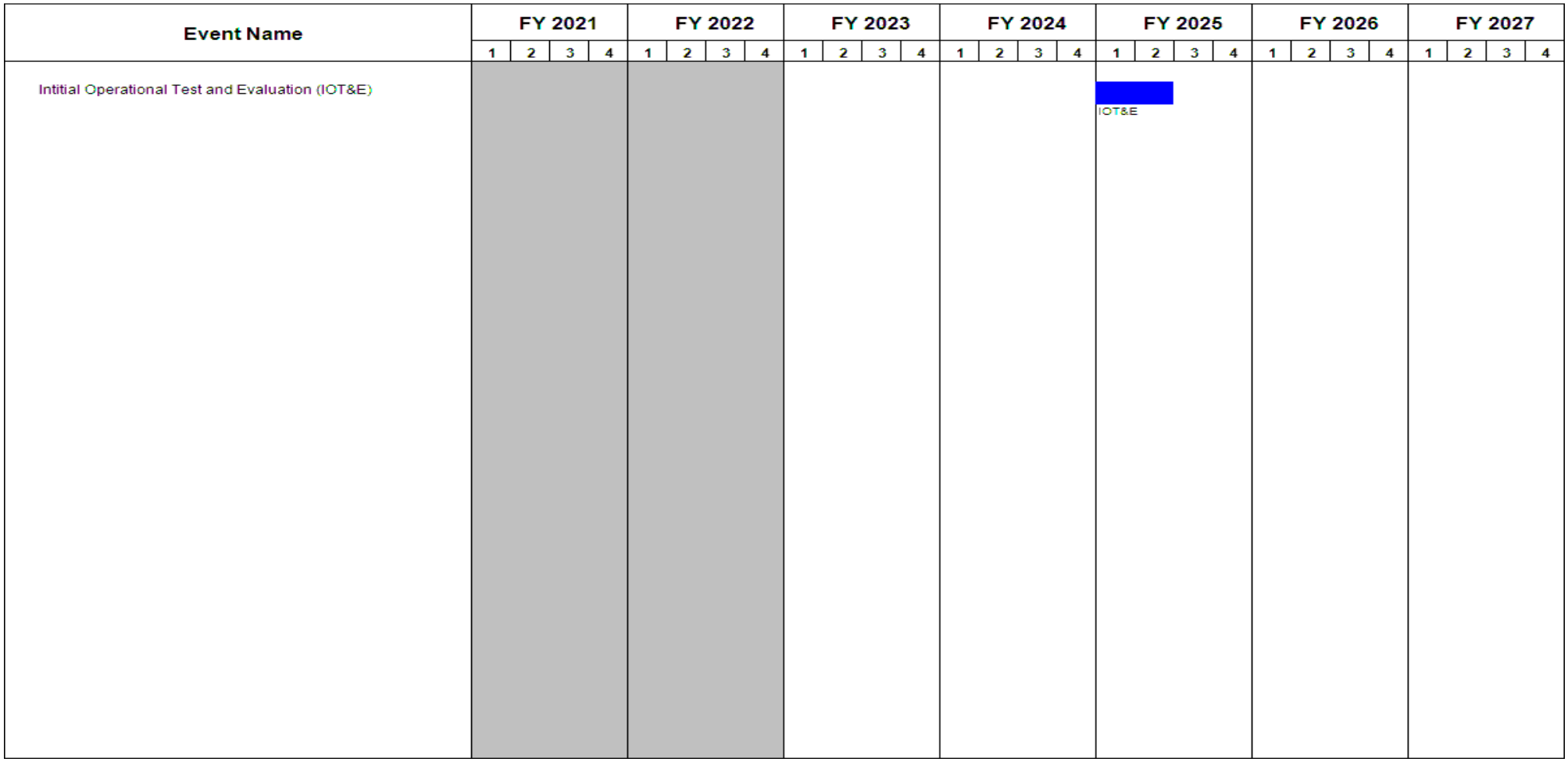


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604820A / *Radar Development*	**Project (Number/Name)** E10 / *Sentinel*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Sentinel A3	2	2019	4	2030
Electronic Attack/Electronic Protect (EA/EP)	2	2015	4	2030
Mode S	2	2018	4	2020
Resiliency and Software Assurance Modification (RSAM) upgrade	4	2019	4	2020
Counter Rocket Artillery and Mortars	2	2020	4	2021
Active Electronically Scanned Array (AESA) (A4)	4	2019	4	2033
Milestone B	4	2019	4	2019
Engineering Manufacturing and Development Prototype Build and Integration	2	2020	2	2022
Preliminary Design Review	2	2020	2	2020
Critical Design Review	2	2021	2	2021
Contractor Verification Testing	4	2021	2	2022
Developmental Test	2	2022	2	2023
Limited User Testing	3	2023	3	2023
Operational Test Agency (OTA) Milestone Assessment Report	3	2023	3	2023
Milestone C	3	2023	3	2023
User Operational Evaluation System Build and Integration	1	2022	2	2023
Initial Operational Test and Evaluation System Build and Integration	3	2023	4	2024
Intitial Operational Test and Evaluation (IOT&E)	1	2025	2	2025

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604822A *I General Fund Enterprise Business System (GFEBS)*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	15.428	15.979	10.402	-	10.402	6.380	6.418	6.420	6.509	0.000	67.536
DV6: *General Fund Enterprise Business System*	-	4.913	5.047	2.163	-	2.163	2.213	2.255	2.256	2.288	0.000	21.135
GF5: *General Fund Enterprise Business System*	-	10.515	10.932	8.239	-	8.239	4.167	4.163	4.164	4.221	0.000	46.401

A. Mission Description and Budget Item Justification

DV6 - General Fund Enterprise Business System-Sensitive Activities (GFEBS-SA): GFEBS-SA is a designated National Security System (NSS) leveraging the GFEBS base system as the Army's core financial management system certified by the Chief Financial Officers Council. To protect sensitive information and enable clean auditability, the Army requires a separate instance of GFEBS operated on a secure network for processing sensitive and classified financial transactions that cannot be processed in the fully-fielded GFEBS base system without compromising classified information, missions, or endangering soldiers. Therefore, GFEBS-SA is an essential financial program designed to enable the auditability that is needed to comply with the Chief Financial Officers (CFO) Act, the Federal Financial Management Improvement Act (FFMIA), and prevent compromise of data that could cause grave harm to U.S. forces. GFEBS-SA is a fully functional GFEBS application operated on the Secure Internet Protocol Router Network (SIPR), leveraging off of the capabilities of the GFEBS base system design while employing additional security features designed to protect sensitive intelligence operations and special operations missions. It processes Secret Collateral and below information while providing GFEBS capabilities such as distribution and execution of appropriated funds, cost management, financial reporting, and asset management. GFEBS-SA has been fully deployed to 3,000 users across 150 locations worldwide. GFEBS-SA supports information exchanges with organizations that support the Army's sensitive activities mission, including cross-security domain integration between Secure Internet Protocol Router Network (SIPR) and Non-Classify Internet Protocol Router Network (NIPR) with GFEBS and other system partners. Services are capable of being upgraded throughout the life of the program in order to incorporate advances in best business practices and technology, and will modify capability to maintain a synchronized software baseline with the GFEBS base system to maintain efficiencies in capability enhancements, training documentation, and sustainment support. The GFEBS-SA system achieved Full Deployment in fiscal year (FY) 2021. The FY 2022 Research, Development, Test and Evaluation (RDTE) funding requested will fund system upgrades and enhancements to ensure synchronization between the GFEBS-SA system and the GFEBS base system in order to meet mandatory data exchange and interface requirements. FY 2023 funding supports continuous enhancements to the GFEBS-SA SIPR capabilities I to ensure appropriate security measures are in place to protect sensitive financial data.

GF5 - General Fund Enterprise Business System (GFEBS): GFEBS is the Army's core financial management system for administering its General Fund. Full Deployment was reached in 2012 and the system is currently in the Capability Support (sustainment) phase of the Business Acquisition Cycle, focused on modernization, cyber security, and system enhancements while also conducting capability enhancements to meet policy and deliver accurate Army financial information. GFEBS was implemented to fulfill the needs and enable the Army to comply with the Federal Financial Management Improvement Act, deployed to over 35,000 users across 200 locations worldwide. GFEBS was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions (United States General Ledger (USGL), Cost Management, Funds Control, Payable Management, Real Property, Receivable Management and Reports).

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604822A *I General Fund Enterprise Business System (GFEBS)*

GFEBS RDTE funds capability enhancements designed to meet audit readiness standards and continue to make system changes as prioritized by the functional sponsor and user community through the Tactical Financial Information Council, a Senior Executive Service/General Officer-level board. The RDTE funding will support the increase in mission performance and improvement of automated system processes and continues efforts to support modernization efforts aligned with the Original Equipment Manufacturer's Systems Applications and Products (SAP) next generation capability. Activities include code de-customization, data enablement, and improved automated data access to prevent end of support for the current database and platform. Funds will also support acquisition trades and market research on alternatives for SAP based finance/logistics consolidation to evaluate potential efficiencies by reducing platforms and licenses. The FY 2023 RDT&E will support enhancements, for example, G-Invoicing Development to improve system performance, accountability, and auditability efforts. These funds will be used to meet OSD and Army data exchange, and interface requirements. The additional capability will support both compliancy to meet audit requirements and updated interfaces to replace sun-setting systems.

GFEBS must take critical steps towards integration and implementation of the next generation of Enterprise Business Systems capabilities. This effort will address the obsolescence of existing SAP Enterprise Resource Planning (ERP) real property and financial management platforms that the vendor plans to sunset around FY 2028. GFEBS modernization work sets the conditions for development of a converged, post-modern Defense Business System that streamlines and integrates the Army's core business functions. The effort on the individual programs must consider benefits of consolidation.

GFEBS must identify redundant processes as candidates for business process re-engineering. Funding will support the 1) market research of Industry best practices, 2) Initiation of an Army Enterprise Development Environment to enable prototyping which reduces risk by aiding the requirements development. This environment includes: Cloud-hosted infrastructure, applications, and programs and tools, 3) government Program Management and Systems Engineering and Technical Assistance (SETA) contractors needed to plan for and manage the initiation of the post-modern system implementation effort.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	15.428	17.623	0.000	-	0.000
Current President's Budget	15.428	15.979	10.402	-	10.402
Total Adjustments	0.000	-1.644	10.402	-	10.402
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-1.644			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	10.402	-	10.402

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) DV6 / *General Fund Enterprise Business System*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
DV6: *General Fund Enterprise Business System*	-	4.913	5.047	2.163	-	2.163	2.213	2.255	2.256	2.288	0.000	21.135
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

DV6 - General Fund Enterprise Business System-Sensitive Activities (GFEBS-SA): GFEBS-SA is a designated National Security System (NSS) leveraging the GFEBS base system as the Army's core financial management system certified by the Chief Financial Officers Council. To protect sensitive information and enable clean auditability, the Army requires a separate instance of GFEBS operated on a secure network for processing sensitive and classified financial transactions that cannot be processed in the fully-fielded GFEBS base system without compromising classified information or missions, or endangering soldiers. Therefore, GFEBS-SA is an essential financial program designed to enable the auditability that is needed to comply with the Chief Financial Officers (CFO) Act, the Federal Financial Management Improvement Act (FFMIA), and prevent compromise of data that could cause grave harm to U.S. forces. GFEBS-SA is a fully functional GFEBS application operated on the Secure Internet Protocol Router Network (SIPR), leveraging the GFEBS base system design while employing additional security features designed to protect sensitive intelligence operations and special operations missions. It processes Secret Collateral and below information while providing GFEBS capabilities such as distribution and execution of appropriated funds, cost management, financial reporting, and asset management. GFEBS-SA is fully deployed to 3,000 users across 150 locations worldwide. GFEBS-SA supports information exchanges with organizations that support the Army's sensitive activities mission, including cross-security domain integration between Secure Internet Protocol Router Network (SIPR) and Non-Classify Internet Protocol Router Network (NIPR) with GFEBS and other system partners. Services are capable of being upgraded throughout the life of the program in order to incorporate advances in best business practices and technology, and will modify the capability to maintain a synchronized software baseline with the GFEBS base system to maintain efficiencies in capability enhancements, training documentation, and sustainment support. GFEBS-SA system reached Full Deployment in FY21. The fiscal year (FY) 2022 Research, Development, Test and Evaluation (RDTE) funding requested will complete system upgrades and enhancements, which will re-synchronize the system baseline with the GFEBS base system to account for any capability upgrades that were made to the base system while GFEBS-SA was in development. GFEBS and GFEBS-SA must remain synchronized. FY 2023 RDTE funds will be utilized to conduct system enhancements to meet OSD and Army data exchange and interface requirements. The additional capability will support both compliancy to meet audit requirements and updated interfaces to replace sun-setting systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Software Development	4.913	4.862	2.163
Description: Software development includes all RDTE activities related to the development of additional capabilities added into GFEBS main that also require functionality in GFEBS-SA. This includes the systems engineering management, planning, and blueprinting as well as the system integrator putting hands on keyboards to integrate the GFEBS solution into the Secret (SIPR) environment to include developing the required interfaces to allow GFEBS-SA to interact with partner systems; and the hardware and software tools necessary to facilitate development. After Full Deployment in FY 2021, RDTE funding is required to allow the GFEBS-SA system capability to remain synchronized with the base GFEBS system. General Fund Enterprise Business System			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
(GFEBS) undertakes necessary efforts to integrate, implement, and build the next generation of Enterprise Business Systems capabilities. ***FY 2022 Plans:*** In FY 2022, RDTE funding will ensure synchronization of the GFEBS-SA system and GFEBS base system, which reduces sustainment costs through shared development across two Enterprise Resource Planning (ERP) baselines. Additionally, funds support efforts to integrate sensitive activity capability across the Enterprise and maintain security posture through data partitioning and protection software enhancements. ***FY 2023 Plans:*** In FY 2023, RDTE funding will ensure continuing synchronization of the GFEBS-SA system and GFEBS base system, which reduces sustainment costs through shared development across two Enterprise Resource Planning (ERP) baselines. Additionally, funds continue to support efforts to integrate sensitive activity capability across the Enterprise. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY 2022 to FY 2023 decreasing due to GFEBS-SA fully deployed in FY21. As the program transitioned the sustainment to ASSC, GFEBS-SA will continue to upgrade and enhance the system to ensure appropriate data protection and partitioning are in place as the GFEBS-SA and GFEBS base systems are continuously synchronized.			
Title: FY2022 SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 U.S. Code ? 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 U.S. Code ? 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY2022 SBIR/STTR funding transferred in accordance with Title 15 U.S. Code ? 638	-	0.185	-
Accomplishments/Planned Programs Subtotals	4.913	5.047	2.163

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

GFEBS-SA was fully deployed in FY 2021; therefore, there are no procurement dollars budgeted in the GFEBS-SA line for FY 2021 and beyond. GFEBS base program procurement dollars will be used to prevent end of service life by the Original Equipment Manufacturer, SAP, and enable a migration of the GFEBS-SA database from Oracle to SAP as part of the synchronization between GFEBS and GFEBS-SA in FY2021.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

D. Acquisition Strategy

Plan, develop, and manage GFEBS-SA as a separate instance from GFEBS base program on the SIPRNet to support delivery of capabilities for this designated National Security System (NSS) in support of the sensitive activity commands. The GFEBS-SA solution was acquired as a sole source contract with Accenture Federal Services as a single increment. The contract is a hybrid of Firm Fixed Price and Cost Plus Fixed Fee CLINs to support development efforts and to encourage Accenture Federal Services to deliver a solution in support of the Vice Chief of Staff of the Army recommendation to accelerate the schedule to ensure operational security and Army audit requirements. The contract was awarded in April 2017.

Software was developed through a single build to achieve full capability. GFEBS-SA consists of a single software release delivered in a limited deployment to the Initial Operational Test and Evaluation (IOT&E) unit, followed by a full deployment to all other users upon successful completion of IOT&E.

The program will require modernization enhancements after full deployment. These modernization enhancements will require a stream of RDT&E funding to keep the GFEBS-SA system synchronized with the base system by making modifications needed for audit readiness, compliance, and upgrades required to keep the system up-to-date with SAP standards and Functional Governance Board requirements.

Capability Support functions of all prioritized system enhancements for the GFEBS-SA system transitioned to Army Shared Services Center in FY 2021.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) DV6 / *General Fund Enterprise Business System*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	0.152	-		-		-		-		-	0.000	0.152	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.185		-		-		-	0.000	0.185	-
		Subtotal	0.152	-		0.185		-		-		-	0.000	0.337	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	SS/ Various	Accenture Federal LLC : Alexandria, VA	71.210	4.913	Oct 2020	-		-		-		-	20.227	96.350	88.300
Capability Enhancements	C/Various	Accenture Federal LLC : Alexandria, VA	-	-		4.862	Oct 2021	2.163	May 2023	-		2.163	0.000	7.025	-
Data Center Hosting	TBD	Defense Information Systems Agency : Ft. Meade, MD	25.423	-		-		-		-		-	0.000	25.423	-
		Subtotal	96.633	4.913		4.862		2.163		-		2.163	20.227	128.798	N/A

Remarks

The current contract is a hybrid of FFP, CPFF, and CR CLINs for system development, landscape configuration, test and evaluation, solution delivery, and certification/ accreditation.
Beginning in FY 2022 GFEBS-SA system enhancement work will utilize Army Shared Serviced Center Unified contract. Cost to Complete assumes a service life through FY 2030. Some of this support will take place on a follow-on contract.

Unified contract Base Period: 1 May 2021 through 30 April 2022; Option Period 1: 1 May 2022 through 30 April 2023.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Costs	Various	PdM GFEBS SA : Arlington, VA	30.017	-		-		-		-		-	0.000	30.017	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) DV6 / *General Fund Enterprise Business System*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	30.017	-		-		-		-		-	0.000	30.017	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing	IA	JITC/ATEC : Alexandria, VA	10.092	-		-		-		-		-	0.000	10.092	-
		Subtotal	10.092	-		-		-		-		-	0.000	10.092	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	136.894	4.913		5.047		2.163		-		2.163	20.227	169.244	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

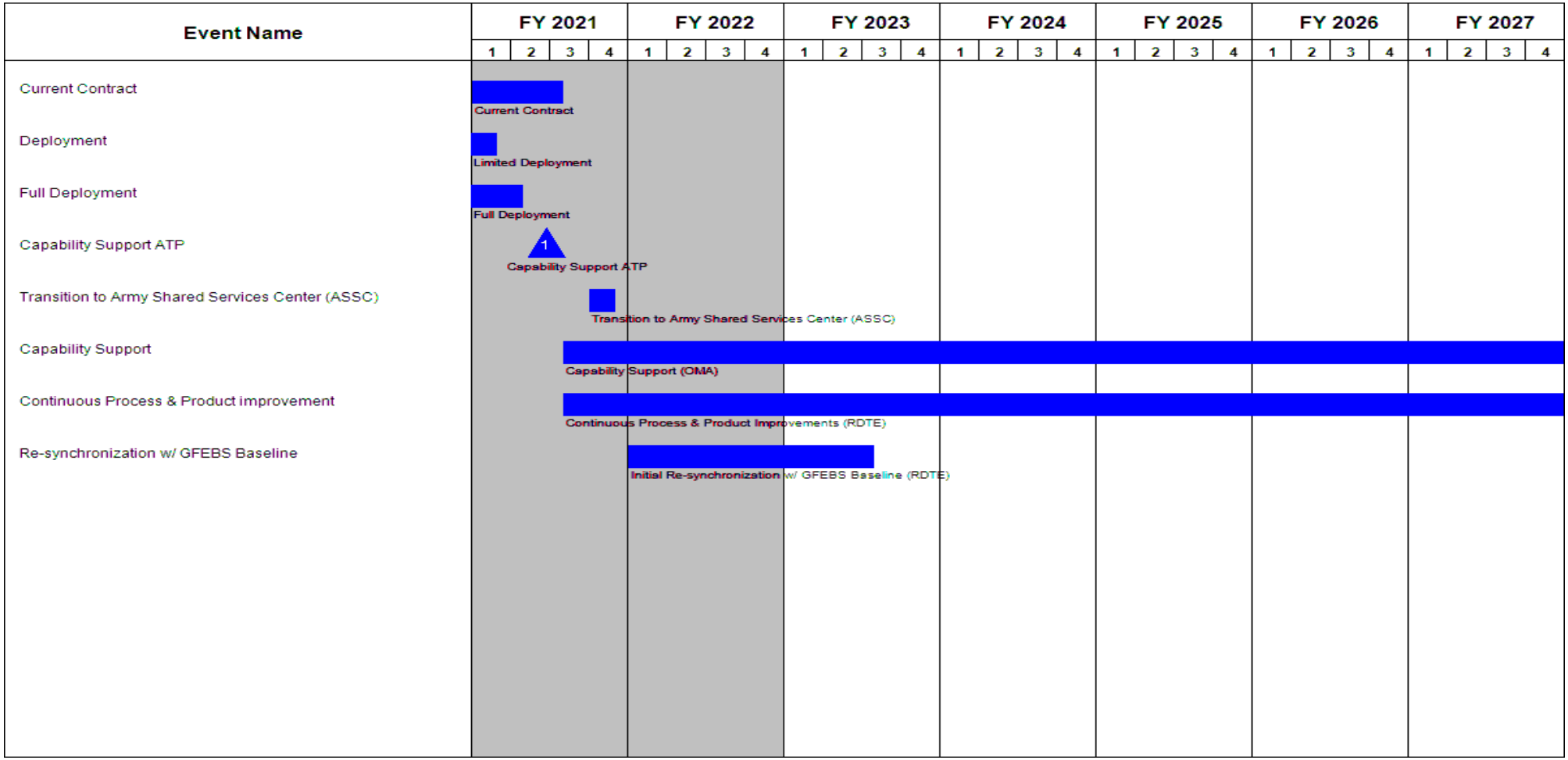


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** DV6 / *General Fund Enterprise Business System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Development	1	2019	4	2019
ATP - Solution Development	4	2019	4	2019
Current Contract	1	2020	3	2021
Limited Deployment ATP	3	2020	3	2020
Deployment	3	2020	1	2021
Operational Testing	4	2020	4	2020
Full Deployment ATP	4	2020	4	2020
Full Deployment	1	2021	1	2021
Capability Support ATP	2	2021	2	2021
Transition to Army Shared Services Center (ASSC)	4	2021	4	2021
Capability Support	3	2021	4	2027
Continuous Process & Product improvement	3	2021	4	2027
Re-synchronization w/ GFEBS Baseline	1	2022	3	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	Project (Number/Name) GF5 / *General Fund Enterprise Business System*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
GF5: *General Fund Enterprise Business System*	-	10.515	10.932	8.239	-	8.239	4.167	4.163	4.164	4.221	0.000	46.401
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

GF5 - General Fund Enterprise Business System (GFEBS): GFEBS is the Army's core financial management system for administering its General Fund. Full Deployment was reached in 2012 and the system is currently in the Capability Support (sustainment) phase of the Business Acquisition Cycle, focused on modernization, cyber security, and system enhancements while also conducting capability enhancements to meet policy and deliver a more accurate picture of Army financial awareness. GFEBS was implemented to fulfill the needs and enable the Army to comply with the Federal Financial Management Improvement Act, it is utilized by over 35,000 users across 200 locations worldwide. GFEBS was developed using a commercial off-the-shelf Enterprise Resource Planning system that is certified by the Chief, Financial Officer Council and provides six core financial functions (United States General Ledger (USGL), Cost Management, Funds Control, Payable Management, Real Property, Receivable Management and Reports).

GFEBS Research, Development, Test and Evaluation (RDTE) funding in fiscal year (FY) 2023 will continue to support the completion of the audit-related system enhancements which will give the Army an auditable financial system designed to meet audit readiness standards as outlined by the United States Government Accountability Office, as well as the continuation of system changes as prioritized by the functional sponsor and user community through the Tactical Financial Information Council, a Senior Executive Service/General Officer-level board. The FY 2023 funding will continue to support increases in mission performance and improvement of automatized system processes. Continue efforts to support modernization efforts aligned with the Original Equipment Manufacturer's Systems Applications and Products (SAP) next generation capability, activities include code de-customization, data enablement, and improved automated data access to prevent end of support for the current database and platform. Funds will also support acquisition trades and market research on alternatives for SAP based finance/logistics consolidation to evaluate potential efficiencies by reducing platforms and licenses.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Capability Enhancement	10.515	10.533	8.239
Description: Capability enhancements provide changes to the system that are needed to update the infrastructure as required to meet system requirements and best practices, and to support evolving statutory and regulatory requirements. The capability enhancement initiatives are needed to increase the GFEBS capability and performance to maintain compliance with Federal Financial Management Improvement Act (FFMIA), Business Enterprise Agency (BEA), Standard Financial Information Structure (SFIS) requirements, and Yellow Book auditability. These requirements are established and prioritized through a General Officer (GO)/Senior Executive Service (SES)-level Tactical Financial Information Council and Functional Governance Board.			
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
The RDT&E funds requested in FY 2022 support the completion of the audit-related system enhancements which will give the Army an auditable financial system designed to meet audit readiness standards as outlined by the United States Government Accountability Office, as well as support the continuation of system changes as prioritized by the functional sponsor and user community through the Tactical Financial Information Council, a Senior Executive Service/General Officer-level board. The FY 2022 funding continues to support increases in mission performance and improved automated system processes. Continue efforts to support modernization efforts aligned with the Original Equipment Manufacturer's (SAP) next generation capability, activities include code de-customization, data enablement, and improved automated data access to prevent end of support for the current database and platform. Funds will also support acquisition trades and market research on alternatives for SAP based finance/ logistics consolidation to evaluate potential efficiencies by reducing platforms and licenses. ***FY 2023 Plans:*** The RDT&E funds requested in FY 2023 will continue to support the completion of the audit-related system enhancements which will provide the Army an auditable financial system designed to meet audit readiness standards as outlined by the United States Government Accountability Office. The FY 2023 RDT&E will support enhancements, for example, SAP Enhancement Package 8 Upgrades and G-Invoicing development to improve system performance, accountability, and auditability efforts. The funds will also continue to support the integration and implementation of the next generation of Enterprise Business Systems capabilities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY 2022 to FY 2023 decreasing due to less planned functional enhancements. As GFEBS fully transitioned sustainment to ASSC, the program focus is on developing a modernized system.			
Title: FY2022 SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 U.S. Code ? 638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 U.S. Code ? 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY2022 SBIR/STTR funding transferred in accordance with Title 15 U.S. Code ? 638	-	0.399	-
Accomplishments/Planned Programs Subtotals	10.515	10.932	8.239

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*	

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• BE4168: *General Fund Enterprise Business System*	4.448	1.452	0.097	-	0.097	0.119	0.143	0.166	0.166	0.000	6.591
• OMA - GFEB APE 438001000 / 5T0: *GFEBS OMA*	-	82.315	58.071	-	58.071	61.011	59.991	58.067	58.383	Continuing	Continuing

Remarks

OPA - FY 2023 Procurement dollars support new software upgrades to bring GFEBS reporting and analytics in-line with processing performance thresholds established in the GFEBS Authority to Proceed (ATP) and to modernize the system in order to remain current with new technology standards.

OMA - FY 2022 and beyond OMA dollars include funding for both GFEBS and GFEBS-SA programs. OMA-funded support includes cloud hosting, software/hardware maintenance, capability support, and capability enhancements.

D. Acquisition Strategy

GFEBS is currently in the Capability Support (sustainment) phase as specified in DoDI 5000.75. On 15 January 2018, the responsibility for system support of the GFEBS system transitioned from the original developer contract to a contract created to focus more on sustainment support and cost control. The current sustainment contract provides specific contracting methodologies to track all capability support functions as well as all the system enhancement requirements as set forth by the user community through the Tactical Financial Information Council; a Senior Executive Service/General Officer-level board that prioritizes user needs. Many of these enhancements require RDT&E funding as determined through a set of established business rules.

Capability Support functions of all prioritized system enhancements for the GFEBS transitioned to Army Shared Services Center in 1Q FY 2022.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	0.030	-		-		-		-		-	0.000	0.030	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.399		-		-		-	0.000	0.399	-
		Subtotal	0.030	-		0.399		-		-		-	0.000	0.429	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development	Option/ Various	IBM Corp : Bethesda, Maryland	138.851	10.515	Nov 2020	-		-		-		-	Continuing	Continuing	185.769
Capability Enhancements	C/Various	Accenture Federal LLC : Alexandria, VA	-	-		10.533	Oct 2021	8.239	May 2023	-		8.239	Continuing	Continuing	-
		Subtotal	138.851	10.515		10.533		8.239		-		8.239	Continuing	Continuing	N/A

Remarks

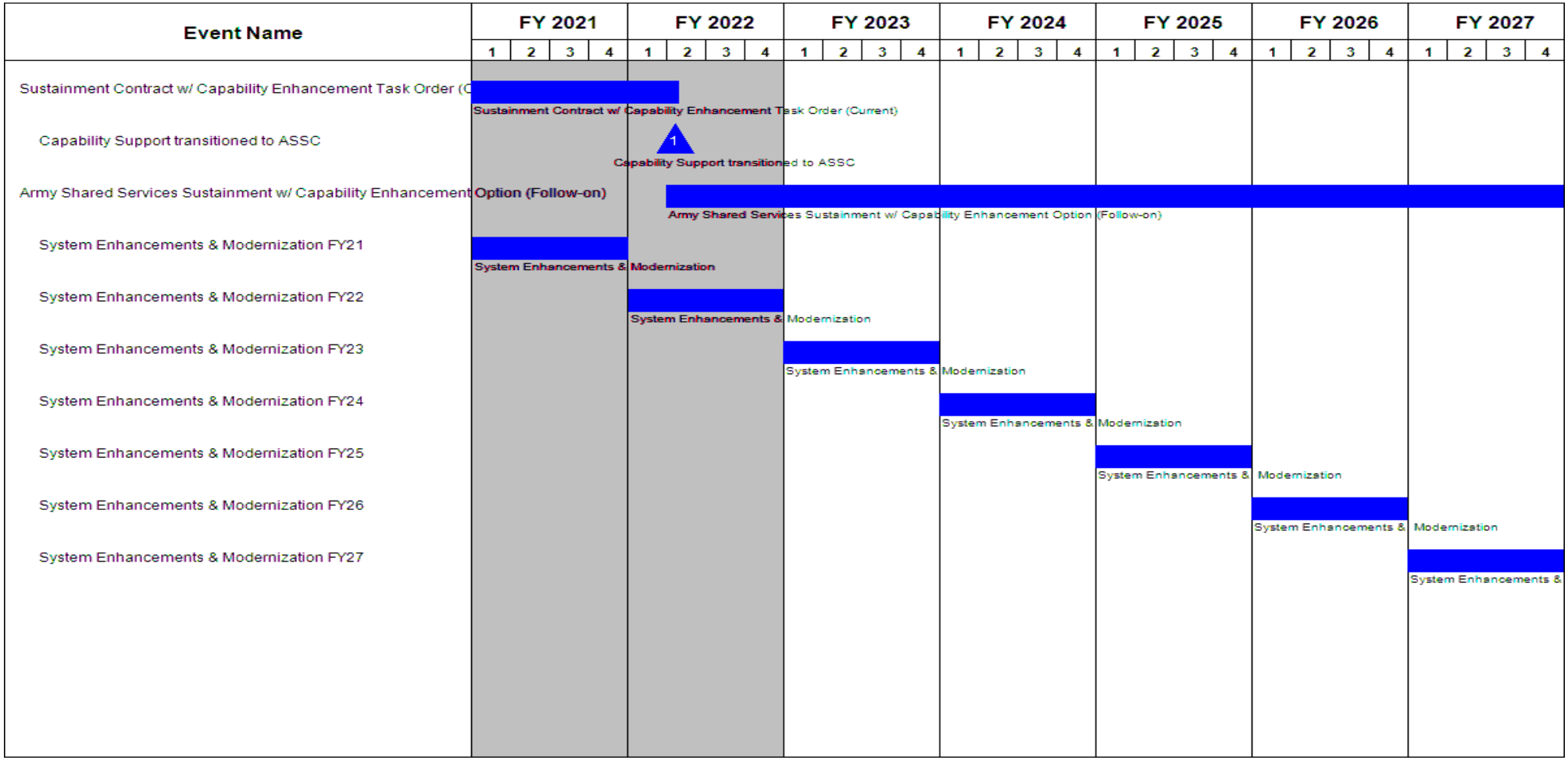
Beginning in FY 2022 GFEBS system enhancement work will utilize Army Shared Serviced Center Unified contract.

Unified contract Base Period: 1 May 2021 through 30 April 2022; Option Period 1: 1 May 2022 through 30 April 2023.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	138.881	10.515		10.932		8.239		-		8.239	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*



Note

System enhancements include prioritized capabilities based on functional needs in areas such as Audit Enablement and Compliance, Cash Accountability, Improved Funds Balance with Treasury, Cost of Army Operations, and Financial Reporting and Analytics.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Map/Blueprint/Build Release 1.1	4	2005	3	2006
MS B1	1	2008	1	2008
Realization - Release 1.2	4	2006	1	2009
IOC	3	2009	3	2009
Release 1.3 - Replace STANFINS	1	2008	1	2011
Full Deployment Decision Review	3	2009	3	2009
Release 1.4: Replace SOMARDS	4	2008	1	2011
Full Deployment Decision Review 2	1	2010	1	2010
Hardware Fielding	1	2009	1	2011
Full Deployment	4	2012	4	2012
Sustainment Contract w/ Capability Enhancement Task Order (Current)	2	2018	2	2022
Capability Support transitioned to ASSC	2	2022	2	2022
Army Shared Services Sustainment w/ Capability Enhancement Option (Follow-on)	2	2022	4	2027
Capability Enhancements FY18	1	2018	4	2018
System Enhancements FY19	1	2019	4	2019
System Enhancements FY20	1	2020	4	2020
System Enhancements & Modernization FY21	1	2021	4	2021
System Enhancements & Modernization FY22	1	2022	4	2022
System Enhancements & Modernization FY23	1	2023	4	2023
System Enhancements & Modernization FY24	1	2024	4	2024
System Enhancements & Modernization FY25	1	2025	4	2025
System Enhancements & Modernization FY26	1	2026	4	2026

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604822A / *General Fund Enterprise Business System (GFEBS)*	**Project (Number/Name)** GF5 / *General Fund Enterprise Business System*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
System Enhancements & Modernization FY27	1	2027	4	2027

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	18.278	-	-	-	-	0.000	0.000	0.000	0.000	0.000	18.278
L86: *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	-	5.179	-	-	-	-	-	-	-	-	0.000	5.179
L88: *Enhanced AN/TPQ 36*	-	13.099	-	-	-	-	-	-	-	-	0.000	13.099

A. Mission Description and Budget Item Justification

The Research Development Test & Evaluation (RDT&E) funds for the AN/TPQ-50 and AN/TPQ-53 programs fund the design, development and test of primary efforts. The programs directly support the prioritization, tracking and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. They provide the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L86, Lightweight Counter Mortar Radar (LCMR), version AN/TPQ-50 provides 360 degrees of azimuth coverage from ranges of 500 meters to 10 kilometers. Project L88, AN/TPQ-53 is a highly mobile radar system that leverages the latest in technology design to accelerate modernization and increase range while improving false location rate, reducing obsolescence and increasing reliability. The AN/TPQ-53 provides a system with increased range and accuracy throughout a 90 degree search sector (stare mode) as well as 360 degree coverage (rotating) for locating mortar, artillery and rocket firing positions. The AN/TPQ-50 and AN/TPQ-53 radars are currently fielded to multiple Continental United States (CONUS) and Outside Continental United States (OCONUS) locations to include operational support to Operation Inherent Resolve (OIR) and Operation Freedom's Sentinel (OFS).

B. Program Change Summary ($ in Millions)	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**
Previous President's Budget	18.278	0.000	0.000	-	0.000
Current President's Budget	18.278	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	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
L86: *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*	-	5.179	-	-	-	-	-	-	-	-	0.000	5.179
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is a highly mobile radar that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps by providing 360 degrees of azimuth coverage from ranges of 500 meters to 10 kilometers and is capable of being deployed in two configurations, standalone or vehicle mounted. The AN/TPQ-50 system interoperates with mission command systems to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-50 is deployed as part of the Counter-Rocket, Artillery, Mortar (C-RAM) system of systems. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability. The AN/TPQ-50 is currently fielded to multiple Continental United States (CONUS) and Outside Continental United States (OCONUS) locations including support to Operation Inherent Resolve (OIR), Operation Freedom's Sentinel (OFS), and Joint Urgent Operational Need (JUON) 0558 which provides simultaneous air surveillance and counter target acquisition (CTA) capabilities .

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Modernization & Emerging Threats	5.179	-	-
Description: Funding supports software updates required to address electronic protection and mitigate the effects of electromagnetic interference (EMI) and combat CEMA. These capabilities address vulnerabilities identified in the bi-annual release of the VOLT and changes on the battlefield due to new tactics, techniques, and procedures (TTPs) and/or areas of operation.			
Accomplishments/Planned Programs Subtotals	5.179	-	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B05201: *Lightweight Counter Mortar Radar*	5.332	-	0.000	-	0.000	-	-	-	-	0.000	5.332

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

D. Acquisition Strategy

The AN/TPQ-50 Lightweight Counter Mortar Radar was developed in 2009 to meet Training and Doctrine Command (TRADOC) Capabilities Production Document (CPD) requirements. The program achieved a full rate production (FRP) decision on 21 June 2013. The AAO increased from 400 to 452 systems in January 2019; 400 systems procured to date. The AN/TPQ-50 program transitioned into the sustainment phase on 1 October 2019.

Research, Development, Test and Evaluation (RDT&E) funding supports modernization development task orders under the national maintenance contract (NMC).

The FY 2021 funds of $5.179 million continue development required to address electronic protection against CEMA and threats identified in Validated Online Lifecycle Threat (VOLT) report. This funding enables the program to develop and integrate sensor protect capabilities into the software baseline, develop advanced protection techniques which take advantage of hardware upgrades, and develop documentation for hardware and software capability improvements in support of multi-domain operations to address peer and near-peer threats. Funding supports associated test costs and program support.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Government Support)	Various	Various : Activities	2.541	0.624	Feb 2021	-		-		-		-	0.000	3.165	-
Program Management (Contractor Support)	C/CPFF	Various : APG, MD	0.979	1.164		-		-		-		-	0.000	2.143	-
		Subtotal	3.520	1.788		-		-		-		-	0.000	5.308	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Modernization & New and Emerging Threats	SS/CPFF	Various : Various	10.257	1.431	Jan 2021	-		-		-		-	0.000	11.688	-
		Subtotal	10.257	1.431		-		-		-		-	0.000	11.688	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support (Government)	Various	Various : Activities	6.511	1.960	Nov 2021	-		-		-		-	0.000	8.471	-
		Subtotal	6.511	1.960		-		-		-		-	0.000	8.471	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.288	5.179		-		-		-		-	0.000	25.467	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

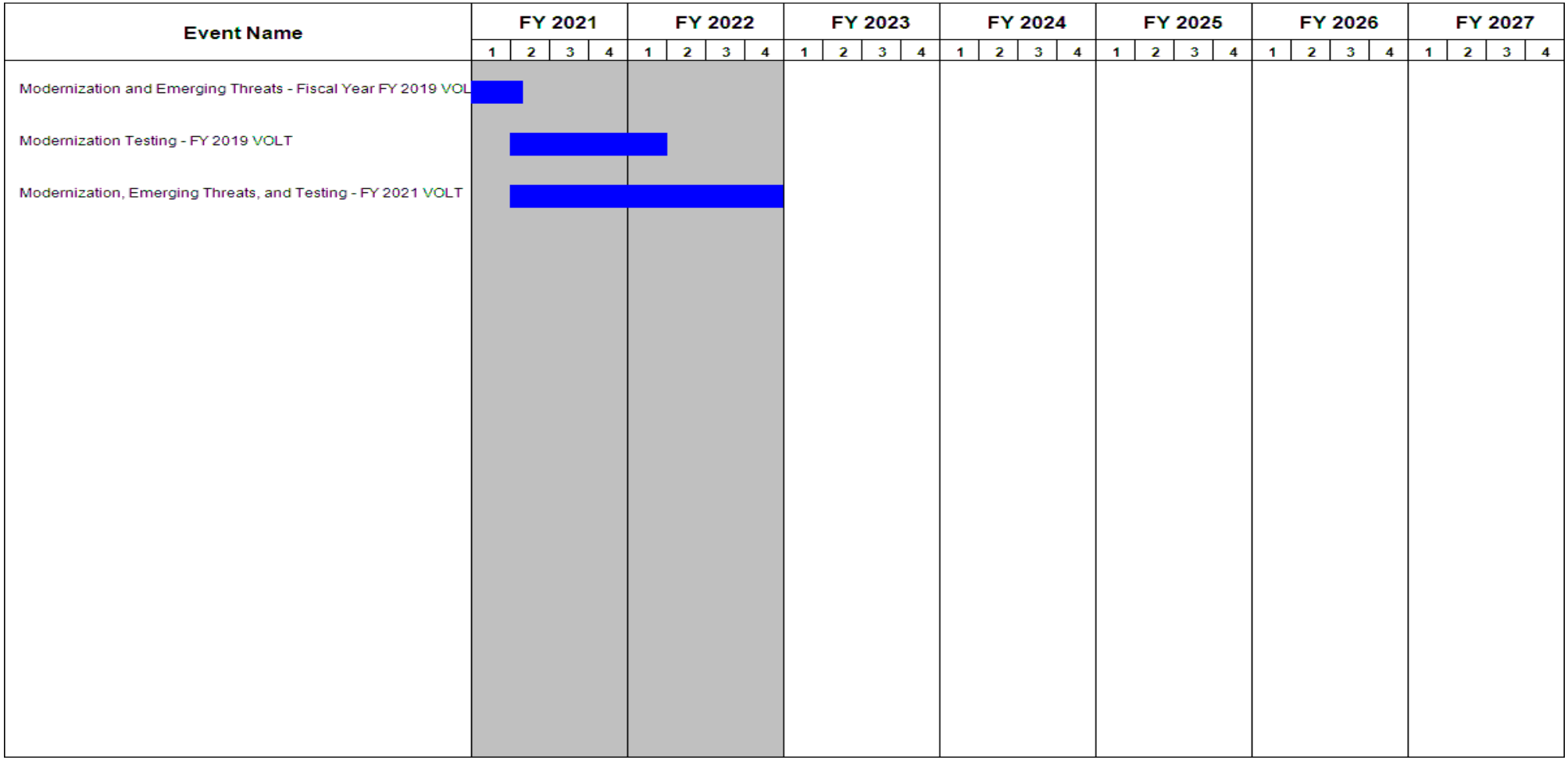


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L86 / *LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Modernization and Emerging Threats - Fiscal Year FY 2019 VOLT	1	2019	1	2021
Modernization Testing - FY 2019 VOLT	1	2020	1	2022
Modernization, Emerging Threats, and Testing - FY 2021 VOLT	1	2021	4	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
L88: *Enhanced AN/TPQ 36*	-	13.099	-	-	-	-	-	-	-	-	0.000	13.099
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Enhanced AN/TPQ-36 (AN/TPQ-53) Counterfire Target Acquisition Radar System is a highly mobile radar set that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps by providing a 90 degree search sector (stare mode) as well as 360 degree coverage (rotating) and replaces the AN/TPQ-36 and AN/TPQ-37 Firefinder Radars. The AN/TPQ-53 system interoperates with mission command systems to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-53 is deployed as part of the Counter-Rocket, Artillery, Mortar (C-RAM) system of systems. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability. The AN/TPQ-53 currently supports contingency operations to include Operation Inherent Resolve (OIR) and is fielded to Brigade Combat Teams (BCTs), Field Artillery Brigades (FABs) and Division Artilleries (DIVARTYs).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Electronic Protection and Emerging Threats ***Description:*** This effort improves spectrum management and mitigates electromagnetic interference (EMI) from commercial and military bands. This effort also develops and improves radar electronic protection (EP) algorithms which counter electronic threats. Lastly, this effort funds the development of capabilities to address emerging threats identified in the biennial release of the Validated Online Lifecycle Threat (VOLT) report and changes on the battlefield due to new adversarial tactics, techniques, and procedures (TTPs) and/or areas of operation.	8.579	-	-
Title: Extended Range ***Description:*** This effort extends the radar's detection and identification range through associated development, integration, and testing in support of the Army's number one modernization priority of long range precision fires (LRPF).	0.959	-	-
Title: Test support ***Description:*** Funding supports associated program test costs.	3.139	-	-
Title: Program Management Support ***Description:*** Funding supports associated Program Management Office (PMO) requirements.	0.422	-	-
Accomplishments/Planned Programs Subtotals	13.099	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B05310: *AN/TPQ-53 Counterfire Target Acquisition Radar*	71.404	-	91.233	-	91.233	-	-	-	-	Continuing	Continuing
• BA5315: *AN/TPQ-53 MOD-IN-SERVICE LINE*	-	26.694	70.975	-	70.975	101.825	119.283	120.089	120.035	Continuing	Continuing
• 0607148A: *AN/TPQ-53 Counterfire Target Acquisition Radar System*	-	47.752	62.559	-	62.559	55.312	33.874	8.737	8.822	Continuing	Continuing

Remarks

D. Acquisition Strategy

The AN/TPQ-53 leverages technology developed in the multi-mission radar advanced technology objective (ATO) program. The system replaces all of the AN/TPQ-36 and AN/TPQ-37 systems in the fleet. The program obtained a Full Rate Production (FRP) decision in December 2015 and awarded an FRP contract in March 2017. The program will retrofit all initial production systems to the FRP configuration. The Army Acquisition Objective (AAO) increased from 174 to 189 systems in May 2017. Following the approval of a new acquisition category (ACAT) IC acquisition program baseline (APB) in April 2019, the program procured the last 15 FRP systems on contract in the same month. The Army approved a Total Army Analysis (TAA) force structure change in FY 2020.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Government)	Various	Various : Various	3.259	0.422	Jan 2021	-		-		-		-	0.000	3.681	-
Program Management (Contractor)	Various	Various : APG, MD	4.814	-		-		-		-		-	0.000	4.814	-
		Subtotal	8.073	0.422		-		-		-		-	0.000	8.495	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Protection and Emerging Threats	SS/FPIF	Lockheed Martin : Syracuse, NY	9.072	8.579	Oct 2020	-		-		-		-	0.000	17.651	-
Extended Range	SS/FPIF	Lockheed Martin : Syracuse, NY	13.623	0.959	Dec 2020	-		-		-		-	0.000	14.582	-
		Subtotal	22.695	9.538		-		-		-		-	0.000	32.233	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Support	SS/CPFF	Georgia Tech Research Institute (GTRI) : Atlanta, GA	1.926	-		-		-		-		-	0.000	1.926	-
		Subtotal	1.926	-		-		-		-		-	0.000	1.926	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various : Activities	56.812	3.139	Oct 2020	-		-		-		-	0.000	59.951	-
		Subtotal	56.812	3.139		-		-		-		-	0.000	59.951	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / *Firefinder*	Project (Number/Name) L88 / *Enhanced AN/TPQ 36*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	89.506	13.099		-		-		-		-	0.000	102.605	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

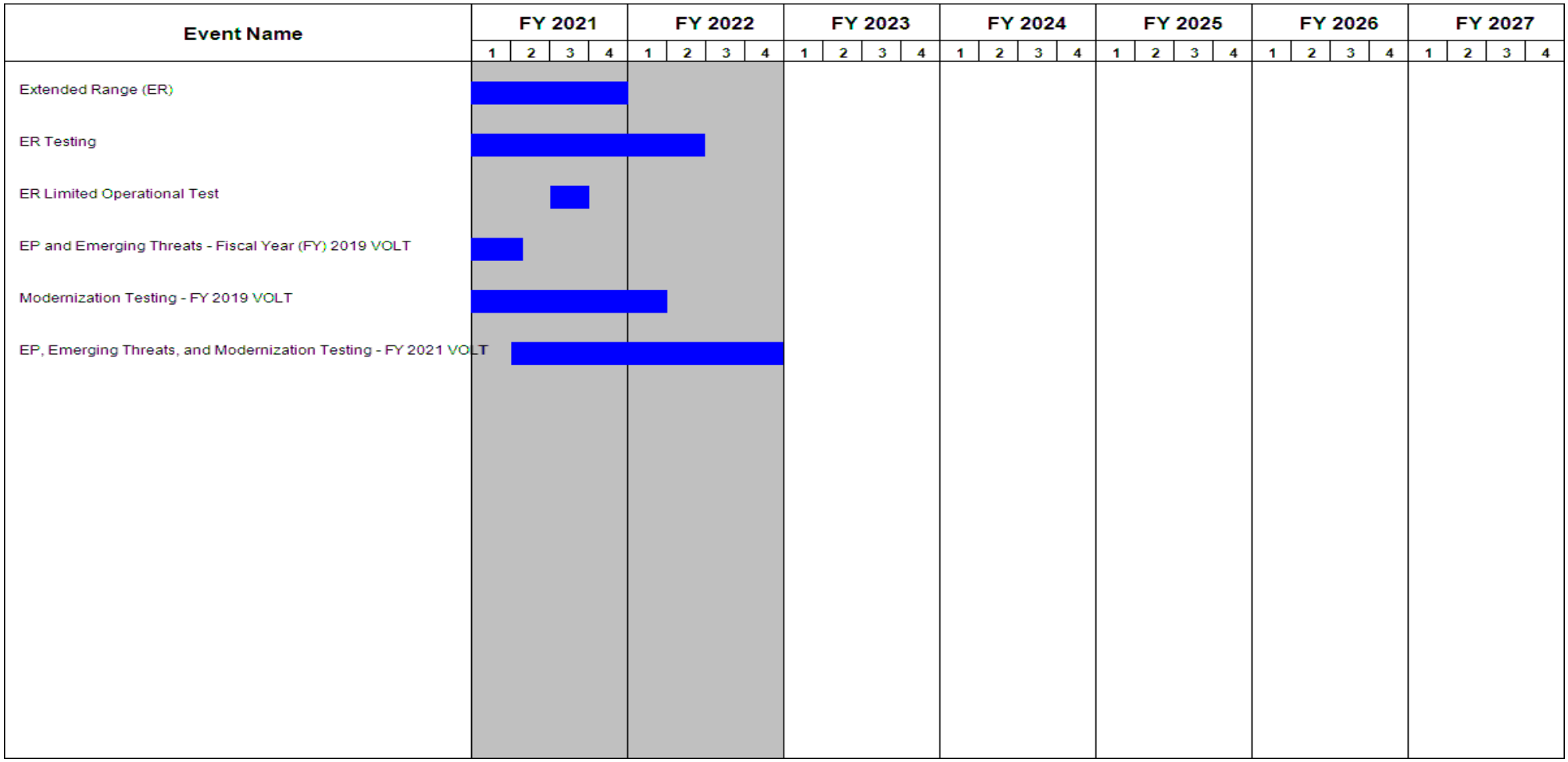


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604823A / *Firefinder*	**Project (Number/Name)** L88 / *Enhanced AN/TPQ 36*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Extended Range (ER)	4	2018	4	2021
ER Testing	4	2019	2	2022
ER Limited Operational Test	3	2021	3	2021
Ongoing Tests - Electronic Protection (EP) and Emerging Threats	1	2016	2	2019
EP and Emerging Threats - Fiscal Year (FY) 2019 VOLT	2	2019	1	2021
Modernization Testing - FY 2019 VOLT	2	2020	1	2022
EP, Emerging Threats, and Modernization Testing - FY 2021 VOLT	2	2021	4	2022

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	6.546	6.454	11.425	-	11.425	11.573	5.818	5.820	5.876	Continuing	Continuing
EY2: *Integrated Soldier Power Data System - Core*	-	3.911	4.322	4.576	-	4.576	4.695	4.793	4.795	4.841	Continuing	Continuing
EY4: *Universal Battery Charger*	-	0.963	0.987	1.022	-	1.022	1.026	1.025	1.025	1.035	Continuing	Continuing
FK4: *Soldier Borne Sensor (SBS)*	-	1.672	1.145	1.682	-	1.682	1.691	-	-	-	0.000	6.190
S65: *Platoon Power Generator*	-	-	-	4.145	-	4.145	4.161	-	-	-	0.000	8.306

A. Mission Description and Budget Item Justification

A portion of this funding line is a key enabler of the Army Modernization Priorities in support of the Small Unit Power (SUP) program.

This program element contains four active projects:

Project EY2 - Integrated Soldier Power Data System - Core: Supports development of the Integrated Soldier Power and Data Hub, Conformal Wearable Battery (CWB), Soldier and Squad Power Generation, platform power scavenging on the move, and Squad Power Manager (SPM). These capabilities fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical leader radios, Nett Warrior, and the Integrated Visual Augmentation System (IVAS). These capabilities are critical enablers in closing the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, GPS systems, weapon sensors, radios, night vision systems, and other devices.

Project EY4 - Universal Battery Charger (UBC): Supports development of the UBC and Bulk Charger (BC). These capabilities fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical leader radios, Nett Warrior, and the Integrated Visual Augmentation System (IVAS). These capabilities are critical enablers in closing the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, GPS systems, weapon sensors, radios, night vision systems and other devices by providing multiple charging solutions capable of providing power to handheld communication devices and military issued batteries.

Project FK4 - Soldier Borne Sensor (SBS): The SBS is a small unmanned aerial vehicle. The SBS provides a near term solution to three Army War-fighting Challenges at the Infantry Squad level: develop situational understanding, conduct air-ground reconnaissance, and conduct joint combined arms maneuver. The system is simple to deploy and use to support the squad leader's decision-making process. The system allows Soldiers to obtain local situational awareness and understanding of their immediate surroundings while remaining in covered or concealed positions. The SBS program will be procured through multiple phases. We will use the funding in this project to develop, integrate, and qualify additional capabilities for each phase. Funding in this project aligns with the Army's priorities in support of the National Defense Strategy.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604827A *I Soldier Systems - Warrior Dem/Val*

S65 - Soldier Power: Soldier Power enables dismounted Soldiers to efficiently execute missions for longer durations by reducing the logistical burden associated with fuel and primary (disposable) batteries. Platoon Power Generation (PPG) - PM E2S2: This project supports the demonstration and development of a PPG. The Small Unit Power (SUP) PPG will provide small units with sufficient portable power to sustain Modified Table of Organizational Equipment (MTOE) unit power demand in support of 48 to 72 hour missions using a common logistical fuel (JP-8). It will be used for charging batteries and powering various types of Army communications and electronics devices.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	6.296	6.454	0.000	-	0.000
Current President's Budget	6.546	6.454	11.425	-	11.425
Total Adjustments	0.250	0.000	11.425	-	11.425
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.250	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	11.425	-	11.425

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY2 / *Integrated Soldier Power Data System - Core*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EY2: *Integrated Soldier Power Data System - Core*	-	3.911	4.322	4.576	-	4.576	4.695	4.793	4.795	4.841	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

ISPDS-C includes power and data managing/distribution devices, cutting-edge energy storage solutions, and power scavenging devices. These capabilities fill the power and energy gaps created by the increase in mission essential, Soldier portable power consumers, such as heads up displays, situational awareness displays, GPS systems, weapon sensors, radios, night vision systems, and other devices. This RDT&E line develops power sources and power management solutions for the individual Soldier and squad for use in all operating environments. ISPDS-C systems will enable dismounted Soldiers and squads to execute their missions more efficiently, independently, for longer durations and with fewer battery resupplies while reducing the logistical and physical burden associated with moving fuel and batteries. This project also develops and integrates vehicular on-the-move charging.

Justification: FY23 RDT&E develops and evaluates capabilities to fill the power and energy requirements for critical Integrated Tactical Network Soldier worn systems to include tactical radios, assured position navigation and timing, Next Generation Squad Weapon, Nett Warrior, Enhanced Night Vision Goggles, and the Integrated Visual Augmentation System (IVAS).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Test and Evaluation	0.279	0.533	0.940
Description: Test and validate power and energy solutions from new battery chemistries, fuel cells, and scavenging devices and integrating the solutions using common interfaces with the Power and Data Hub and Squad Power Manager. ***FY 2022 Plans:*** Continue to develop and integrate power distribution technology, characterize Soldier peripherals, improve current power source chemistries, and improve protective materials and integrate into functional battery packs and pouches. ***FY 2023 Plans:*** Continue to develop and test new power distribution technology, characterize Soldier peripherals, improve current power source chemistries, and improve protective materials and integrate into functional battery packs and pouches. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** A slight decrease due to CWB 3.7 FAT utilizing OPA funding.			
Title: System Engineering & Program Management	0.011	0.297	0.548

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Conduct system engineering and project management for ISDPS-C efforts and power characterization efforts. ***FY 2022 Plans:*** Continue to conduct system engineering, project management, and additional R&D center power characterization studies for ISPDS-C efforts. ***FY 2023 Plans:*** Continue to conduct system engineering, project management, and additional R&D center power characterization studies for dismounted Soldier equipment and ISPDS-C efforts. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease in SEPM costs due to CWB 3.7 SEPM transition to procurement.			
Title: ISPDS-C/CWB Capability Improvements Integration ***Description:*** Evaluate higher energy density power and alternative energy solutions. ***FY 2022 Plans:*** Integrate emerging alternative power technologies and higher density batteries cells such as SI-Anode. ***FY 2023 Plans:*** Continued integration of alternative power technologies and higher energy density batteries and cells for the dismounted Soldier. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Starting new improvement effort with Silicone Anode.	2.161	1.406	1.730
Title: Develop alternative CWB sources. ***Description:*** Develop alternative CWB sources. ***FY 2022 Plans:*** Continue to test and evaluate incremental improvement in CWB packaging battery technologies to increase overall conformal battery power capacity. ***FY 2023 Plans:*** Continue to develop and evaluate incremental improvements in battery technologies to increase overall conformal battery power and energy capacity. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	1.460	1.929	1.358

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Increased funding required to mature cell safety and cell capacity.			
Title: SBIR/STTR Transfer	-	0.157	-
FY 2022 Plans: Funding transferred in accordance with Title 15 USC ?638			
FY 2022 to FY 2023 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	3.911	4.322	4.576

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• R08090: *Integrated Soldier Power Data System - Core*	20.818	5.947	6.725	-	6.725	6.834	8.018	6.611	6.609	0.000	61.562

Remarks

D. Acquisition Strategy

Pursue a variety of Soldier power products under full and open competition. Initiatives range from Commercial-Off-The-Shelf (COTS) solutions to developmental efforts. The type of solicitation depends on the maturity of the technology. The power initiatives will be evaluated through scheduled lab and/operational test and evaluation events, and if successful, selected for procurement and subsequent fielding and sustainment. The acquisition strategy varies by product. For example, the CWB acquisition strategy consists of two phases: Phase one includes the purchase of test articles using the Defense Logistics Agency (DLA) Special Operational (Spec Ops) Equipment Tailored Logistic Support Program (TLSP) and General Services Administration (GSA) contracts. Phase two establishes an Indefinite Delivery Indefinite Quantity (IDIQ) contract through the Army Contracting Command (ACC) which qualifies a minimum of two vendors to take into production. The Project Manager office will establish IDIQ contracts to support the ISPDS-C requirements over time. Each ISPDS-C system will be procured under purchase orders for production quantities that will be awarded on a Firm Fixed Price (FFP) contract.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY2 / *Integrated Soldier Power Data System - Core*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering & Program Management Support	MIPR	Various : Various	2.675	0.011		0.297		0.548		-		0.548	Continuing	Continuing	-
SBIR/STTR Transfer	TBD	To Be Determined : To Be Determined	-	-		0.157		-		-		-	0.000	0.157	-
		Subtotal	2.675	0.011		0.454		0.548		-		0.548	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ISPDS-C, CWB Capability Improvements Integration	MIPR	Various : Various	6.096	2.161		1.406		1.730		-		1.730	Continuing	Continuing	-
Squad Power Manager ECP	MIPR	Various : Various	1.986	-		-		-		-		-	Continuing	Continuing	-
Develop alternative CWB sources	MIPR	Various : Various	-	1.460		1.929		1.358		-		1.358	Continuing	Continuing	-
		Subtotal	8.082	3.621		3.335		3.088		-		3.088	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	Various : Various	1.716	0.279		0.533		0.940		-		0.940	Continuing	Continuing	-
		Subtotal	1.716	0.279		0.533		0.940		-		0.940	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.473	3.911		4.322		4.576		-		4.576	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

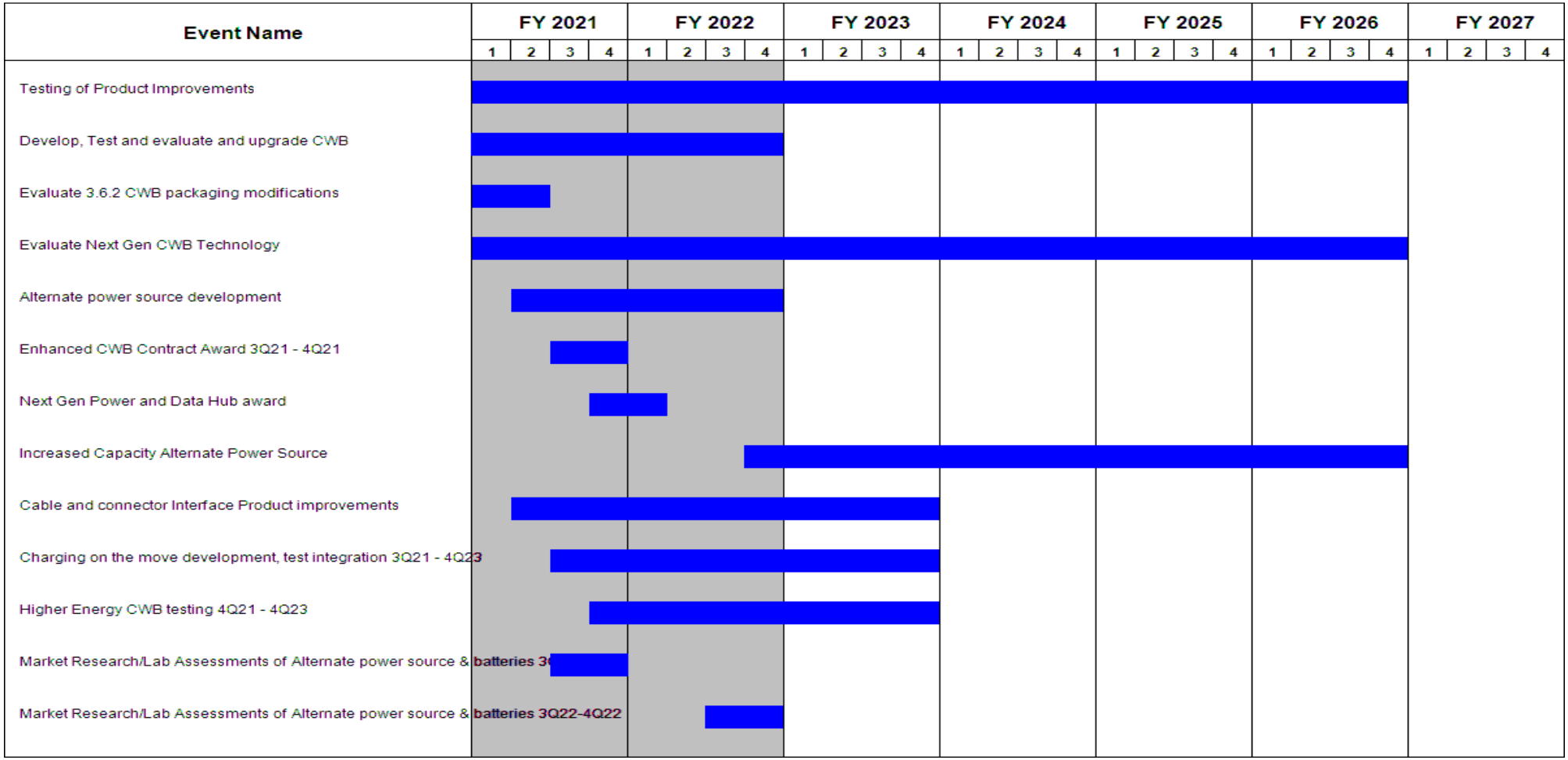


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

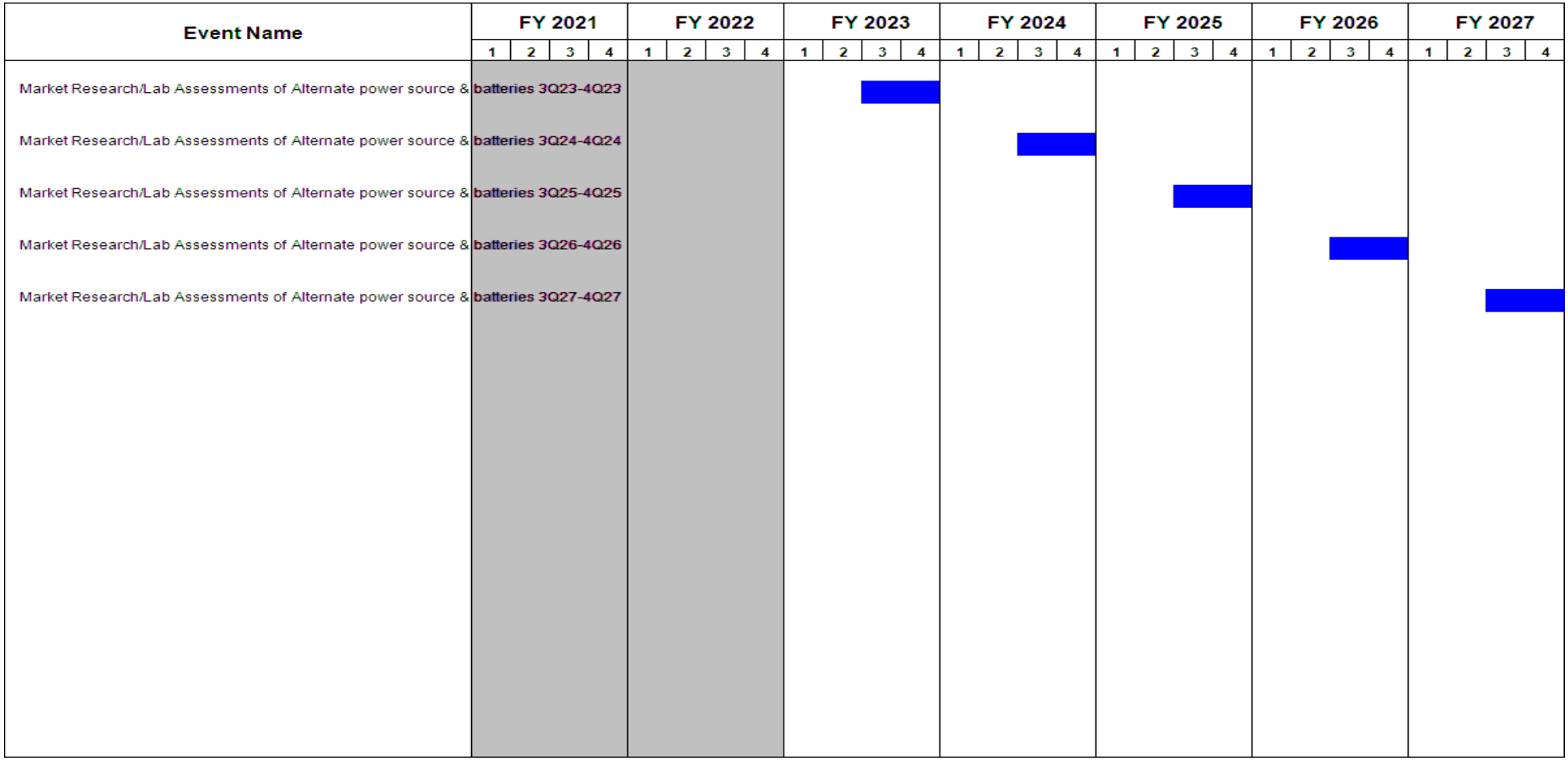


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY2 / *Integrated Soldier Power Data System - Core*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Testing of Product Improvements	1	2020	4	2026
Develop, Test and evaluate and upgrade CWB	2	2020	4	2022
Evaluate 3.6.2 CWB packaging modifications	1	2021	2	2021
Evaluate Next Gen CWB Technology	1	2021	4	2026
Alternate power source development	2	2021	4	2022
Enhanced CWB Contract Award 3Q21 - 4Q21	3	2021	4	2021
Next Gen Power and Data Hub award	4	2021	1	2022
Increased Capacity Alternate Power Source	4	2022	4	2026
Cable and connector Interface Product improvements	2	2021	4	2023
Charging on the move development, test integration 3Q21 - 4Q23	3	2021	4	2023
Higher Energy CWB testing 4Q21 - 4Q23	4	2021	4	2023
Market Research/Lab Assessments of Alternate power source & batteries 3Q20-4Q20	3	2020	4	2020
Market Research/Lab Assessments of Alternate power source & batteries 3Q21-4Q21	3	2021	4	2021
Market Research/Lab Assessments of Alternate power source & batteries 3Q22-4Q22	3	2022	4	2022
Market Research/Lab Assessments of Alternate power source & batteries 3Q23-4Q23	3	2023	4	2023
Market Research/Lab Assessments of Alternate power source & batteries 3Q24-4Q24	3	2024	4	2024
Market Research/Lab Assessments of Alternate power source & batteries 3Q25-4Q25	3	2025	4	2025
Market Research/Lab Assessments of Alternate power source & batteries 3Q26-4Q26	3	2026	4	2026
Market Research/Lab Assessments of Alternate power source & batteries 3Q27-4Q27	3	2027	4	2028

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) EY4 / *Universal Battery Charger*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EY4: *Universal Battery Charger*	-	0.963	0.987	1.022	-	1.022	1.026	1.025	1.025	1.035	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Universal Battery Charger: Universal Battery Charger (UBC) fills the power and energy gap created by the increase in mission essential, Soldier portable power consumers, by providing a variety of charging solutions capable of providing power to handheld communication devices and military batteries to support mounted and dismounted formations. The UBC is suited for mounted and dismounted operations at the company level and below in multi-domain and austere operating environments. The system can draw power from wall outlets, vehicle power, generators, and solar power sources. The UBC enables dismounted Soldiers to execute their missions with fewer battery resupplies, thus reducing the logistical burden associated with moving fuel and batteries. The UBC capability allows dismounted Soldiers to operate independently for longer missions. The UBC fills the power and energy gap associated with bulk charging.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Test & Evaluation ***FY 2022 Plans:*** Continue to evaluate improvements to charger performance and bulk charging capabilities. Continue to develop and integrate vehicular on-the-move charging systems and reduce SWAP-C of the UBC product line. ***FY 2023 Plans:*** Continue to evaluate improved UBC products, including bulk charging, and integrate platform on the move charging systems. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase for additional testing due to new charging capabilities.	0.963	0.782	0.765
Title: System Engineering & Program Management ***FY 2022 Plans:*** Update technical drawings and provisioning data to establish NSNs, tech manual changes and safety release documentation for improved Family UBC and bulk charging. ***FY 2023 Plans:*** Conduct systems engineering, project management, and logistics management for UBC product line. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Expected decrease in UBC-related engineering management.	-	0.169	0.257
Title: SBIR/STTR Transfer	-	0.036	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 Plans: Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	0.963	0.987	1.022

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• R09103: *Universal Battery Charger*	13.479	6.243	9.208	-	9.208	9.445	7.919	7.640	7.637	0.000	61.571

Remarks

D. Acquisition Strategy

Contracts will be awarded to test, evaluate, and procure the next generation battery chargers to meet the increased power demand on the Soldier. A full and open, five year Indefinite Delivery Indefinite Quantity (IDIQ) production contract was awarded 27 January 2016 to procure the UBC. The PM will initiate efforts to establish a new competitively awarded contract through the Army Contracting Command (ACC) Aberdeen Proving Grounds. The program office may also utilize the Defense Logistics Agency - Tailored Logistics Support competitively awarded contracts to procure UBC systems in FY 2021 and beyond.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering/ Program Management Support	MIPR	Various : Various	0.877	-		0.169		0.257		-		0.257	Continuing	Continuing	-
SBIR/STTR Transfer	TBD	To Be Determined : To Be Determined	-	-		0.036		-		-		-	0.000	0.036	-
		Subtotal	0.877	-		0.205		0.257		-		0.257	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test & Evaluation	MIPR	Various : Various	3.284	0.963		0.782		0.765		-		0.765	Continuing	Continuing	-
		Subtotal	3.284	0.963		0.782		0.765		-		0.765	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	4.161	0.963		0.987		1.022		-		1.022	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

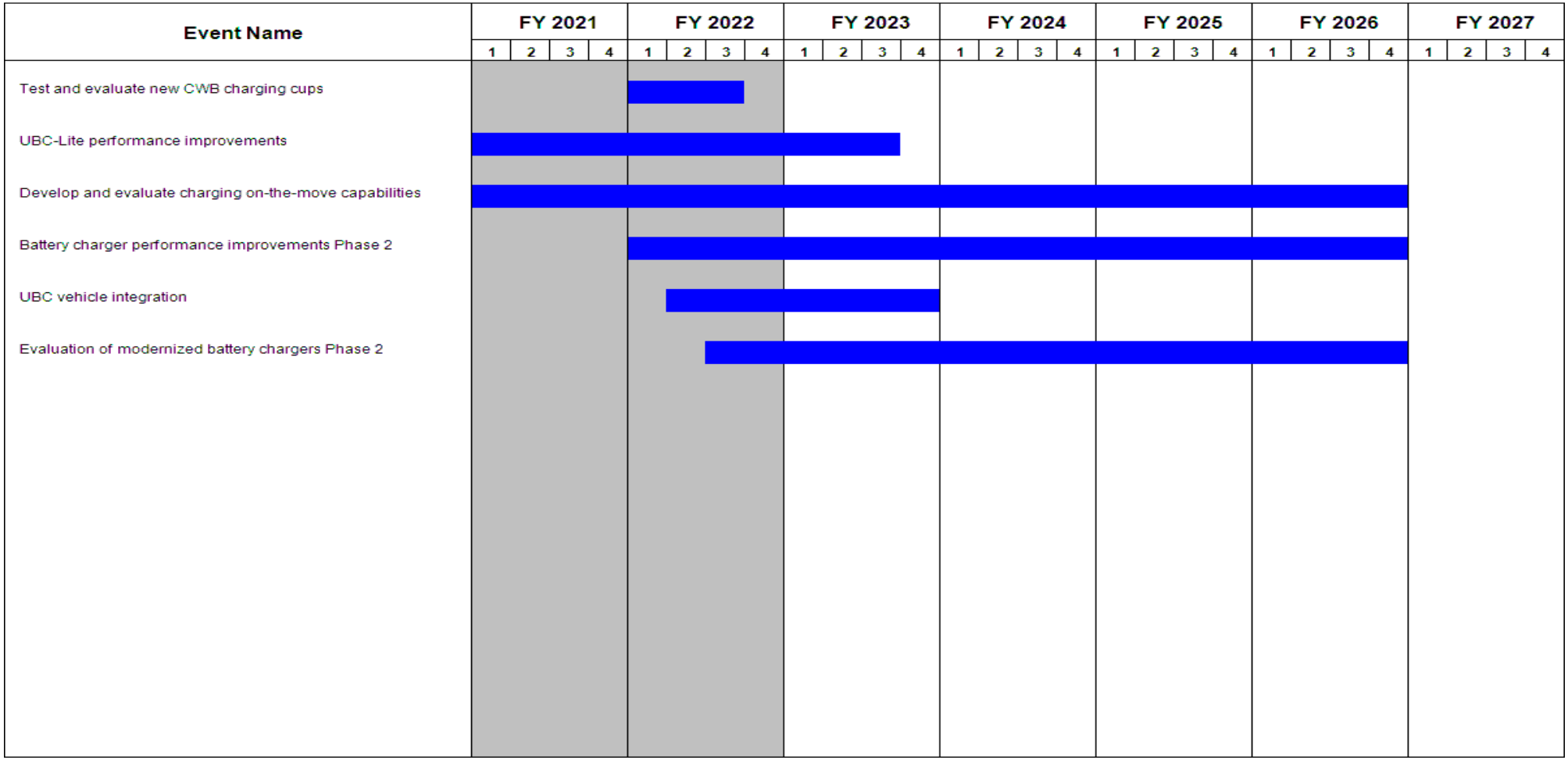


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** EY4 / *Universal Battery Charger*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Test and evaluate new CWB charging cups	1	2022	3	2022
UBC-Lite performance improvements	1	2021	3	2023
Develop and evaluate charging on-the-move capabilities	1	2021	4	2026
Battery charger performance improvements Phase 2	1	2022	4	2026
UBC vehicle integration	2	2022	4	2023
Evaluation of modernized battery chargers Phase 2	3	2022	4	2026

Note

Beginning in FY 2018, funding for Universal Battery Charger was realigned from Program Element: 0604827A (Soldier Systems - Warrior Dem/Val)/Project S65/Soldier Power. Prior to this realignment Soldier and Small Unit Power initiated developmental and test power solutions for the UBC technologies.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) FK4 / *Soldier Borne Sensor (SBS)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FK4: *Soldier Borne Sensor (SBS)*	-	1.672	1.145	1.682	-	1.682	1.691	-	-	-	0.000	6.190
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Project FK4 - Soldier Borne Sensor (SBS): The SBS is a small unmanned aerial vehicle. The SBS provides a near term solution to three Army War-fighting Challenges at the Infantry Squad level: develop situational understanding, conduct air-ground reconnaissance, and conduct joint combined arms maneuver. The system is simple to deploy and use to support the squad leader's decision-making process. The system allows Soldiers to obtain local situational awareness and understanding of their immediate surroundings while remaining in covered or concealed positions. The SBS program will be procured through multiple phases. We will use the funding in this project to develop, integrate, and qualify additional capabilities for each phase.
Funding in this project aligns with the Army's priorities in support of the National Defense Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Soldier Borne Sensor (SBS)	1.672	1.103	1.682
Description: The SBS provides the squad a "quick look" capability providing Situational Awareness (SA). ***FY 2022 Plans:*** This program will continue Phase 2 prototyping and rapidly incorporate new technologies matured during the Phase 2 technology development phase to include improved thermal cameras, improved obstacle avoidance, and integration with the Adaptive Squad Architecture. These prototypes will undergo testing and evaluation from 3QFY21 to 1QFY22. Additionally, the program plans to integrate SBS with systems such as Tactical Assault Kit (TAK)/Nett Warrior, Enhanced Night Vision Goggle (ENVG) and Integrated Visual Augmentation System (IVAS). ***FY 2023 Plans:*** This program will incorporate advanced obstacle avoidance, autonomous behaviors, edge processing, and novel battery chemistries. The program will integrate S&T portfolio work on efficient target detection. Additionally, the program plans to integrate SBS with systems such as Enhanced Night Vision Goggle (ENVG) and Integrated Visual Augmentation System (IVAS). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase in funding from FY 2022 to FY 2023 to develop, test and integrate software updates for advanced autonomous behaviors.			
Title: SBIR/STTR Transfer	-	0.042	-
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	1.672	1.145	1.682

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• W63798: *Soldier Borne Sensor (SBS)*	18.907	18.654	20.376	-	20.376	23.005	22.372	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy

The SBS program will continue to acquire the current system for FY22. The program will evaluate potential improved phase 2 systems as well as options to fund hardware and software developments that support advanced autonomy and interoperability in FY23 and beyond.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) FK4 / *Soldier Borne Sensor (SBS)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Admin (PMA)	MIPR	ASC : Ft Belvoir	0.058	0.146	Nov 2020	0.062	Nov 2021	0.064	Nov 2022	-		0.064	0.000	0.330	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		0.042		-		-		-	0.000	0.042	-
		Subtotal	0.058	0.146		0.104		0.064		-		0.064	0.000	0.372	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2 Prototype	C/FFP	Vantage Robotics : San Leandro, CA 95577	0.810	1.138	Feb 2021	0.143	Oct 2021	-		-		-	0.000	2.091	2.534
Autonomy and Interoperability Development and Integration	TBD	Various : Various	-	-		-		0.860	Feb 2023	-		0.860	0.000	0.860	-
		Subtotal	0.810	1.138		0.143		0.860		-		0.860	0.000	2.951	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix Support	Various	Various : Multiple	0.333	0.085	Nov 2020	0.077	Nov 2021	0.079	Nov 2022	-		0.079	0.000	0.574	-
		Subtotal	0.333	0.085		0.077		0.079		-		0.079	0.000	0.574	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Phase 2- Technology Integration and Testing	TBD	Various : Various	-	0.303	Apr 2021	0.821	Dec 2021	0.679	Nov 2022	-		0.679	0.000	1.803	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) FK4 / *Soldier Borne Sensor (SBS)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	-	0.303		0.821		0.679		-		0.679	0.000	1.803	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	1.201	1.672		1.145		1.682		-		1.682	0.000	5.700	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

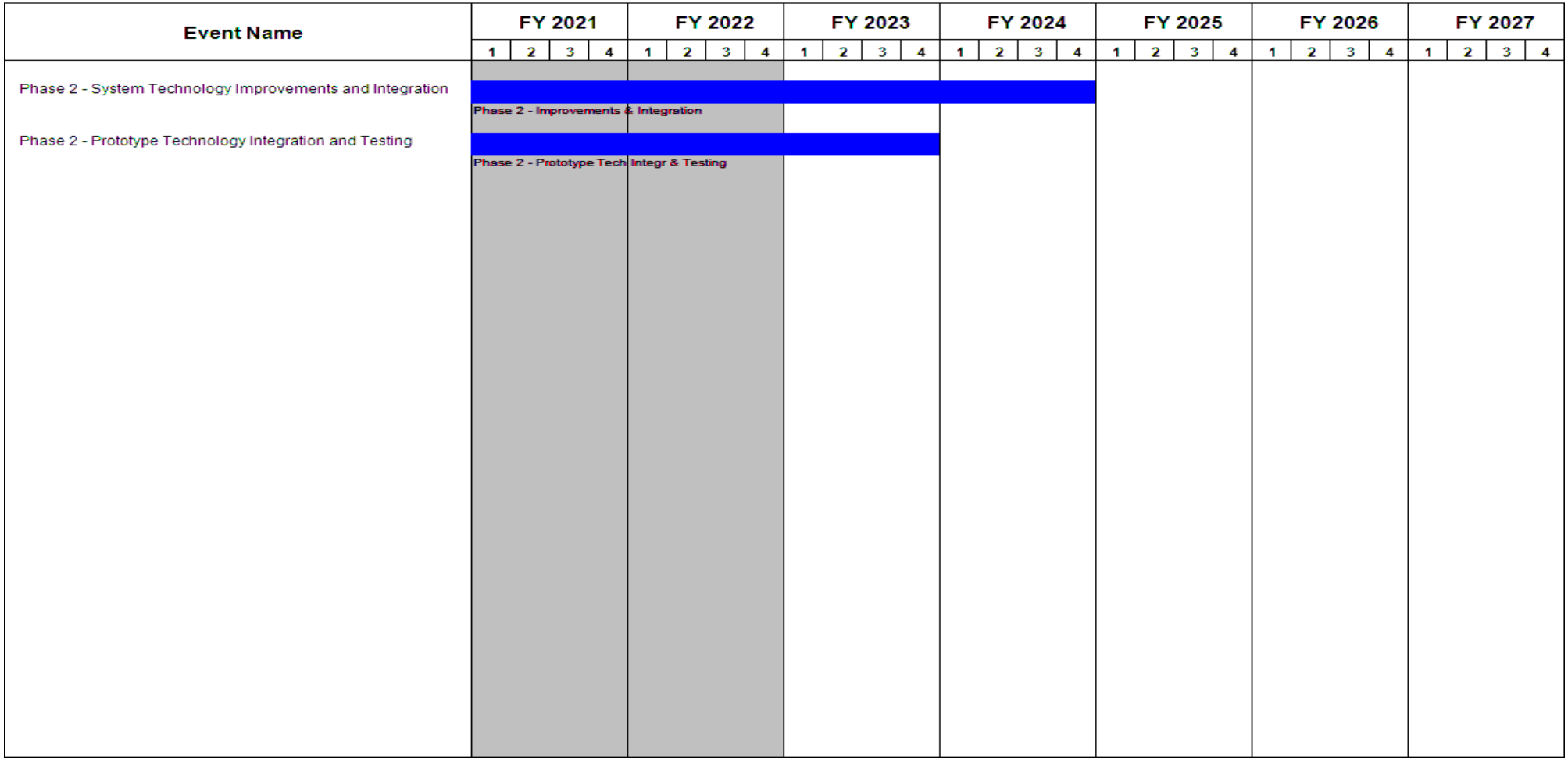


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** FK4 / *Soldier Borne Sensor (SBS)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Phase 1 - First Unit Equiped (FUE)	4	2020	4	2020
Phase 2 - Technology Development	4	2018	4	2020
Phase 2 - System Technology Improvements and Integration	3	2020	4	2024
Phase 2 - Prototype Technology Integration and Testing	4	2020	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
S65: *Platoon Power Generator*	-	-	-	4.145	-	4.145	4.161	-	-	-	0.000	8.306
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This is a new start in FY 2023.

This is a New Start in Fiscal Year 2023 (FY23).

A. Mission Description and Budget Item Justification

Mobile Soldier Power enables dismounted Soldiers to efficiently execute missions for longer durations by reducing the logistical burden associated with fuel and primary (disposable) batteries. Power solutions address energy deficits resulting from increased power demands associated with providing the Soldier with increased situational awareness displays, Global Positioning System (GPS) systems, weapon sensors, radios, and other devices. The Soldier and Small Unit Power system develops and tests power sources and solutions suited for the individual Soldier, team, squad, and platoon in the most austere operating environments. Develops and evaluates additional sources of power such as individual Soldier worn systems, renewable energy, and kinetic energy harvesting technologies. This effort is consistent with the Sep 2013 Small Unit Power CDD, the Dec 2011 Operational Energy ICD, and the Mar 2011 Soldier Protection CDD, and the Universal Battery Charger CPD (May 2015).

Platoon Power Generation - PM E2S2: This project supports the demonstration and development of a Platoon Power Generation (PPG). PPG will provide small units with portable power to sustain Modified Table of Organizational Equipment (MTOE) unit power demand in support of 48 to 72 hour missions using a common logistical fuel (JP-8). It will be used for charging batteries and powering various types of Army communications and electronics devices. It will provide sufficient power to recharge and power all Platoon equipment and fulfill residual power gaps at the Squad and Soldier level. The generator will provide Platoon power for charging batteries when away from vehicles in all Brigade Combat Teams (Stryker, Armor and Infantry), Rangers and Special Forces in austere environments.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: S65-Platoon Power Generator	-	-	4.145
Description: Utilize OTA contract vehicle to develop and test prototypes. ***FY 2023 Plans:*** Developing / Testing Reliability Improvements ***FY 2022 to FY 2023 Increase/Decrease Statement:*** This is a New Start in Fiscal Year 2023 (FY23).			
Accomplishments/Planned Programs Subtotals	-	-	4.145

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• R08090: *Integrated Soldier Power Data System - Core*	20.818	5.947	6.725	-	6.725	6.834	8.018	6.611	6.609	0.000	61.562
• R09103: *Universal Battery Charger*	13.479	6.243	9.208	-	9.208	9.445	7.919	7.640	7.637	0.000	61.571
• EY2: *Integrated Soldier Power Data System - Core*	3.911	4.322	4.576	-	4.576	4.695	4.793	4.795	4.841	Continuing	Continuing
• EY4: *Universal Battery Charger*	0.963	0.987	1.022	-	1.022	1.026	1.025	1.025	1.035	Continuing	Continuing

Remarks

D. Acquisition Strategy

PEO CS/CSS Effort on the Platoon Power Generation - PM E2S2: Other Transaction Agreement (OTA) contract vehicles will be awarded to at least two contractors to develop and test prototypes. The results of the OTAs and soldier touch points will inform the Milestone C Low Rate Initial Production decision planned for FY25.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	Various	PM E2S2 : Fort Belvoir, VA	0.764	-		-		0.750		-		0.750	0.000	1.514	-
		Subtotal	0.764	-		-		0.750		-		0.750	0.000	1.514	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	C/FFP	Picatinny : Contractor Sites	9.358	-		-		3.000		-		3.000	1.500	13.858	-
		Subtotal	9.358	-		-		3.000		-		3.000	1.500	13.858	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	MIPR	APG : APG	3.419	-		-		0.395		-		0.395	0.600	4.414	-
		Subtotal	3.419	-		-		0.395		-		0.395	0.600	4.414	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Platoon Power Generation	MIPR	Ft. Benning : Ft. Benning	1.340	-		-		-		-		-	0.220	1.560	-
		Subtotal	1.340	-		-		-		-		-	0.220	1.560	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	14.881	-		-		4.145		-		4.145	2.320	21.346	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604827A / *Soldier Systems - Warrior Dem/Val*	Project (Number/Name) S65 / *Platoon Power Generator*	

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Platoon Power Generator*

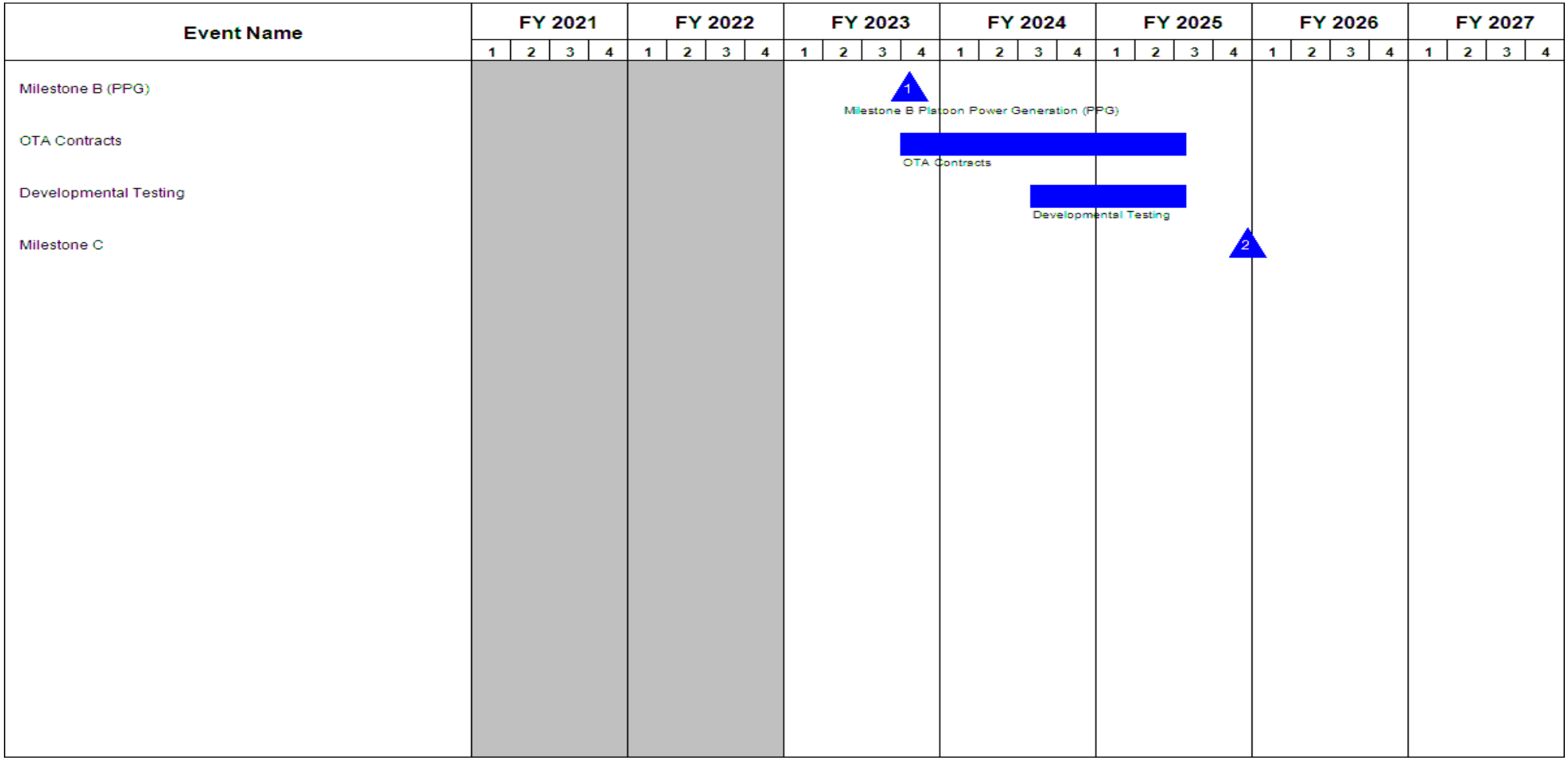


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604827A / *Soldier Systems - Warrior Dem/Val*	**Project (Number/Name)** S65 / *Platoon Power Generator*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B (PPG)	4	2023	4	2023
OTA Contracts	4	2023	3	2025
Developmental Testing	3	2024	3	2025
Milestone C	4	2025	4	2025

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604852A *I Suite of Survivability Enhancement Systems - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	62.012	96.132	109.702	-	109.702	99.525	81.274	81.301	82.092	0.000	612.038
FE8: *Vehicle Protection Suite*	-	62.012	96.132	109.702	-	109.702	99.525	81.274	81.301	82.092	0.000	612.038

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of the Vehicle Protection Suite (VPS) program.

Current ground combat vehicle platforms and tactical wheeled vehicles within Army Brigade Combat Teams (BCTs) lack the ability to effectively detect, track, divert, disrupt, neutralize, or destroy incoming direct or indirect fired threat munitions. Current solutions to defeat these threats, Explosive Reactive Armor (ERA) and Slat armor, do not provide preemptive or active protection and impose secondary blast hazards to crew, dismounted soldiers, and adjacent vehicles and equipment. The Suite of Vehicle Protection Systems - EMD PE 0604852A will develop and mature solutions to increase the protection of the Army's ground systems from both current and next generation direct or indirect fired threat munitions.

The Active Protection System will install and characterize Non-Developmental Item (NDI) Active Protection Systems on Abrams, Bradley, and Stryker demonstrator vehicles. The Active Protection System effort will assess the maturity, performance, and integration risk of NDI Active Protection Systems, develop and refine Abrams, Bradley, and Stryker Active Protection System installation kit designs, and build prototypes necessary to conduct performance and safety testing to obtain an Active Protection System Urgent Materiel Release (UMR). Active Protection System effort will execute installation design refinement and required testing to meet urgent fielding of NDI APS on Abrams, Bradley and Stryker pending Army leadership approval. The Active Protection System NDI effort served to inform the Vehicle Protection Suite Trade Study.

The Vehicle Protection Suite (VPS) Project (FE8) will design, mature, and evaluate combinations of active, reactive, and passive solutions and leverage both Horizontal Technology Integration (HTI) principles and the Army's Vehicle Base Kit (VBK) to develop tailored vehicle Survivability Sets that will mitigate existing protection gaps, allow for future technology insertion to meet evolving threats, and minimize the impact to the current capabilities hosted on Army ground system platforms.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604852A *I Suite of Survivability Enhancement Systems - EMD*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	62.012	106.354	0.000	-	0.000
Current President's Budget	62.012	96.132	109.702	-	109.702
Total Adjustments	0.000	-10.222	109.702	-	109.702
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-26.222			
• Congressional Rescissions	-	-			
• Congressional Adds	-	16.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	109.702	-	109.702

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: FE8: *Vehicle Protection Suite*		
Congressional Add: *Bradley Family of Vehicles (BFV) Active Protection System*	16.000	16.000
Congressional Add Subtotals for Project: FE8	16.000	16.000
Congressional Add Totals for all Projects	16.000	16.000

Change Summary Explanation

FY 2023 funding decrease reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	Project (Number/Name) FE8 / *Vehicle Protection Suite*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FE8: *Vehicle Protection Suite*	-	62.012	96.132	109.702	-	109.702	99.525	81.274	81.301	82.092	0.000	612.038
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Current ground combat vehicle platforms and tactical wheeled vehicles within Army Brigade Combat Teams (BCTs) lack the ability to effectively detect, track, divert, disrupt, neutralize, or destroy incoming direct or indirect fired threat munitions. Current solutions to defeat these threats, Explosive Reactive Armor (ERA) and Slat armor, do not provide preemptive or active protection and impose secondary blast hazards to crew, dismounted soldiers, and adjacent vehicles and equipment.

Vehicle Protection Suite (VPS) will design, mature, integrate, evaluate, and field combinations of active, reactive, and passive solutions and leverage both Horizontal Technology Integration (HTI) principles and the Army's Vehicle Protection System Base Kit (VBK) to develop configurable vehicle Survivability Sets that will mitigate existing protection gaps, allow for future technology insertion to meet evolving threats, and minimize the impact to the current capabilities hosted on Army ground combat and tactical vehicle platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Vehicle Protection System Base Kit Integration of Non-Developmental Items (NDI) and Developmental Technologies	33.008	41.251	58.800
Description: VBK with Laser Warning Receiver (LWR) effort to incorporate on to the ground combat vehicle platforms the LWR through the Vehicle Protection System (VPS) Base Kit based on the Modular Active Framework (MAF). The maturation and integration effort will include qualification testing, integration design development, prototype build, and platform testing and logistics products. ***FY 2022 Plans:*** Continue VBK with LWR integration design efforts, to include integration design development, platform prototype build, and logistics products development for the Bradley and AMPV, and begin integration efforts on the Abrams and Stryker platforms. Start the VPS base kit product enhancements maturation efforts. ***FY 2023 Plans:*** Complete VBK with LWR integration on the Bradley and Abrams platforms and continue integration design efforts, to include integration design development, platform prototype build, and logistics products development for the Stryker and AMPV. Begin ATEC Developmental and Operational Testing on the Bradley and Abrams. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase to complete integration and testing efforts onto Stryker and AMPV vehicles.			
Title: Survivability Improvements	7.098	27.075	41.318

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: Funding for the continued maturation of Science and Technology (S&T) funded protection technologies, continued maturation, design development of the platform integration, test, logistic product development, and fielding of active, reactive, and passive survivability improvements onto ground combat vehicle platforms. ***FY 2022 Plans:*** Will continue qualification testing and logistic product development of passive and reactive armor tiles on ground combat vehicle platforms. Continue Signature Management vehicle integration; top attack, and vehicle Camouflage, Concealment, Deception, and Obscuration (CCDO) engineering development, testing, and transportation onto ground combat vehicles. Continuation of Tranche II technology integration and testing onto ground combat platforms identified via the VPS trade study or as they emerge from industry or government S&T efforts. Procure threats to support the continued maturation and testing of VPS technologies. Initiation of the Soft Kill acquisition program for system development, platform integration planning and OT&E on ground combat platforms. Continued engineering studies, improvement assessments, testing, and characterization/demonstrations of Active Protection systems (hard kill, soft kill, and threat detection), top attack protection, radar system upgrades, CCDO, and other emerging vehicle protection technologies for integration onto ground combat platforms. Maturation efforts continue for feasibility of passive and reactive armor solutions for PEO GCS combat platforms. Planned activities include engineering development, testing, platform integration and transportation onto ground combat vehicles. ***FY 2023 Plans:*** Start the VPS base kit product enhancements maturation efforts. Continue passive and reactive armor tile engineering development, testing, and logistic product development on ground combat platforms. Continue Soft Kill acquisition program for system development, platform integration planning and OT&E on ground combat platforms. Continued engineering studies, improvement assessments, testing, and characterization/demonstrations of Active Protection systems and other emerging technologies. Continue execution of Bradley expedited active protection system and support system-level test and UMR activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase due to increased vehicle level testing and integration of PRAT and Soft Kill system development.			
Title: Vehicle Protection Suite Government Engineering and Program Management ***Description:*** Government program management support and program oversight. ***FY 2022 Plans:***	5.906	5.931	9.584

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Will continue government program management support to provide VPS program planning, to include the oversight of: MAC Characterization and development of MAC compliant, active, reactive and passive VPS survivability set protection solutions, Active Protection System development, CCDO program development and continuation of Survivability Improvement projects. ***FY 2023 Plans:*** Will continue government program management support to include the oversight of: MAC Characterization and development of MAC-compliant active, reactive and passive VPS survivability set protection solutions, Active Protection System capability development, CCDO program development and continuation of Survivability Improvement projects. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase due to the increase in program requirements, entering new phases of the programs, and program maturation.			
Title: VPS Trade Study ***Description:*** VPS will execute a trade study/feasibility assessment to identify capabilities for active, reactive and passive protection solutions, to pursue in the next phase of the program (Tranche III). A Trade Study/feasibility assessment will provide the data deemed sufficient for the identification of capabilities to pursue in Tranche III. This Trade Study/feasibility assessment will build off previous studies to identify the benefit of adding capabilities to current set. The trade study/feasibility assessment will also look at emerging threats to identify capabilities used to protect against those threats. ***FY 2022 Plans:*** VPS will identify preemptive, active, reactive, passive (or a combination thereof) vehicle defense capabilities that are mature. The trade study/feasibility assessment will look at capabilities that are able to detect, track, divert, disrupt, neutralize, and/or destroy incoming threats, non-lethal/lethal unmanned aircraft systems (UAS), air to ground missiles, Improvised Explosive Device (IEDs)/mines, as well as prevent, mitigate and recover from Electronic Warfare (EW) and Cyber threats. These capabilities will be analyzed via a Trade Study/feasibility assessment and/or characterization/demonstration to understand the benefit the capability or combination of capabilities provide. This analysis will identify capabilities to pursue in future tranches. Continued limited characterizations of APS solutions are planned to better understand their functionality, generate performance data, and determine suitability to be integrated onto a Stryker platform as well as other ground combat platforms. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decrease is due to nearing completion of efforts.	-	2.950	-
Title: SBIR/STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC 638 ***FY 2022 Plans:***	-	2.925	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC 638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC 638			
Accomplishments/Planned Programs Subtotals	46.012	80.132	109.702

	FY 2021	FY 2022
Congressional Add: Bradley Family of Vehicles (BFV) Active Protection System	16.000	16.000
FY 2021 Accomplishments: Conducting government testing of the Iron Fist-Light Decoupled (IFLD) phase 2 system on a Bradley vehicle in support of the urgent material release. Testing will begin in 3Q21 and complete 4Q22. Contractor test support will be required.		
FY 2022 Plans: Funding will continue Bradley Family of Vehicles (BFV) Active Protection System Iron Fist-Light Decoupled (IFLD) efforts to include: final logistics product development, verification and validation, MWO development and validation, ECP and Level III TDP development, and Vehicle Software updates.		
Congressional Adds Subtotals	16.000	16.000

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• GM1911: *VPS MODULAR ACTIVE PROTECTION SYSTEMS W/LASER*	-	68.379	0.000	-	0.000	-	-	-	-	0.000	68.379
• GM1912: *VPS SIGNATURE MANAGEMENT*	-	6.907	0.000	-	0.000	-	-	-	-	0.000	6.907
• E97911: *COMBAT VEHICLE RAT*	-	17.755	0.000	-	0.000	-	-	-	-	0.000	17.755

Remarks

On 21 SEPT 2016 - Directed Requirement for Reactive Armor Tiles and Installation Kits received and on 17 NOV 2017 Army Requirements Oversight Council (AROC) approved VPS ICD as the requirements to move forward with production of reactive armor tiles for the Armored Multi-Purpose Vehicle (AMPV) in Fiscal Year (FY) 2022, $17.755 million APPN: 2034A; BA 1; Line Item Number: 9847E97900; Title: Reactive Armor Tiles.

NOV 2020 Army Requirements Oversight Council (AROC) approved VPS Capability Development Document (CDD) and on 16 DEC 2020 AROCM 20-27 approved the CDD for protection improvements to include VPS Base Kit, Softkill, Hardkill, LWR, Signature Management and Obscuration as the requirements to procure VBK with

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost

LWR for the Bradley A4 platform and procure Signature Management Paint for AMPV and Stryker In FY 2022, $29.102 million APPN: 2033A: Procurement of W&TCV, Army; BA 1: Tracked Combat Vehicles; Line Item Number: 6652GM1900; Title: Vehicle Protection Systems (VPS).

OCT 2021 Annual Governance Board held.

D. Acquisition Strategy

VPS Trade Studies/Feasibility Assessments will assess the cost, maturity, complexity, performance, and physical properties of enhanced survivability technologies to determine the optimal application of VPS capabilities onto the Army's ground combat platforms. In FY 2018, the VPS program initiated the initial VPS Trade Study/ Feasibility Assessment to confirm survivability capabilities for focus in Tranche I and II, to include integration with Vehicle Protection System Base Kit (VBK). Focus of Tranche I was with Reactive Armor Tiles, laser threat detection with a common controller and signature management reduction. Support of Tranche efforts will be achieved through bailments, Cooperative Research and Development Agreements (CRADA), and Other Transactional Agreements (OTA) with industry and government partners. The VPS Tranche II solutions (soft and hard kill integration, threat detection, Camouflage, Concealment, Deception and Obscuration (CCDO), top protection, and other emerging protection technologies) based on the results of the Trade Study will have decision points and program initiations beginning in FY 2020. Along with the Tranche II activities starting in FY 2020, the VPS program will continue, maturation, qualification testing, platform integration, vehicle testing and fielding efforts (i.e. logistics and software development) with Tranche I programs. A Tranche III trade study/feasibility assessment will initiate in FY 2022 to define the next set of VPS technologies, based on evolving enemy threats, to focus on. These capabilities may include counter-unmanned aerial systems and the integration of artificial intelligence into vehicle survivability technologies.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	Project (Number/Name) FE8 / *Vehicle Protection Suite*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Vehicle Protection Suite Program Management	MIPR	TACOM Warren, Michigan : Various	12.901	5.906	Jan 2021	5.931	Dec 2021	9.584	Oct 2022	-		9.584	24.549	58.871	-
SBIR/STTR Transfer	TBD	Various : Various	-	-		2.925	Apr 2022	-		-		-	0.000	2.925	-
		Subtotal	12.901	5.906		8.856		9.584		-		9.584	24.549	61.796	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Vehicle Protection System Base Kit	TBD	Various : TBD	39.716	29.608	Jun 2021	32.277	Jun 2022	58.800	Jun 2023	-		58.800	32.010	192.411	-
Survivability Improvements	MIPR	Various TACOM Warren : Warren, MI	10.956	2.072	Jan 2021	25.252	Jan 2022	37.709	Jan 2023	-		37.709	230.687	306.676	-
Radar Sensor Technology	TBD	Various TACOM Warren : Warren, MI	5.000	-		-		-		-		-	0.000	5.000	-
Bradley Family of Vehicles (BFV) Active Protection System	Various	Various : TBD	-	16.000	May 2022	16.000	May 2022	-		-		-	0.000	32.000	-
		Subtotal	55.672	47.680		73.529		96.509		-		96.509	262.697	536.087	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Vehicle Protection Suite Trade Study	MIPR	Various : TACOM Warren Michigan	3.103	-		2.950	Mar 2022	-		-		-	0.000	6.053	-
		Subtotal	3.103	-		2.950		-		-		-	0.000	6.053	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	Project (Number/Name) FE8 / *Vehicle Protection Suite*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Survivability Improvements	MIPR	Various TACOM Warren : Warren, MI	2.320	5.026	Jun 2021	1.823	Jun 2022	3.609	Jun 2023	-		3.609	1.823	14.601	-
Vehicle Protection System Base Kit	MIPR	Various TACOM Warren : Warren, MI	3.474	3.400		8.974	Oct 2022	-		-		-	76.663	92.511	-
		Subtotal	5.794	8.426		10.797		3.609		-		3.609	78.486	107.112	N/A

Remarks

N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	77.470	62.012		96.132		109.702		-		109.702	365.732	711.048	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

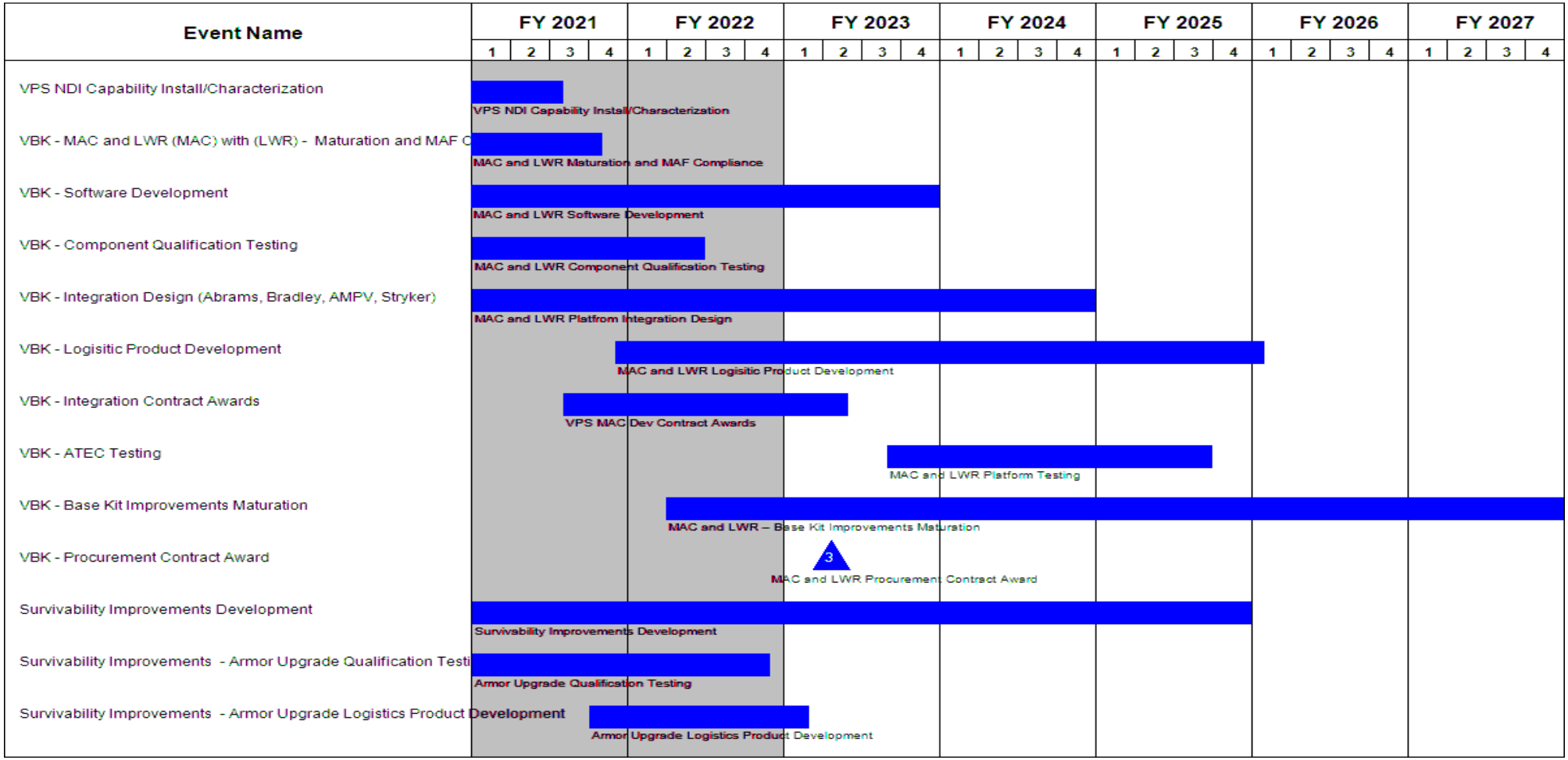


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

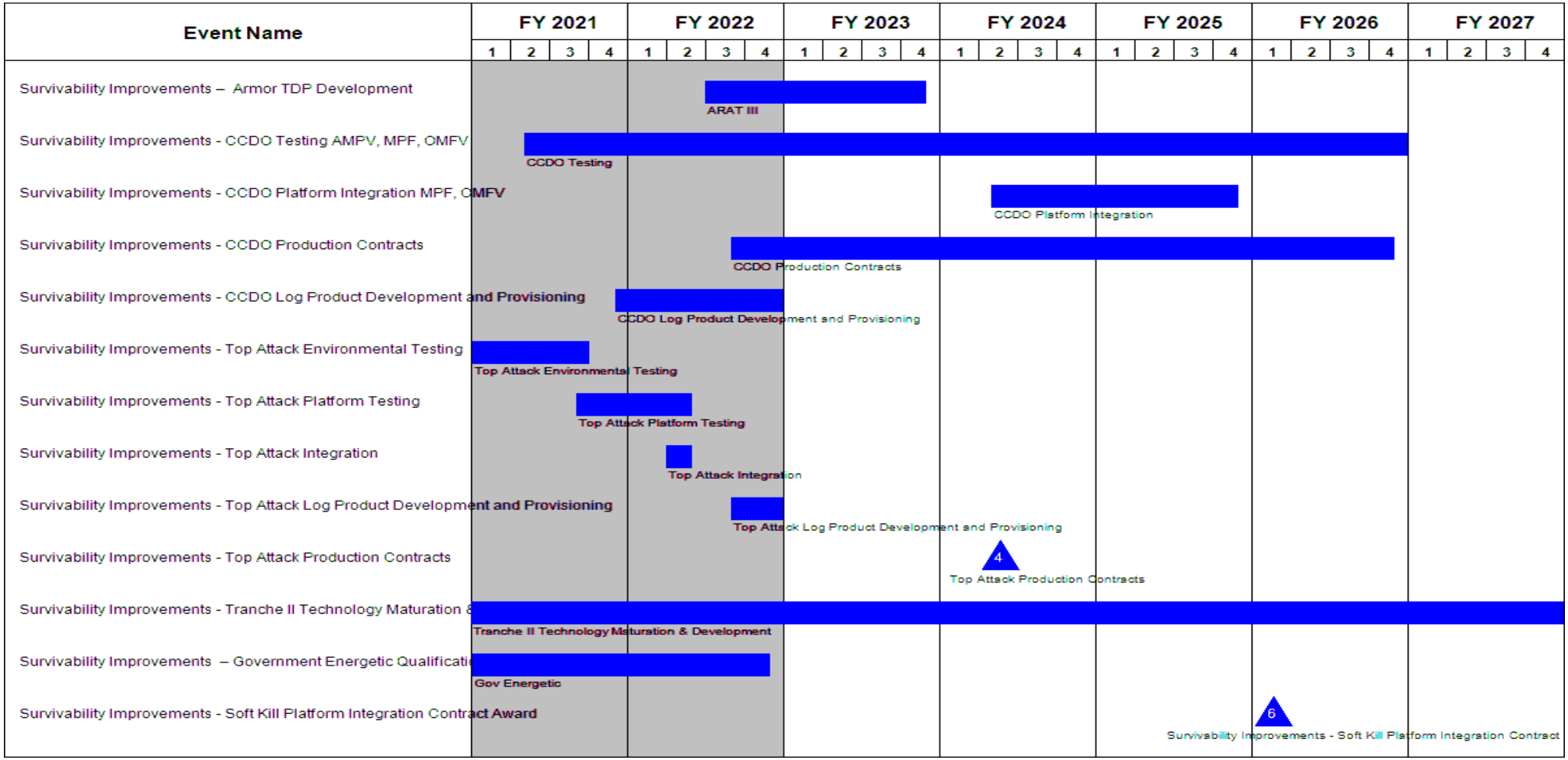
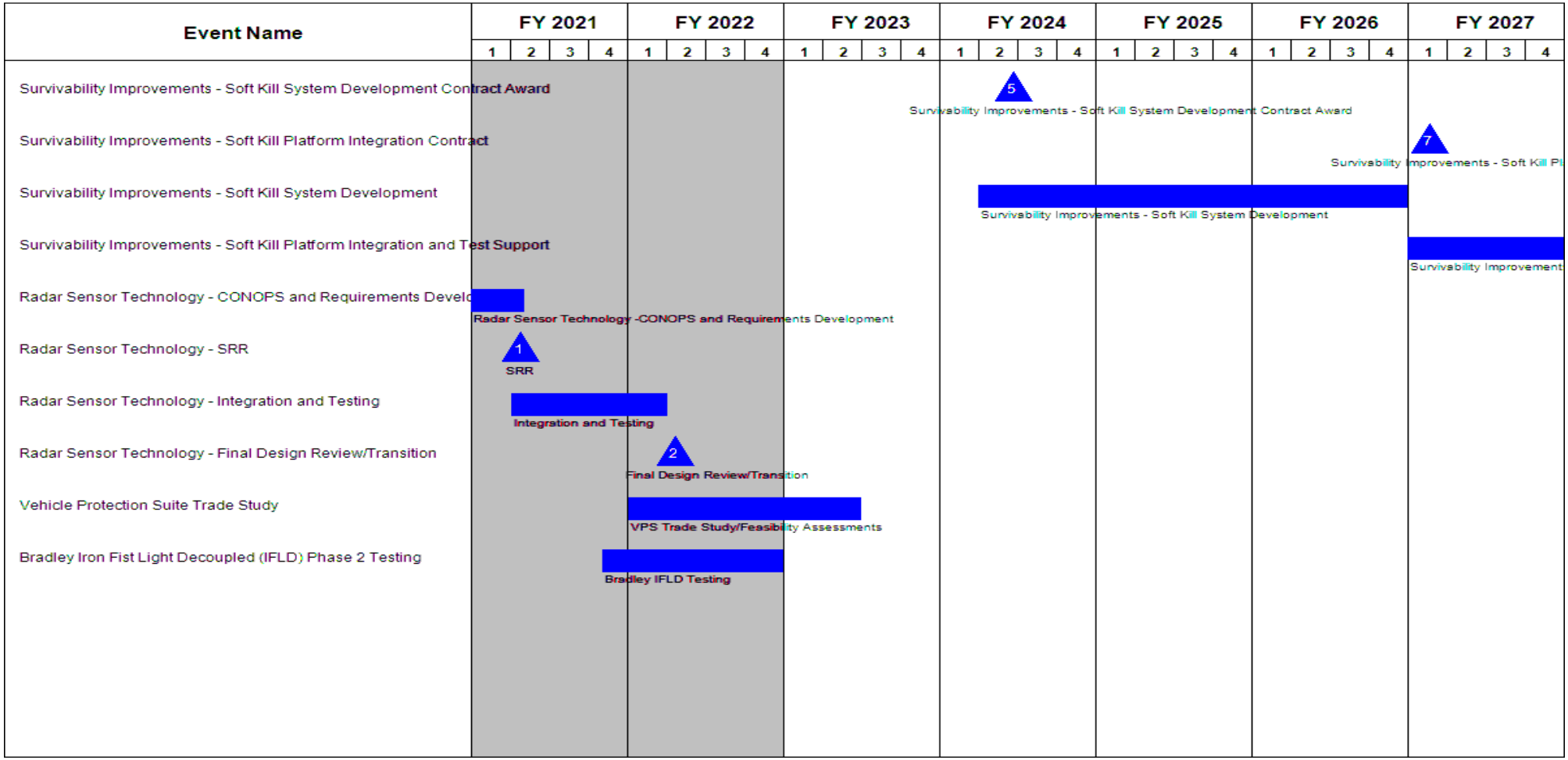


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*



Note

n/a

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
VPS NDI Capability Install/Characterization	2	2018	3	2021
VBK - MAC and LWR (MAC) with (LWR) - Maturation and MAF Complianc	4	2019	4	2021
VBK - Software Development	4	2019	4	2023
VBK - Component Qualification Testing	1	2020	2	2022
VBK - Integration Design (Abrams, Bradley, AMPV, Stryker)	1	2021	4	2024
VBK - Logisitic Product Development	4	2021	1	2026
VBK - Integration Contract Awards	3	2021	2	2023
VBK - ATEC Testing	3	2023	3	2025
VBK - Base Kit Improvements Maturation	2	2022	4	2027
VBK - Procurement Contract Award	2	2023	2	2023
Survivability Improvements Development	1	2020	4	2025
Survivability Improvements - Armor Upgrade Qualification Testing	1	2020	4	2022
Survivability Improvements - Armor Upgrade Logistics Product Development	4	2021	1	2023
Survivability Improvements ? Armor TDP Development	3	2022	4	2023
Survivability Improvements - CCDO Testing AMPV, MPF, OMFV	2	2021	4	2026
Survivability Improvements - CCDO Platform Integration MPF, OMFV	2	2024	4	2025
Survivability Improvements - CCDO Production Contracts	3	2022	4	2026
Survivability Improvements - CCDO Log Product Development and Provisioning	4	2021	4	2022
Survivability Improvements - Top Attack Environmental Testing	1	2021	3	2021
Survivability Improvements - Top Attack Platform Testing	3	2021	2	2022
Survivability Improvements - Top Attack Integration	2	2022	2	2022
Survivability Improvements - Top Attack Log Product Development and Provisioning	3	2022	4	2022

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604852A / *Suite of Survivability Enhancement Systems - EMD*	**Project (Number/Name)** FE8 / *Vehicle Protection Suite*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Survivability Improvements - Top Attack Production Contracts	2	2024	2	2024
Survivability Improvements - Tranche II Technology Maturation & Development	3	2020	4	2027
Survivability Improvements ? Government Energetic Qualification Testing	1	2021	4	2022
Survivability Improvements - Soft Kill Platform Integration Contract Award	1	2026	1	2026
Survivability Improvements - Soft Kill System Development Contract Award	2	2024	2	2024
Survivability Improvements - Soft Kill Platform Integration Contract	1	2027	1	2027
Survivability Improvements - Soft Kill System Development	2	2024	4	2026
Survivability Improvements - Soft Kill Platform Integration and Test Support	1	2027	4	2027
Radar Sensor Technology - CONOPS and Requirements Development	4	2020	2	2021
Radar Sensor Technology - SRR	2	2021	2	2021
Radar Sensor Technology - Integration and Testing	2	2021	1	2022
Radar Sensor Technology - Final Design Review/Transition	2	2022	2	2022
Vehicle Protection Suite Trade Study	1	2022	2	2023
Bradley Iron Fist Light Decoupled (IFLD) Phase 2 Testing	4	2021	4	2022

Note

n/a

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	36.187	25.000	23.106	-	23.106	43.388	71.922	134.685	135.996	Continuing	Continuing
516: *Paladin/FAASV*	-	-	-	23.106	-	23.106	43.388	71.922	134.685	135.996	Continuing	Continuing
HB6: *Mobile 155MM Howitzer*	-	36.187	25.000	-	-	-	-	-	-	-	0.000	61.187

Note

Elimination: Project HB6 has no funding request for FY 2023.
New Start: Project Paladin/FAASV is a new start effort in FY 2023.

A. Mission Description and Budget Item Justification

This program element encompasses engineering and manufacturing development for artillery weapons systems.

Project HB6 supports the mobile howitzer program. The Mobile 155mm Howitzer is a Self-Propelled, 155mm Wheeled Howitzer that provides lethal, proactive counter-fire essential for the survivability of the maneuver formations and other close support fires as required. The Mobile Howitzer improves the Field Artillery Battalion's ability to maintain pace with its supporting maneuver formations and survive against responsive, counter-fire from near-peer threats with rapid displacement and emplacement times. The mobile howitzer will improve tactical mobility and system survivability compared to existing towed howitzer systems. Development efforts, prototyping and evaluations will focus on attributes such as improved emplacement and displacement times, driving speed, and crew protection capabilities, all without sacrificing lethality versus existing towed howitzer systems. Program activities in FY 2021 will be focused on evaluation of multiple vendor mobile howitzer systems at United States proving grounds against system requirements. Evaluation will include safety testing, US ammunition compatibility testing, and assessment of mobility, survivability and transportability.

Project Paladin/FAASV is a new start effort in FY 2023 in support of the Armament Upgrade Project to optimize capabilities and improve reliability for the M109A7 Self Propelled Howitzer (SPH) with expected changes in the system's operational profile. The M109A7 is an indirect fire weapon system with the ability of delivering accurate, long range, lethal and non-lethal cannon fires in support of both Combined Arms Maneuver (CAM) and Wide Area Security (WAS) operations. The M109A7 can be employed within any Brigade Combat Team formation to neutralize, suppress, or destroy enemy forces, while providing protected transport of a field artillery howitzer section on the modern battlefield.

This effort will include system usage and optimization studies, simulations, development engineering, prototype development and validation to provide an upgraded cannon configuration for incremental upgrades on the M109A7 SPH. The Armament Upgrade Project will focus on an integrated cannon, breech, and fire control system to improve reliability associated with higher charge levels and increased ranges.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604854A *I Artillery Systems - EMD*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	36.187	0.000	0.000	-	0.000
Current President's Budget	36.187	25.000	23.106	-	23.106
Total Adjustments	0.000	25.000	23.106	-	23.106
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	25.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	23.106	-	23.106

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: HB6: *Mobile 155MM Howitzer*		
Congressional Add: *Soft Recoil Development*	25.000	25.000
Congressional Add Subtotals for Project: HB6	25.000	25.000
Congressional Add Totals for all Projects	25.000	25.000

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 516 / *Paladin/FAASV*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
516: *Paladin/FAASV*	-	-	-	23.106	-	23.106	43.388	71.922	134.685	135.996	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This is a new start in FY 2023.

This is a New Start in Fiscal Year 23 (FY23).

A. Mission Description and Budget Item Justification

Project Paladin/FAASV is a new start effort in FY 2023 in support of the Armament Upgrade Project to optimize capabilities and improve reliability for the M109A7 Self Propelled Howitzer (SPH) with expected changes in the system's operational profile. The M109A7 is an indirect fire weapon system with the ability of delivering accurate, long range, lethal and non-lethal cannon fires in support of both Combined Arms Maneuver (CAM) and Wide Area Security (WAS) operations. The M109A7 can be employed within any Brigade Combat Team formation to neutralize, suppress, or destroy enemy forces, while providing protected transport of a field artillery howitzer section on the modern battlefield.

This effort will include system usage and optimization studies, simulations, development engineering, prototype development and validation to provide an upgraded cannon configuration for incremental upgrades on the M109A7 SPH. The Armament Upgrade Project will focus on an integrated cannon, breech, and fire control system to improve reliability associated with higher charge levels and increased ranges.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Program Management ***Description:*** Funding is provided for all Program Management efforts for the M109A7 howitzer upgraded armament system. ***FY 2023 Plans:*** Develop detailed schedules, prepare prototype order procurements, coordinate test & validation events, and prepare materiel release documents. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** This is a New Start in Fiscal Year 23 (FY23).	-	-	3.690
Title: Developmental Engineering ***Description:*** Conduct development engineering efforts, perform system usage and optimization studies, perform simulations, and developed a proposed system configuration to be matured in support of future prototype manufacturing efforts. ***FY 2023 Plans:***	-	-	19.416

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Develop system configurations and conduct simulations to optimize system reliability/performance. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** This is a New Start in Fiscal Year 23 (FY23).			
Accomplishments/Planned Programs Subtotals	-	-	23.106

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Armament Upgrade Project will leverage Government, Government support contractors, and a competition selected contractor for the development and validation of this effort. The purpose of this funding is to develop a validated prototype design for future production integration.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) 516 / *Paladin/FAASV*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SEPM Government	MIPR	Various : Various	-	-		-		1.826	Dec 2022	-		1.826	0.000	1.826	-
SEPM Contractor	TBD	Various : Various	-	-		-		1.864	Mar 2023	-		1.864	0.000	1.864	-
		Subtotal	-	-		-		3.690		-		3.690	0.000	3.690	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development Engineering	TBD	TBD : TBD	-	-		-		17.016	Mar 2023	-		17.016	0.000	17.016	-
Production, Engineering, Planning	TBD	TBD : TBD	-	-		-		0.499	Mar 2023	-		0.499	0.000	0.499	-
Development Tooling	TBD	TBD : TBD	-	-		-		0.006	Mar 2023	-		0.006	0.000	0.006	-
		Subtotal	-	-		-		17.521		-		17.521	0.000	17.521	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Data	TBD	TBD : TBD	-	-		-		1.055	Mar 2023	-		1.055	0.000	1.055	-
Support Equipment	TBD	TBD : TBD	-	-		-		0.134	Mar 2023	-		0.134	0.000	0.134	-
Other	TBD	TBD : TBD	-	-		-		0.706	Mar 2023	-		0.706	0.000	0.706	-
		Subtotal	-	-		-		1.895		-		1.895	0.000	1.895	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		23.106		-		23.106	0.000	23.106	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

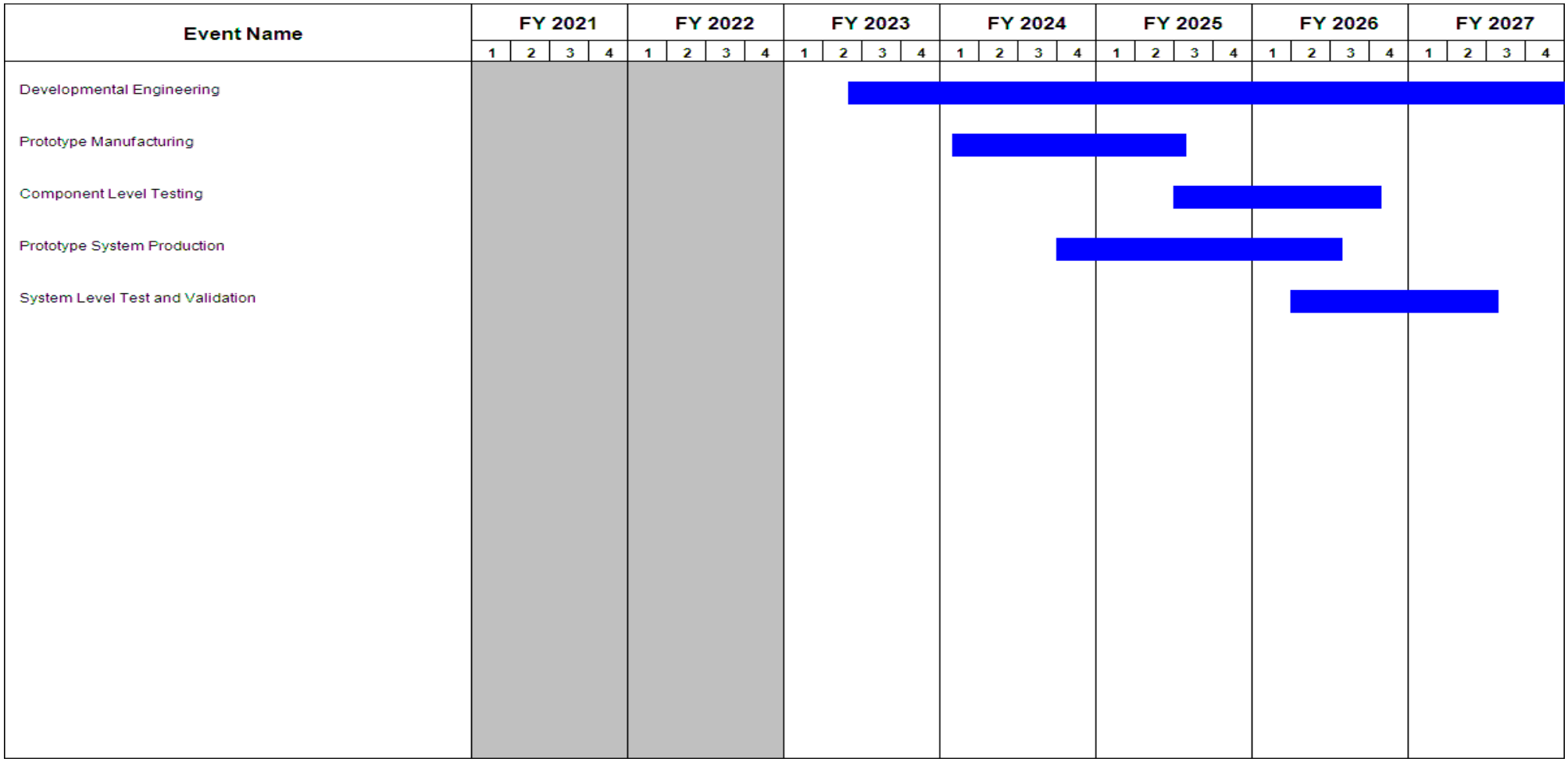


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** 516 / *Paladin/FAASV*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Developmental Engineering	2	2023	3	2028
Prototype Manufacturing	1	2024	3	2025
Component Level Testing	3	2025	4	2026
Prototype System Production	4	2024	3	2026
System Level Test and Validation	2	2026	3	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) HB6 / *Mobile 155MM Howitzer*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
HB6: *Mobile 155MM Howitzer*	-	36.187	25.000	-	-	-	-	-	-	-	0.000	61.187
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Project HB6 has no funding request for Fiscal Year (FY) 2023.

A. Mission Description and Budget Item Justification

Project HB6 supports the mobile howitzer program. The Mobile 155 millimeter (mm) Howitzer is a Self-Propelled, 155mm Wheeled Howitzer that provides lethal, proactive counter-fire essential for the survivability of the maneuver formations and other close support fires as required. The Mobile Howitzer improves the Field Artillery Battalion's ability to maintain pace with its supporting maneuver formations and survive against responsive, counter-fire from near-peer threats with rapid displacement and emplacement times. The mobile howitzer will improve tactical mobility and system survivability compared to existing towed howitzer systems. Development efforts, prototyping and evaluations will focus on attributes such as improved emplacement and displacement times, driving speed, and crew protection capabilities, all without sacrificing lethality versus existing and future towed howitzer systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Testing and Engineering Support ***Description:*** Live fire testing of Mobile Howitzer and associated engineering support.	8.802	-	-
Title: Bid Sample Test ***Description:*** Funding will support engineering and operational evaluation of Mobile Howitzer vendor systems against the Operational Needs Statement (ONS).	2.385	-	-
Accomplishments/Planned Programs Subtotals	11.187	-	-

	FY 2021	FY 2022
Congressional Add: Soft Recoil Development ***FY 2021 Accomplishments:*** Funds support the engineering and development of the soft recoil system. ***FY 2022 Plans:*** Funds support the development and testing of soft recoil systems for possible utilization in current and future artillery systems.	25.000	25.000
Congressional Adds Subtotals	25.000	25.000

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** HB6 / *Mobile 155MM Howitzer*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The acquisition strategy for the Mobile Howitzer Program is to evaluate existing industry prototypes and fielded systems and assess capability of mobility and survivability attributes. Evaluation will be conducted by US Army engineers and the Army Test and Evaluation Command.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604854A / *Artillery Systems - EMD*	Project (Number/Name) HB6 / *Mobile 155MM Howitzer*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Mobile Howitzer Analysis	MIPR	Combat Capability Development Command, Armaments Center : Picatinny Arsenal, NJ	2.972	-		-		-		-		-	0.000	2.972	-
Soft Recoil Development	TBD	PM Towed Artillery Systems : Picatinny Arsenal, NJ	-	25.000	Mar 2021	25.000	Mar 2022	-		-		-	0.000	50.000	-
		Subtotal	2.972	25.000		25.000		-		-		-	0.000	52.972	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Testing and Engineering Support	MIPR	Yuma Test Center / Combat Capability Development Command, Armaments Center : Yuma, AZ / Picatinny, NJ	-	8.802	Oct 2020	-		-		-		-	Continuing	Continuing	-
Bid Sample Test	MIPR	Yuma Test Center : Yuma, AZ	-	2.385	Jul 2021	-		-		-		-	0.000	2.385	-
105MM Mobile Howitzer Evaluation	SS/FFP	Army Contracting Command New Jersey : Various	10.000	-		-		-		-		-	0.000	10.000	-
		Subtotal	10.000	11.187		-		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.972	36.187		25.000		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** HB6 / *Mobile 155MM Howitzer*

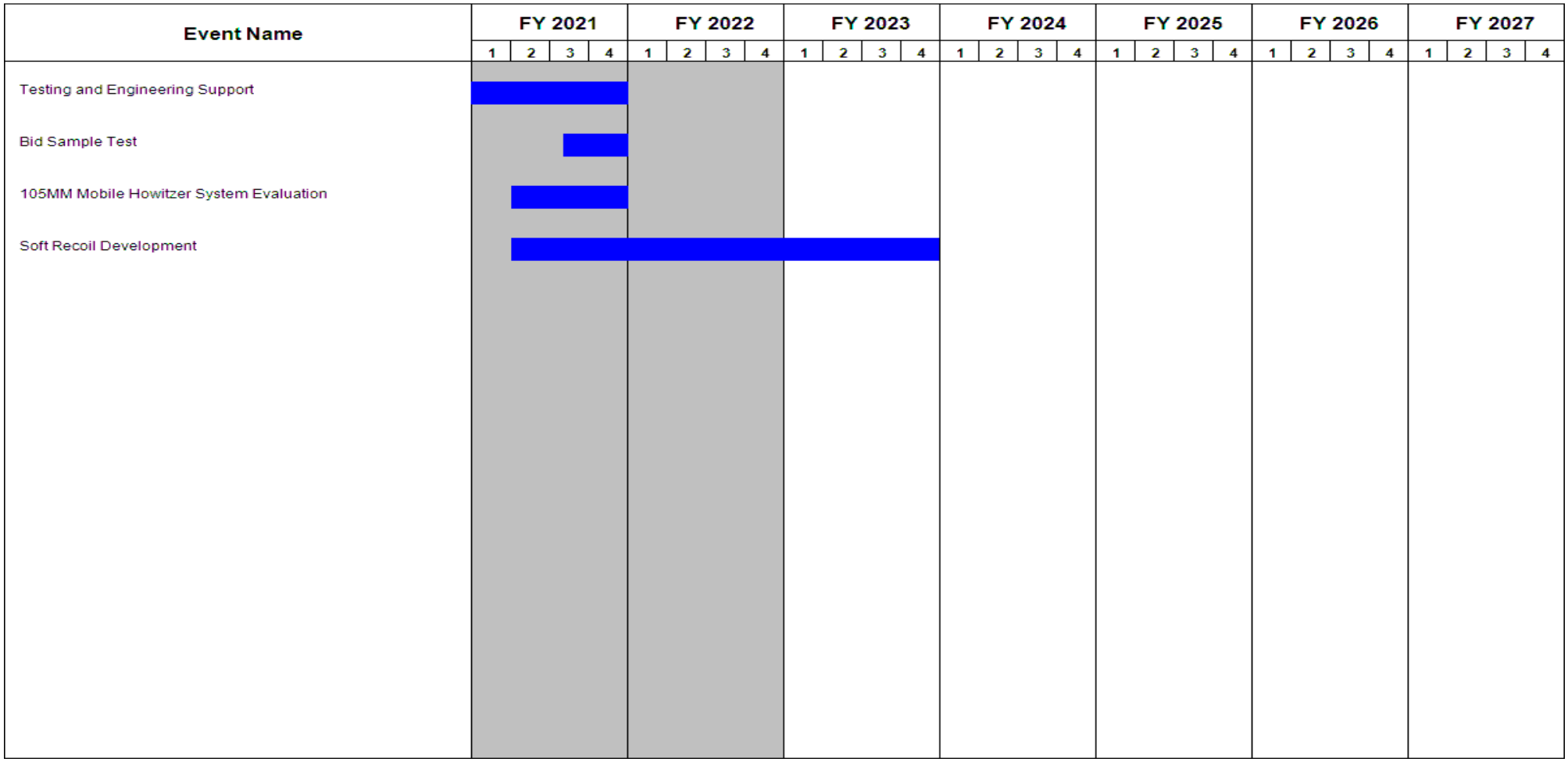


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0604854A / *Artillery Systems - EMD*	**Project (Number/Name)** HB6 / *Mobile 155MM Howitzer*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Mobile Howitzer Analysis	1	2020	3	2020
Testing and Engineering Support	3	2020	4	2021
Bid Sample Test	3	2021	4	2021
105MM Mobile Howitzer System Evaluation	2	2021	4	2021
Soft Recoil Development	2	2021	4	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605013A *I Information Technology Development*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	123.659	129.380	124.475	-	124.475	57.737	34.254	34.683	37.233	Continuing	Continuing
099: *Army Human Resource System*	-	0.346	0.197	15.132	-	15.132	0.628	0.332	0.313	-	0.000	16.948
184: *Installation Support Modules*	-	11.859	13.762	1.324	-	1.324	1.343	1.354	1.368	1.381	0.000	32.391
BY3: *Information Systems for Installations*	-	-	-	1.022	-	1.022	1.026	1.025	1.035	1.039	0.000	5.147
FL9: *Army Accessioning IT Development*	-	36.332	5.382	6.605	-	6.605	6.762	6.890	7.031	7.090	0.000	76.092
FM7: *Human Resouces Information Technology*	-	8.597	12.971	11.574	-	11.574	11.803	9.462	9.606	9.681	Continuing	Continuing
FM8: *Information Technology for Training Systems*	-	37.011	62.969	57.108	-	57.108	26.073	3.488	3.541	3.576	0.000	193.766
FM9: *Information Technology for Criminal Investigations*	-	1.190	1.226	1.273	-	1.273	1.280	1.291	1.305	1.318	0.000	8.883
T04: *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	-	8.997	9.087	2.221	-	2.221	2.229	2.227	2.228	4.825	0.000	31.814
T05: *Army Business System Modernization Initiatives*	-	16.286	20.606	24.875	-	24.875	3.206	4.767	4.802	4.836	0.000	79.378
VR3: *ASMIS-R (REPORTIT)*	-	3.041	3.180	3.341	-	3.341	3.387	3.418	3.454	3.487	0.000	23.308

A. Mission Description and Budget Item Justification

This Program Element is made up of over 30 programs across 10 Program Elements that represents numerous Army Information Technology missions.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	126.498	122.168	0.000	-	0.000
Current President's Budget	123.659	129.380	124.475	-	124.475
Total Adjustments	-2.839	7.212	124.475	-	124.475
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-5.153			
• Congressional Rescissions	-	-			
• Congressional Adds	-	12.500			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-2.839	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	124.475	-	124.475
• FFRDC Transfer	-	-0.135	-	-	-

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: 184: *Installation Support Modules*		
Congressional Add: *Program increase - installation access control technology*	10.500	4.500
Congressional Add: *Program Increase - Smart installation and community program*	-	8.000
Congressional Add Subtotals for Project: 184	10.500	12.500
Congressional Add Totals for all Projects	10.500	12.500

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*				Project (Number/Name) 099 / *Army Human Resource System*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
099: *Army Human Resource System*	-	0.346	0.197	15.132	-	15.132	0.628	0.332	0.313	-	0.000	16.948
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Human Resource System (099) contains the following programs: Go Army Education/Army IgnitED Modernization managed by the Human Resource Command, Commanders Risk Reduction Dashboard managed by Program Executive Office Enterprise Information Systems (PEO EIS) and Regional Level Applications Software (RLAS) managed by United States Army Reserves (USAR).

In support of recruiting and retention for a more educated workforce, GoArmyEd is the virtual financial management portal and decision-support tool for 1) AD, USAR and ARNG Soldiers to request Tuition Assistance (TA); 2) Cadets to request Scholarship payments and 3) Department of the Army (DA) Civilians and Apprentices to request professional development funds. GoArmyEd is an enterprise system that enforces eligibility for higher education funds and creates efficiencies with its automated processes. Soldiers, Scholarship Cadets, DA Civilians and Apprentices use it to pursue post-secondary educational goals and professional development objectives; Army Education Counselors use it to provide educational guidance; Career Program Managers and Training Managers use it to manage civilian training; and Academic Institutions use it to deliver degree and course offerings and to report user progress and degree completions for 206K Soldiers, Cadets and Civilians.

Army IgnitED is the 24/7 system that provides financial management oversight and workflow for Tuition Assistance (TA) and Credentialing Assistance (CA) Soldiers, Scholarship tuition for USACC and professional development funds for DA Civilians managed by Army Civilian Career Management Activity (ACCMA). FY23 funding will continue to build functionality within the ArmyIgnitED System for financial management and workflow of Tuition Assistance and Credentialing Assistance for Soldiers. Additionally, it supports the DA Civilians Professional Training and Cadet Command Scholarships Program.

Commanders Risk Reduction Dashboard (CRRD) has been transitioned to the Army Leader Dashboard (ALD). The program began with the identification of capability gaps arising out of the 2010 Red Book and 2012 Gold Book, two extensive studies directed by senior army leadership to examine suicide prevention (Red Book) and the Army's health and discipline (Gold Book). The studies illustrated that Commanders faced capability gaps in their ability to identify high risk behavior and risk factors, analyze soldier and unit risk, and identify risk trends and develop intervention strategies. CRRD provides Commanders at echelons Company through Major Army Command the ability to visualize and take preventive action to mitigate risk factors impacting their soldiers and formations by going to one dashboard and seeing data from multiple data sources.

The United States Army Reserve (USAR) utilizes the Regional Level Application Software (RLAS) as an enterprise system for duty attendance, military pay, Soldier records management and training calendar management to access, transact, store and manage Soldier and unit data required to conduct synchronized USAR operations. Unlike the Army Active Component (AC) where Soldier military pay is centrally managed and input at the installation level, the USAR utilizes RLAS to manage and input decentralized Soldier pay transactions at the unit level. RLAS consists of four modules: Pay, Personnel, Training, and Resource Management.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

Research and Development (R&D) authority and funding will provide RLAS with investment funds for necessary system development and system modifications. R&D funding amounts increase slightly towards the end of RLAS lifecycle (FY 2019 and 2020) in order to fully support the Integrated Pay and Personnel System - Army (IPPS-A) transition. Annually, USAR will provide sustainment funding. R&D authority and sustainment funding will meet the USAR Staff Judge Advocate (SJA) and Office of the Secretary of Defense Judge Advocate General (OTJAG) opinions regarding defense information Technology (IT) system for R&D activities. Necessary RLAS system development and system modifications include: 1) IPPS-A interface requirements; 2) implementing Microsoft .net Framework 4.5 standards; 3) implementing new Operating Systems (OS), system utilities and other technology products. Enhanced development and modification to RLAS will improve RLAS system capabilities and bring RLAS into compliance with various Army Cyber Command (ARCYBER) and audit readiness requirements. RLAS will continue to process duty attendance, military pay, Soldier personnel transactions and training calendars until the system is fully subsumed by IPPS-A.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: GoArmyEd / Army IgnitED	-	-	14.530

Description: Army IgnitED is an IT financial management portal and decision support tool for Soldiers, Cadets, and Civilians to request Tuition Assistance (TA) and Credentialing Assistance (CA), Scholarship Cadet payments and Army civilians to request training funds online, anytime, for classroom, distance learning, and college courses. Army IgnitED enforces policies, procedures and eligibility for over $492M of funds supporting Soldier and Scholarship Cadets' higher education goals and Civilians' and Apprentices' professional development. Army IgnitED's automated interfaces will reduce manpower and other costs while improving all users' interactions and enhancing security features. Funding will support continued modernization/automation of Army IgnitED's functionality utilizing the United States Airforce Automated Education Management System (AFAEMS) baseline and hosting in the USAF cloud. When the modernized system acquires all functionality, the legacy system will be deactivated. In support of recruiting and retention for a more educated workforce, Army IgnitED is the virtual financial management portal and decision-support tool for 1) AD, USAR and ARNG Soldiers to request Tuition Assistance (TA); 2) Cadets to request Scholarship payments and 3) Department of the Army (DA) Civilians and Apprentices to request professional development funds. Army IgnitED is an enterprise system that enforces eligibility for higher education funds and creates efficiencies with its automated processes. Soldiers, Scholarship Cadets, DA Civilians and Apprentices use it to pursue post-secondary educational goals and professional development objectives; Army Education Counselors use it to provide educational guidance; Career Program Managers and Training Managers use it to manage civilian training; and Academic Institutions use it to deliver degree and course offerings and to report user progress and degree completions for 206K Soldiers, Cadets and Civilians. Army IgnitED is an upgrade to the Army's legacy system GoArmyEd.

FY 2023 Plans:
Develop and improve Army IgnitED functionality to include: Tuition Assistance (TA) and Credentialing Assistance(CA), civilian and cadet payments. Will develop critical interfaces to legacy ERP systems.

FY 2022 to FY 2023 Increase/Decrease Statement:

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Increase from FY22 to FY23 is due to the Army Senior Leaders requesting that the Go Army Ed system be modernized with increase functionality and interfaces with existing ARMY Personnel and Financial systems.			
Title: Regional Level Application Software (RLAS) ***Description:*** The United States Army Reserve (USAR) utilizes the Regional Level Application Software (RLAS) as an enterprise system for duty attendance, military pay, Soldier records management and training calendar management to access, transact, store and manage Soldier and unit data required to conduct synchronized USAR operations. Unlike the Army Active Component (AC) where Soldier military pay is centrally managed and input at the installation level, the USAR utilizes RLAS to manage and input decentralized Soldier pay transactions at the unit level. RLAS consists of four modules: Pay, Personnel, Training, and Resource Management. R&D authority and funding will meet the USAR Staff Judge Advocate (SJA) and Office of the Secretary of Defense Judge Advocate General (OTJAG) opinions regarding defense information Technology (IT) system for R&D activities. Necessary RLAS system development and system modifications include: 1) Integrated Pay and Personnel System ? Army (IPPS-A) interface requirements; 2) implementing Microsoft .net Framework 4.5 standards; 3) implementing new Operating Systems (OS), system utilities and other technology products. Enhanced development and modification will improve RLAS system capabilities and bring RLAS into compliance with various Army Cyber Command (ARCYBER) and audit readiness requirements. ***FY 2022 Plans:*** Implement enhanced audit logging processes. Develop and refine open source code solutions. Refine system user security controls. Complete full system transition to cloud platform hosting environment. Develop and implement IPPS-A R3.x compatible data interface, data transfer, and data processing solutions. Develop, test, and evaluate IPPS-A R4 source code changes for data interface and data transfer. SIBR/STTR Transfer as requested. ***FY 2023 Plans:*** Funding provides for continued development of enhanced audit logging processes, open source code solutions and system user security controls. Funding also provides for continued system transition to cloud platform hosting environment. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** RLAS has a RDTE cost increase from $197K in FY22 to $602K in FY23 due to RLAS system changes necessary to maintain data and functional integration with IPPS-A R3, R3.x (multiple IPPSA changes), preparation for IPPSA R4 and IPPSA R4.x, DAG6/CIO Cyber requirements, and RLAS system user changes. Significant increase in development requirements.	0.346	0.190	0.602
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** FY22 SBIR/STTR Transfer ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	0.007	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY22 SBIR/STTR Transfer			
Accomplishments/Planned Programs Subtotals	0.346	0.197	15.132

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

GoArmyEd - The program manager makes extensive use of Integrated Product Teams (IPTs). Sub-elements of the acquisition (engineering and design, logistics planning, testing, etc.) are intensively managed by integrated teams of government and contractor personnel. Task performance is tracked against the Work Breakdown Structure (WBS) and resources allocated to each task are adjusted based on performance against the WBS. GoArmyEd contractual efforts are acquired on a firm fixed price basis on existing contractual vehicles.

Army IgnitED - The Program Manager will utilize a Firm Fixed Price Development Contract. The overarching acquisition strategy is to deliver eight (8) critical capabilities based on priorities in FY23. These are: 1) IPSS-A Interface; 2) Army Personnel Tests; 3) Grade Reporting; 4) Graduation Reporting; 5) On Duty Course Management; 6) Graduation Notification; 7) GPC Payments; and 8) GFEBS Interface. In total, the investment is to ensure system interface with our current personnel system to enforce eligibility for all COMPOs and the automation of grades and graduations reporting processes from Educational Institutions to ensure financial accountability and auditability.

RLAS - Will utilize GSA contract support to solicit FY 2020/2021 two-year software support & development contract - hybrid Firm Fixed Price & Time and Materials. RLAS will utilize GSA contract support to solicit FY 2021/2022/2023 three-year software support & development contract - hybrid Firm Fixed Price & Time and materials. RLAS will utilize existing USAR G6 hardware / servers / virtual environment / Active Directory / level 1-2 help desk / utility software / OS / DB / and other necessary hardware and devices as needed to operate the RLAS system.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 099 / *Army Human Resource System*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development	C/FFP	Acquisition Contract Center : Rock Island, Il	1.519	-		-		-		-		-	0.000	1.519	-
GoArmyEd Modernization/ Army IgnitED	TBD	IBM : Various	0.591	-		-		-		-		-	0.000	0.591	-
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	9.259	-		-		-		-		-	0.000	9.259	-
FY 2022 SBIR / STTR Transfer	TBD	TBD : TBD	0.079	-		0.007		-		-		-	0.000	0.086	-
		Subtotal	11.448	-		0.007		-		-		-	0.000	11.455	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AHRS - ECPs/SCPs/ICPs/ RLAS	C/FFP	Hewlitt Packard : various	90.183	0.346		0.190		0.602		-		0.602	0.000	91.321	-
AHRS - Software Development	C/FFP	Hewlitt Packard : various	51.723	-		-		-		-		-	0.000	51.723	-
GoArmyEd Modernization/ Army IgnitED	C/FFP	TBD : Various	17.800	-		-		14.530		-		14.530	0.000	32.330	-
CRRD/AIE - PMSS	C/FFP	Various : Various	10.093	-		-		-		-		-	0.000	10.093	-
		Subtotal	169.799	0.346		0.190		15.132		-		15.132	0.000	185.467	N/A

Remarks

CRRD is developed Government to Government by the Army Analytics and Visualization Lab at Redstone Arsenal via competitively awarded development contracts.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	181.247	0.346		0.197		15.132		-		15.132	0.000	196.922	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

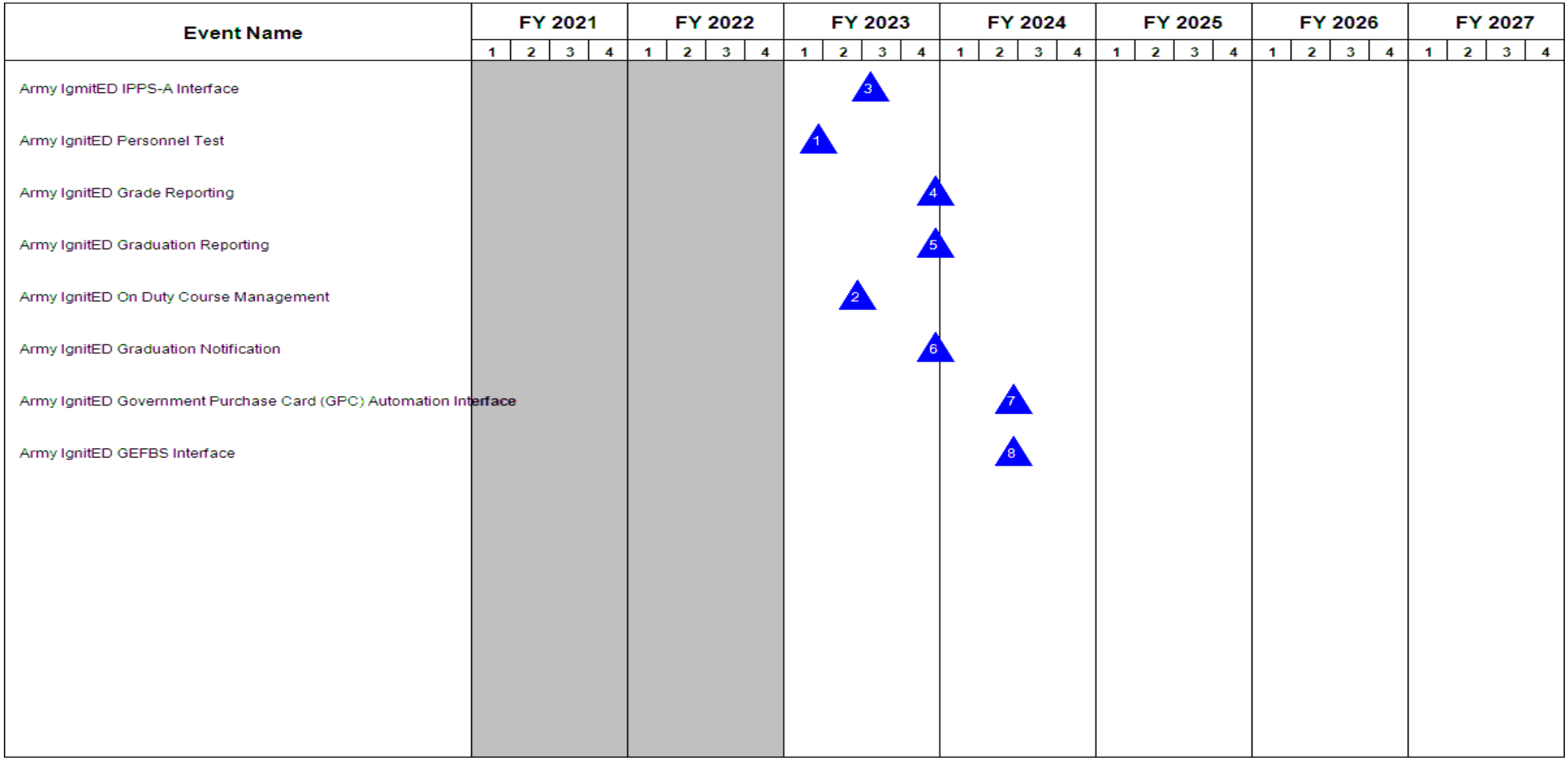


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 099 / *Army Human Resource System*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
GoArmyEd Support/Enhancements	3	2018	4	2020
Commanders Risk Reduction Dashboard (CRRD) Limited Deployment (LD)	4	2019	4	2019
Commanders Risk Reduction Dashboard (CRRD) Full Deployment (FD)	1	2020	1	2020
Commanders Risk Reduction Dashboard (CRRD) Development	3	2015	2	2020
Commanders Risk Reduction Dashboard (CRRD) - Transition to Army Leader Dashboard	2	2020	3	2020
Army IgmitED IPPS-A Interface	3	2023	3	2023
Army IgnitED Personnel Test	1	2023	1	2023
Army IgnitED Grade Reporting	4	2023	4	2023
Army IgnitED Graduation Reporting	4	2023	4	2023
Army IgnitED On Duty Course Management	2	2023	2	2023
Army IgnitED Graduation Notification	4	2023	4	2023
Army IgnitED Government Purchase Card (GPC) Automation Interface	2	2024	2	2024
Army IgnitED GEFBS Interface	2	2024	2	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 184 / *Installation Support Modules*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
184: *Installation Support Modules*	-	11.859	13.762	1.324	-	1.324	1.343	1.354	1.368	1.381	0.000	32.391
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

U.S. Army Coalition Interoperability Assurance and Validation (CIAV) Research Network provides an enduring and agile capability to execute approved processes and provide and maintain a repeatable and persistent infrastructure within the assurance and validation Coalition partner environment designed to ensure the succinct exchange of critical mission data between Mission Partners throughout all phases of military operations and enable the Army's implementation of Mission Partner Environment (MPE) and Combined-Joint All Domain Command and Control. CIAV uses a mission-based interoperability approach to identify capabilities, limitations and associated operational impacts and provides recommendations to improve or resolve information exchange issues between the U.S. Army and its mission partners. Funding facilitates coalition interoperability information exchange issue in compliance with AR 34-1 Multinational Force Interoperability and DODI 8110.01, Mission Partner Environment (MPE) Information Sharing Capability Implementation for the DOD.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Army Behavioral Health Integrated Data Environment	1.359	1.216	1.324
Description: Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. ***FY 2022 Plans:*** Army Behavioral Health Integrated Data Environment (ABHIDE) will be the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) Suicide Registry. Data relating to suicides and suicides attempts are collected and stored in a in disparate, non-related databases that cross the domains of medical, personnel and law enforcement. ABHIDE will provide the capability of integrating the non-related and dispersed data from the separate sources into a single comprehensive database to support both retrospective and predictive analysis. The information obtained will be used to conduct epidemiological surveillance, identify trends in behavior patterns and identify potential indicators for suicidal tendencies supporting the mitigation of future suicide attempts across all phases of Army service. ***FY 2023 Plans:*** FY23 RDTE funding continues support of the Army Behavioral Integrated Data Environment (ABHIDE) registry Database and support the Independent Verification and Validation analysis. ***FY 2022 to FY 2023 Increase/Decrease Statement:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Increase of funding from FY22 to FY23 is due to standard cost inflation.			
Title: FY22 SBIR/STTR Adjustments	-	0.046	-
FY 2022 Plans: FY22 SBIR/STTR Transfer			
FY 2022 to FY 2023 Increase/Decrease Statement: FY22 SBIR/STTR Transfer			
Accomplishments/Planned Programs Subtotals	1.359	1.262	1.324

	FY 2021	FY 2022
Congressional Add: Program increase - installation access control technology	10.500	4.500
FY 2021 Accomplishments: Funding will support the CIAV capability in support of DoD, Joint Staff, and one of the CSA?s top priorities in alignment with the National Defense and Army Strategies (Strengthen Access, Presence, & Influence w/ Allies & Partners). The CIAV capability assesses and evaluates Mission Partner and Multi-lateral exercises; new solutions to inform modernization enabling the Mission Partner Environment (MPE) framework and postures the Army for C-JADC2 while combining Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities or Policy-based (DOTMLPF-P) gaps within a coalition or a MPE. ***FY 2022 Plans:*** FY2022 Congressional Add for Installation Access Control Technology		
Congressional Add: Program Increase - Smart installation and community program	-	8.000
FY 2022 Plans: FY2022 Congressional Add for Smart Installation and Community Program		
Congressional Adds Subtotals	10.500	12.500

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• BE4162: *MACOM AUTOMATION SYSTEMS*	63.648	49.794	46.433	-	46.433	32.299	41.290	41.391	41.717	Continuing	Continuing

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

D. Acquisition Strategy

Installation Support Modules is in Post Deployment Software Support (PDSS). The present concept calls for the use of full and open competition to implement enhancements as defined by the Functional Proponent, Army Chief Information Officer (CIO). Current emphasis is to bring the ISM systems to functional readiness for transfer to an Army Data Center and virtualize the ISM systems.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 184 / *Installation Support Modules*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY22 SBIR/STTR Adjustments	TBD	TBD : TBD	-	-		0.046		-		-		-	0.000	0.046	-
		Subtotal	-	-		0.046		-		-		-	0.000	0.046	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Army Behavioral Health Integrated Data Environment	C/FFP	various : various	10.593	1.359	Feb 2021	1.216	Feb 2022	-		-		-	Continuing	Continuing	-
Program increase - installation access control technology	TBD	TBD : TBD	-	-		4.500		-		-		-	0.000	4.500	-
Program Increase - Smart installation and community program	TBD	TBD : TBD	-	-		8.000		-		-		-	0.000	8.000	-
		Subtotal	10.593	1.359		13.716		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Independent Verification and Validation (IVV) Testing	C/T&M	GDIT Corp : various	2.111	10.500		-		1.324		-		1.324	0.000	13.935	-
		Subtotal	2.111	10.500		-		1.324		-		1.324	0.000	13.935	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	12.704	11.859		13.762		1.324		-		1.324	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) 184 / *Installation Support Modules*	

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
ISM Post Deployment Software Support																												

	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
ISM Post Deployment Software Support																												

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** 184 / *Installation Support Modules*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ISM Post Deployment Software Support	4	2003	4	2017

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) BY3 / *Information Systems for Installations*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
BY3: *Information Systems for Installations*	-	-	-	1.022	-	1.022	1.026	1.025	1.035	1.039	0.000	5.147
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

In Fiscal Year 2023 this effort is realigned from Program Element (PE) 0605013A Information Technology Development, Project T05 Army Business System Modernization Initiatives.

A. Mission Description and Budget Item Justification

The Virtual Testbed for Installation Mission Effectiveness (VTIME) is the Army's planned installation common operating picture, analysis, visualization and planning tool, serving as an integrating and processing hub for numerous Army Installations of the Future (IotF) technologies, supporting users across echelons. VTIME will support the Army installation enterprise with a near real-time common operating picture of data spanning functional areas and offer a modern analytic platform to support Army implementation of the Army Installations Strategy, Army Data Strategy, and Army Business Management Plan. VTIME is a cloud-based solution, being planned and prototyped to adapt and use a combination of commercially available technologies to comprehensively integrate and understand diverse installation data sources. VTIME will provide a novel capability to apply artificial intelligence and machine learning to improve strategic, operational, and tactical installation decision-making, spanning functions such as facility investment planning, space and land assignment, master planning, and Garrison operations. VTIME is being designed to support hybrid-cloud implementations, to offer installations the ability to support operations under network-contested conditions. This integrated and comprehensive tool will allow the senior commander to both maneuver in a complex battlespace by providing the ability to prevent, protect and recover from hazards and enable cost saving through improved decision-making and operational efficiencies, supporting future integrations of emerging IotF technology.

Work is performed by the United States (U.S.) Army Engineer Research and Development Center.
Work in this Project is related to, and fully coordinated with, PE 0605013A (Information Technology Development) and Project T05 (Army Business System Modernization Initiatives).

Work in this Project supports the Army Installations Strategy as a critical enabler (data analytics) for modernization.

Work in this Project complements the Office of the Assistant Secretary of the Army (Installations, Energy & Environment)'s Installations of the Future Program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Installation Data Source Integration	-	-	0.918
Description: This effort serves as the foundation for VTIME analytic, planning and visualization capabilities; this effort identifies, catalogs, acquires, and establishes agreements and protocols for integration of diverse installation enterprise data sources			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** BY3 / *Information Systems for Installations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
spanning functional areas and echelons. This includes potentially dozens of data sources and programs, including many datasets that lack modern data interfaces. ***FY 2023 Plans:*** FY23 RDTE funding will continue data alignment, transformation, and load activities for near real-time and real-time installation data sources; will adopt standards for user-provided datasets and implement automation support to incorporate into the common operating picture (COP); and will deploy preliminary ?Crawl? VTIME data integration implementation. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding in this effort increased in Fiscal Year 2023 because the effort will be realigned from Program Element (PE) 0605013A Information Technology Development, Project T05 Army Business System Modernization Initiatives.			
Title: Requirements Definition ***Description:*** This effort focuses on establishing and documenting formal capability requirements, developing use-cases and implementation architecture for VTIME, and performance measures, in coordination with the other efforts. ***FY 2023 Plans:*** FY23 RDTE funding will provide continued stakeholder engagements and complete functional requirement definition and update acquisition plans. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding in this effort increased in Fiscal Year 2023 because the effort will be realigned from Program Element (PE) 0605013A Information Technology Development, Project T05 Army Business System Modernization Initiatives.	-	-	0.104
Accomplishments/Planned Programs Subtotals	-	-	1.022

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) BY3 / *Information Systems for Installations*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Data alignment and transformation	TBD	ERDC-CERL : Champaign Illinois	-	-		-		0.400	Oct 2022	-		0.400	0.000	0.400	-
		Subtotal	-	-		-		0.400		-		0.400	0.000	0.400	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Adopt dataset standards	TBD	ERDC-CERL : Champaign Illinois	-	-		-		0.326	Oct 2022	-		0.326	0.000	0.326	-
		Subtotal	-	-		-		0.326		-		0.326	0.000	0.326	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Stakeholder engagements	TBD	ERDC-CERL : Champaign Illinois	-	-		-		0.025	Oct 2022	-		0.025	0.000	0.025	-
Complete functional requirement definition & update acquisition plans	TBD	ERDC-CERL : Champaign Illinois	-	-		-		0.111	Oct 2022	-		0.111	0.000	0.111	-
		Subtotal	-	-		-		0.136		-		0.136	0.000	0.136	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Deploy data integration implementation	TBD	ERDC-CERL : Champaign Illinois	-	-		-		0.160	Oct 2022	-		0.160	0.000	0.160	-
		Subtotal	-	-		-		0.160		-		0.160	0.000	0.160	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) BY3 / *Information Systems for Installations*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		1.022		-		1.022	0.000	1.022	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** BY3 / *Information Systems for Installations*

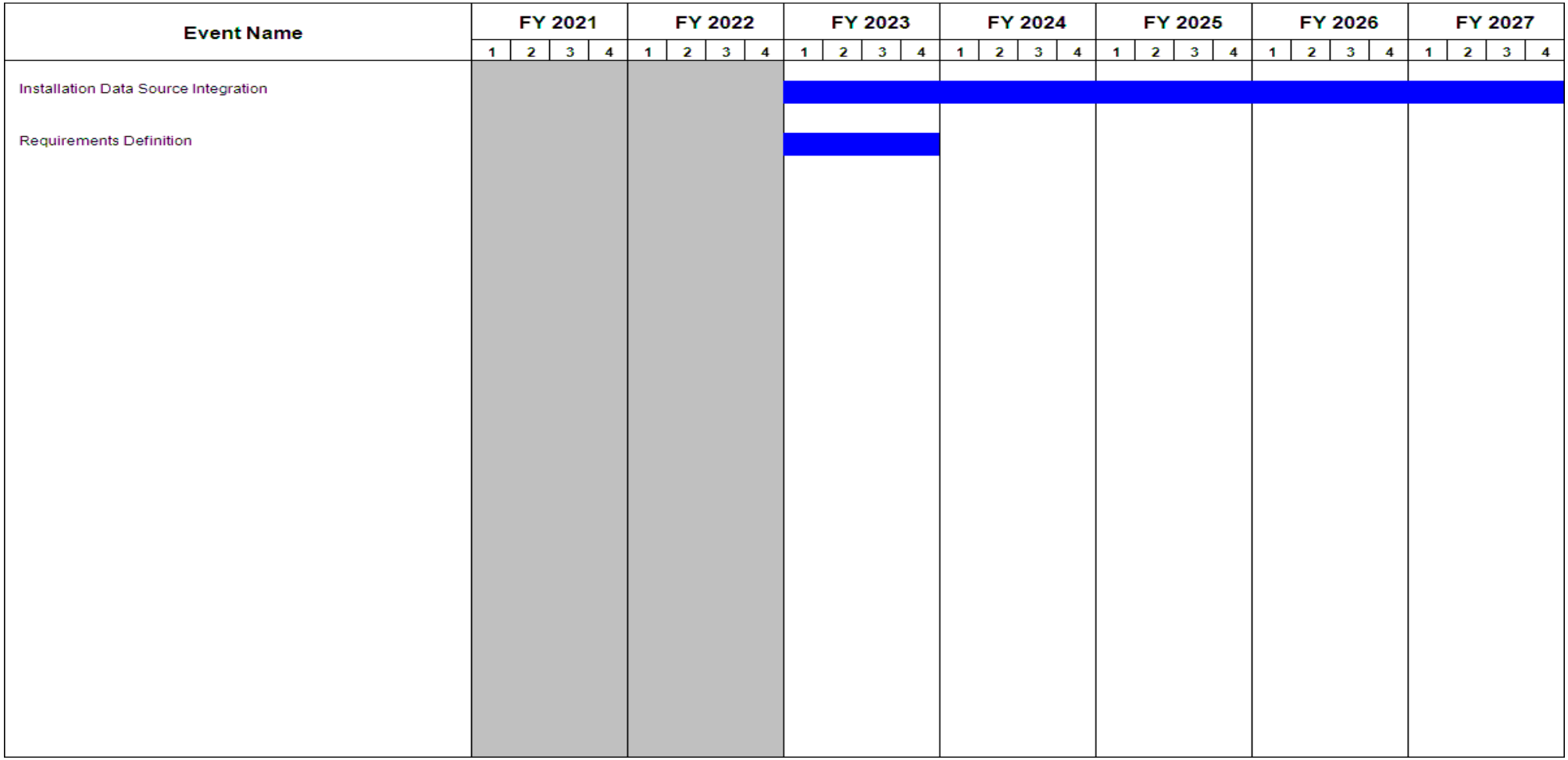


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** BY3 / *Information Systems for Installations*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Installation Data Source Integration	1	2023	4	2027
Requirements Definition	1	2023	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FL9 / *Army Accessioning IT Development*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FL9: *Army Accessioning IT Development*	-	36.332	5.382	6.605	-	6.605	6.762	6.890	7.031	7.090	0.000	76.092
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Accessions Information Environment (AIE): In FY22, the AIE mission transitioned to RDTE PE 0605233A.

HRC Accessioning IT: Additionally, this program supports the development requirements for the US Army Human Resources Command (USAHRC) which provides the IT solutions and automation support necessary to accomplish the Army's Accessioning mission. The AIE acquisition program utilizes the DoD 500.75 business Capability Acquisition Cycle (BCAC) currently in the Requirements and Acquisition Planning Phase.

Army Suicide Prevention: This Program Element (PE) develops a pre-entry or entry assessment package that enhances the Soldier Lifecycle (e.g., selection, assignment, training, leader development). This PE enhances the Army's ability to identify individuals with a higher likelihood of having already experienced, or of potentially experiencing, sub- clinical behavioral issues, as well as to identify character strengths (e.g., resilience, grit), to ensure that the Army can meet mission requirements in the current and future operating environments. Research in this PE will result in more precise determinations of individual potential for future successful service, and more targeted identification of need for individual assistance (e.g., intervention, training, behavioral health) to increase likelihood of future success.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Accessions Information Environment (AIE) ***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.	32.411	-	-
Title: HRC Accessioning IT ***Description:*** Description: Funding supports the development requirements for the US Army Human Resources Command (USAHRC) which provides the IT solution and automation support necessary to accomplish the Army's Accessioning mission. The AIE acquisition program utilizes the DoD 5000.75 Business Capability Acquisition Cycle (BCAC) currently in the Requirements and Acquisition Planning Phase. ***FY 2022 Plans:***	2.919	3.153	4.240

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FL9 / *Army Accessioning IT Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Program funding for AIE in FY22 and beyond has transitioned to PE 0605233A; Project Number CP8. FY 2022 funds support the Army's accessioning mission to include the legacy cloud system capabilities for Army Recruiting Information Support System (ARISS) and successful implementation of AIE. Efforts are ongoing for Cloud migration/modernization and AIE technical analysis and documentation to support the accessioning mission. $3,802M projected award to the contract for Jan 2022. FY 2022 SBIR/ STIR column of the FY 22 RAP is non-zero. ***FY 2023 Plans:*** Program funding for AIE in FY22 and beyond has transitioned to PE 0605233A; Project Number CP8. FY 2023 funds support the Army's accessioning mission to include the legacy cloud system capabilities for Army Recruiting Information Support System (ARISS) and successful implementation of AIE. Efforts are ongoing for Cloud migration/modernization and AIE technical analysis and documentation to support the accessioning mission. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** AIM efforts required additional funding in support of AIE slippage. Additional funding is required to maintain legacy systems until AIE consumption and cArmy cloud migration efforts are completed.			
Title: Army Suicide Prevention	1.002	2.030	2.365
Description: This Program Element (PE) develops a pre-entry or entry assessment package that enhances the Soldier Lifecycle (e.g., selection, assignment, training, leader development). This PE enhances the Army?s ability to identify individuals with a higher likelihood of having already experienced, or of potentially experiencing, sub-clinical behavioral issues, as well as to identify character strengths (e.g., resilience, grit), to ensure that the Army can meet mission requirements in the current and future operating environments. Research in this PE will result in more precise determinations of individual potential for future successful service, and more targeted identification of need for individual assistance (e.g., intervention, training, behavioral health) to increase likelihood of future success. Work in this PE is performed by the U.S. Army Resiliency Directorate in Arlington, VA. ***FY 2022 Plans:*** This effort develops a pre-entry or entry assessment package, identifying risk of sub-clinical behavioral issues and identifying character strengths, to enhance the Soldier Lifecycle (e.g., selection, assignment, training, leader development). FY 2022 funding will support validation assessment of the instruments. ***FY 2023 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FL9 / *Army Accessioning IT Development*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2023 funds will support the continued assessment of sub-clinical behavioral issues and the identification of cross-cutting risk and protective factors and preventive approaches for harmful behaviors. Efforts are ongoing for Cloud migration/modernization of data and analytical tools. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increased prevention efforts require additional funding to support studies and research.			
Title: FY22 SIBR/STTR Adjustments ***FY 2022 Plans:*** FY22 SIBR/STTR Adjustments ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SIBR/STTR Adjustments	-	0.199	-
Accomplishments/Planned Programs Subtotals	36.332	5.382	6.605

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• BE4164: *PERSONNEL AUTOMATION SYSTEMS*	41.030	43.229	23.015	-	23.015	25.637	42.688	46.378	26.877	Continuing	Continuing
• OMA - AIE - OMA/331715000: *Sustainment Support & CivPay*	5.443	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Remarks

Note, the (OPA) (BD3000/BE4164) line listed above includes AIE specific [FY20: $19,878K, FY21: $29,791K] to fund support fielding efforts, Commercial off the Shelf (COTS) Software Licenses, and Training. In more detail, FY22 and beyond rests within the new (OPA) (B45000/B45015).

D. Acquisition Strategy

Army Suicide Prevention:

The Army Suicide Prevention Pilot is an ongoing study on the efficacy of Resilience and Mindfulness training throughout the Army from Accessioning through IET to home station across an initial six Brigade Combat Teams, US Army Reserve units in the Joint Base San Antonio Area, and the South Carolina National Guard by using the BH Pulse tool, the Global Assessment Tool (GAT), and the efficacy of Resilience and Mindfulness training to baseline the Resilience of the unit. Data from the surveys will be used to tailor specific Resilience training on mitigating strategies to combat behaviors and risk contributing to Suicide.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FL9 / *Army Accessioning IT Development*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AIE - Management Services	C/FFP	Chenega Decision Services : Lorton, VA	7.319	3.223	Jun 2021	-		-		-		-	0.000	10.542	7.288
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	0.089	-		-		-		-		-	0.000	0.089	-
FY 2022 SBIR/STIR Transfer	TBD	Various : Various	-	-		0.199		-		-		-	0.000	0.199	-
		Subtotal	7.408	3.223		0.199		-		-		-	0.000	10.830	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AIE - COTS Based Solution Configuration and Development	C/FFP	Booz Allen Hamilton : Herdon, VA	19.878	18.059	Apr 2021	-		-		-		-	0.000	37.937	69.826
AIE - System Partner Interface Development	TBD	TBD : TBD	0.572	8.784	Apr 2021	-		-		-		-	0.000	9.356	25.604
Army Suicide Prevention	TBD	TBD : TBD	1.783	1.003		2.030	Feb 2022	2.365	Feb 2023	-		2.365	Continuing	Continuing	Continuing
ARISS	C/CPFF	SAIC : Reston, VA	-	2.919	Jan 2021	3.153	Jan 2022	4.240		-		4.240	0.000	10.312	3.861
		Subtotal	22.233	30.765		5.183		6.605		-		6.605	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AIE - Cybersecurity - RMF, FedRAMP, ATO (IA/RMF Support)	TBD	TBD : TBD	0.050	1.744	Oct 2020	-		-		-		-	0.000	1.794	5.307
		Subtotal	0.050	1.744		-		-		-		-	0.000	1.794	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FL9 / *Army Accessioning IT Development*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
AIE - Testing, Operational and Developmental Support (ATEC/JITC)	TBD	ATEC/JITC : Various	0.301	0.600	Jan 2021	-		-		-		-	0.000	0.901	15.929
		Subtotal	0.301	0.600		-		-		-		-	0.000	0.901	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	29.992	36.332		5.382		6.605		-		6.605	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FL9 / *Army Accessioning IT Development*

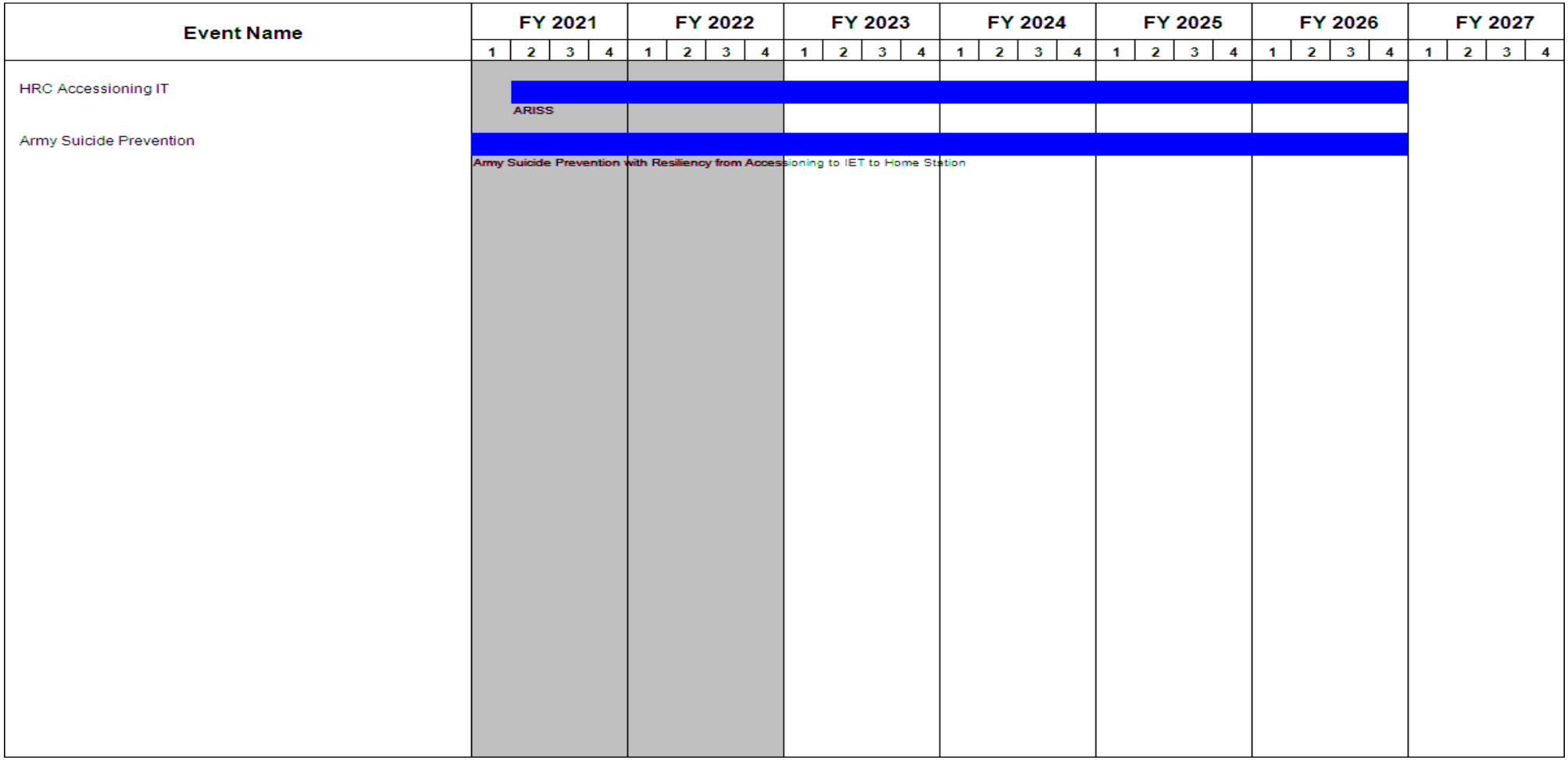


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FL9 / *Army Accessioning IT Development*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HRC Accessioning IT	2	2021	4	2026
Army Suicide Prevention	3	2020	4	2026

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM7 / *Human Resouces Information Technology*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FM7: *Human Resouces Information Technology*	-	8.597	12.971	11.574	-	11.574	11.803	9.462	9.606	9.681	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The efforts under this project support the Army's Human Resources Information Technology needs.

TRANSITION ASSISTANCE PROGRAM XXI (TAP XXI): The Transition Assistance Program XXI (TAP-XXI) application provides an interactive, multimedia approach to pre-separation counseling and job assistance training. This application uses full motion video, graphics, and sound to train clients; and schedules clients for classroom-type instruction. It integrates a complete range of transition services and benefits for service members, Department of Defense civilian employees, and their family members as they transition from the military. TAP-XXI is a web-based, three-tiered application with a centralized database for all Transition sites. The user interface is browser-based, the application is based on a storefront intranet model to provide access from within Transition centers. The user interface is browser-based, the application is based on a storefront intranet model to provide access from within Transition centers. The application also allows for access outside of Transition centers to support mobilizing and de-mobilizing during Yellow Ribbon Program events or delivery of services at home station. There is no application processing on the desktops located at Transition Centers. TAP-XXI application suite consists of the following subsystems: Transition Assistance Program - Support (TAP-Support), Transition Assistance Program -Online (TAP-Online) and TAP Virtual (Immersive Terf). The infrastructure modernization will provide system stability, support expansion requirements, and ensure reliable customer support.

Human Resource Command (HRC) Core IT: This program supports efforts to plan, design, develop, and test Information Technology (IT) solutions to fulfill the Army's Warfighter Support Mission, accommodate emerging Army requirements, and fulfill Future Army needs. Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/health protection, and the sustaining base. The focus of the rationalization effort is to identify value-added applications capable of serving a broader Army enterprise audience and garnering efficiencies through the elimination of outdated, legacy, and duplicative applications. Applications are upgraded or enhanced to meet compliance with Army Common Operating Environment standards in accordance with Army Application Management Business Office (AAMBO). Additionally, program supports enhancements and modifications to the Interactive Personnel Electronic Records Management System (iPERMS) and iPERMS-Secure (iPERMS-S), as well as development of interfaces based upon emerging requirements, Cybersecurity, functionality and compliance with Army standards.

R-Builder is a living application database system that allows the Manning Program Evaluation Group (MM PEG) to update the database to include various cost drivers and factors used for programming, budgeting for all Army Service members pay, allowances, and benefits for the all-volunteer Army. R-Builder is used to develop the annual Program Objective Memorandum -Budget Estimate Submission (POM-BES), and to develop and manage the Army's military and civilian personnel in order to execute the President's National Security Strategy.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

The Army Review Board Agency (ARBA) operates under the delegated authority of the Secretary of the Army as the final level of appeal for service members in uniform, veterans, and their family members, adjudicating tens of thousands of claimed errors or injustices annually. ARBA is staffed with 128 military personnel, civilians, and contractors, and additional 350 external Advisors and Boards Members. ARBA struggles with the substantial process and system-related inefficiencies. The Agency currently uses the ARBA Case Tracking System (ACTS) to facilitate case adjudication and the routing of corresponding hard copy case files (a.k.a. "redwelds"). This system was custom built in 1999, strictly for tracking the hand offs of redwelds. At its inception, ACTS was a huge leap forward; however, as the organization and technology evolved, the system has not been able to meet new Agency mission objectives and streamlining initiatives. This antiquated system costs the Agency multi-millions in annual sustainment fees and lacks the agility to address changing business requirements and organizational roles.

Army SHARP Data Management System (DMS) Integrated Case Reporting System (ICRS) enhancements will provide stabilization for sexual harassment (SH) data collection, reporting requirements, and analytic processes; ICRS maintains Army sexual assault (SA) legacy data collected prior to 2014 in the Sexual Assault Data Management System (SADMS) IAW public law.

ARIMS is the Army's policy and enterprise system deployed to meet statutory (36 CFR) and regulatory (AR 25-1, AR 25-400-2) requirements to manage records that document the policies, decisions, and actions of the Army both as a military department and federal institution. ARIMS supports approximately 58,000 (FY 2022) registered users with tools and capabilities to collect and preserve Army records, serves as the records management component of the Army Electronic Archives (AEA), and the Secretary of the Army has mandated its use to collect and preserve Army records. ARIMS is in production on the SIPRNet with ARIMS-Classified (ARIMS-C) to provide similar capabilities for the collection and preservation of the Army's classified records. ARIMS is an integrated system that supports the SecArmy objective to integrate management systems for the Army's records management programs and business operations. This line item funds for system, network, and application sustainment for the ARIMS and ARIMS-C infrastructure. Technology changes, integration, and systems migration require contractor support to ensure the AEA continues to preserve essential electronic records. These activities support the ARIMS applications and comply with the SecArmy and Senior Army leadership to integrate and standardize management systems for business operations. Failure to fund will result in the loss of expertise and in extensive down time in the event of any hardware or software failure in the ARIMS infrastructure. ARIMS downtime precludes the collection and preservation of the Army long-term important records (such as past Contingency Operations (CONOPS) records). As a web-based and customized GOTS system, ARIMS is dependent on private industry expertise to conduct troubleshooting and correction of any application or operating system component that is the foundation of the ARIMS and ARIMS-C systems. These skill sets are not maintained by government staff and must, by DoD directive (C3I), be acquired from the private sector.

Family Advocacy System of Records (FASOR) is the information system used by the Army to manage child and adult based abuse incidents referred by the Family Advocacy Program (FAP). FASOR is used to capture/perform incident case management and allows for standardization of reviews and incident determinations. FASOR is a key system used in FAP Army Central Registry (ACR) background checks when determining suitability of individuals to be placed into "positions of trust". Finally, FASOR facilitates reporting and data analysis in support of internal, Army, DoD, FOIA and Congressional requirements.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: ARIMS	0.429	1.025	2.174
Description: This funds contractor man-years for technical and analytical expertise in the integration and validation of operational databases used to store and research combat records from combat operations in Korea, Vietnam, Somalia, Panama, Persian			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Gulf, Afghanistan, Iraq, and other contingency operations. The effort supports over 30 distinct and unique operational databases that directly support research into Veteran claims for Post-Traumatic Stress Disorder, Agent Orange, and other medical conditions developed by Soldiers during combat and non-combat operations. Supports the Army's Data Center Consolidation by turning data base structure to be more efficient and reduce maintenance support costs. Increased Congressional inquiries and litigation have raised leadership awareness of the need to improve records management compliance Army-wide. SecArmy directed workgroup, led by the AASA, with participation by the CIO/G-6, NETCOM, OGC, and OCLL is to provide a comprehensive solution for the Army and integrate and standardize management systems for the Army's business operations. Enhancing and modernizing of existing ARIMS functionality and capability to support the SecArmy initiative includes updating ARIMS to support current technology such as Microsoft SharePoint environment, expanding storage capability, including network storage , and commensurate expansion of backup, security and communications capabilities over CONUS and OCONUS networks. ***FY 2022 Plans:*** This line item funds contractor man-year for Middleware Software Engineering for the programming and integration of linkages between ARIMS, Army Information Systems and NARA?s Gateway, that generate or store long-term important records as part of functional business processes. Failure to fund at the requested level will preclude the efficient, effective, and transparent capture and preservation of important Army records generated by Army Information Systems. Without this capability, Army Information System managers will be required to manually extract and index records for submission and preservation in the ARIMS system. This effort supports the ADCCP program to ensure efficient use of Army resources and fulfill RMDA?s mission. SIBR/STTR Transfer of $39K ***FY 2023 Plans:*** Funds are used to sustain technology refresh efforts ensuring the Army's records comply with statutory and regulatory requirements, preserves individual record integrity, mitigates the risk of historical information loss, and ensures official Army records are available for Congressional, Government Accountability Office, Executive Branch, and FOIA requirements. We fund contractor man-years to sustain this system through an IT Services contract (W15QKN-19-F-0975-P00005). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The increase in funding from $1,064K in FY22 to $2,098K in FY23 is to respond to OMB 19-21 mandates in expansion of records submission and preservation.			
Title: Army SHARP Data Management	-	0.996	1.086
Description: Army SHARP Data Management System (DMS) Integrated Case Reporting System (ICRS) enhancements will provide stabilization for sexual harassment (SH) data collection, reporting requirements, and analytic processes; ICRS maintains			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Army sexual assault (SA) legacy data collected prior to 2014 in the Sexual Assault Data Management System (SADMS) IAW public law. ***FY 2022 Plans:*** Enable Army leaders at all levels to manage ICRS data through E-Document Format and documents upload capabilities within ICRS. Increase data element in ICRS and complete the Sexual Assault Data Management (SADMS) integration of data into ICRS. Support Advanced Analytics capabilities, increase business intelligence capabilities, and support predictive analysis for SHARP Data. Automate SHARP ICRS Reporting capabilities and facility integration of EORS system in to ICRS. SIBR/STTR Transfer $38K ***FY 2023 Plans:*** Maintain ability of Army leaders at all levels to manage ICRS data through E-Document Format and documents upload capabilities within ICRS. Increase support of Advanced Analytics capabilities, increase business intelligence capabilities, and support predictive analysis for SHARP Data to inform increased Prevention efforts. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase from FY2022 to FY2023 for data analytics and business intelligence capabilities.			
Title: Family Advocacy System of Records (FASOR) ***Description:*** Family Advocacy System of Records (FASOR) is the information system used by the US Army FAP to support adult and child abuse incident management, central registry of victims and offenders to authorized agencies, and to provide input for required Congressional and public reporting. FASOR is the authoritative source (registry) for all incidents of adult and child abuse in the Army. It is on the Army Human Resource Command?s High Value Asset list. ***FY 2022 Plans:*** Continue efforts to translate and modernize FASOR, as well as rehost it in a .MIL Cloud environment. Continue sustainment of legacy system until FASOR is accredited and implemented in the Cloud. SIBR/STTR Transfer of $54K ***FY 2023 Plans:*** Continue efforts to translate and modernize FASOR. Continue sustainment of legacy system until FASOR is accredited and implemented in the Cloud. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to projected slight cost increases in requirements.	1.428	1.409	1.515
Title: HRC Core IT	5.547	7.978	5.652

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: HRC Core IT: This program supports efforts to plan, design, develop, and test Information Technology (IT) solutions to fulfill the Army's Warfighter Support Mission, accommodate emerging Army requirements, and fulfill Future Army needs. Ongoing development efforts support multiple functional areas including logistics, personnel, transportation, training, medical/ health protection, and the sustaining base. ***FY 2022 Plans:*** FY 2022 funding continues to support iPERMS application efforts to replace the functionality of Store and Forward (SnF) servers and implement the Reduction Manual Indexing capability, and ASBS 2.0 development which also supports DA G1 Talent Management Task Force Battalion Command Assessment Program (BCAP). Additionally, USAHRC will utilize FY 2022 to funding to complete rationalize data and databases to achieve the Army Data Strategy, modernizing applications to leverage authoritative data sources to reduce duplicate application capabilities, resulting in data and applications requiring fewer infrastructure services. This data and application rationalization allows USAHRC to operate a standard infrastructure, reducing hardware and software complexities and meets compliance with Army Common Operating Environment standards in accordance with Army Application Management Business Office (AAMBO). SBIR/STTR Transfer of $343K. ***FY 2023 Plans:*** FY 2023 funding continues to support iPERMS application efforts to replace the functionality of Store and Forward (SnF) servers and implement the Reduction Manual Indexing capability, and ASBS 2.0 development which also supports DA G1 Talent Management Task Force Battalion Command Assessment Program (BCAP). Additionally, USAHRC will utilize FY 2022 to funding to complete rationalize data and databases to achieve the Army Data Strategy, modernizing applications to leverage authoritative data sources to reduce duplicate application capabilities, resulting in data and applications requiring fewer infrastructure services. This data and application rationalization allows USAHRC to operate a standard infrastructure, reducing hardware and software complexities and meets compliance with Army Common Operating Environment standards in accordance with Army Application Management Business Office (AAMBO). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding decrease addresses iPERMS modernization efforts to reduce manual indexing through auto capture, and auto file technology which will automatically file Soldier documents into the Soldier's AMHRR.			
Title: SFL-TAP XXI Modernization ***Description:*** Transition Assistance Program (TAP) XXI Modernization - Modernize outdated application in order to create efficiencies and incorporate industry standards. ***FY 2022 Plans:***	1.193	1.089	1.147

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Unable to obligate FY 20 funds due to the delay in receiving approval of the Capability Requirements Document (CRD) from DASA-CE until March 2020 . Specific work for FY21 includes development / addition of: 1. Produce Intake Form Integration, 2. Case Synopsis Module; 3. New Data Elements; 4. Reporting Module; 5. Cybersecurity Requirements. Specific work for FY22 includes development / addition of:1. Forms Upload Enhancements (MFR & DA Form 7746) 2. Data Warehouse Install 3. Ad Hoc Reporting & Predictive Analytics 4. User Management Module 5. Cybersecurity Requirements. ***FY 2023 Plans:*** Due to the delay in receiving approval of the Capability Requirements Document (CRD) from DASA-CE until March 2020 . Specific work for FY21 includes development / addition of: 1. Produce Intake Form Integration, 2. Case Synopsis Module; 3. New Data Elements; 4. Reporting Module; 5. Cybersecurity Requirements. Specific work for FY22 includes development / addition of:1. Forms Upload Enhancements (MFR & DA Form 7746) 2. Data Warehouse Install 3. Ad Hoc Reporting & Predictive Analytics 4. User Management Module 5. Cybersecurity Requirements these actions will be implemented in FY 2023 to complete. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase funds specific work for development / addition of: 1. Produce Intake Form Integration, 2. Case Synopsis Module; 3. New Data Elements; 4. Reporting Module; 5. Cybersecurity Requirements as well as development / addition of:1. Forms Upload Enhancements (MFR & DA Form 7746) 2. Data Warehouse Install 3. Ad Hoc Reporting & Predictive Analytics 4. User Management Module 5. Cybersecurity Requirements these actions will be implemented in FY 2023.			
Title: FY22 SIBR/STTR Adjustments ***FY 2022 Plans:*** FY22 SIBR/STTR Adjustments ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SIBR/STTR Adjustments	-	0.474	-
Accomplishments/Planned Programs Subtotals	8.597	12.971	11.574

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SFL--TAP	TBD	To Be Determined : To Be Determined	-	0.615		0.652		0.850		-		0.850	0.000	2.117	-
SBIR/STTR	TBD	TBD : TBD	-	-		0.474		-		-		-	0.000	0.474	-
		Subtotal	-	0.615		1.126		0.850		-		0.850	0.000	2.591	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ARIMS	TBD	TBD : TBD	-	0.429		1.025		2.174		-		2.174	Continuing	Continuing	Continuing
Army SHARP Data Management	TBD	Data Management : TBD	-	-		0.996		1.086		-		1.086	Continuing	Continuing	Continuing
SFL-TAP	TBD	To Be Determined : To Be Determined	-	0.578		0.437		0.297		-		0.297	0.000	1.312	-
HRC Core IT	TBD	To Be Determined : To Be Determined	3.656	5.547		7.978		5.652		-		5.652	0.000	22.833	-
		Subtotal	3.656	6.554		10.436		9.209		-		9.209	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
G-1 Requirements Builder (RBuilder)	TBD	TBD : TBD	1.346	-		-		-		-		-	0.150	1.496	-
Family Advocacy System of Records (FASOR)	TBD	TBD : TBD	1.738	1.428		1.409		1.515	Oct 2022	-		1.515	Continuing	Continuing	Continuing
		Subtotal	3.084	1.428		1.409		1.515		-		1.515	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM7 / *Human Resouces Information Technology*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	6.740	8.597		12.971		11.574		-		11.574	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

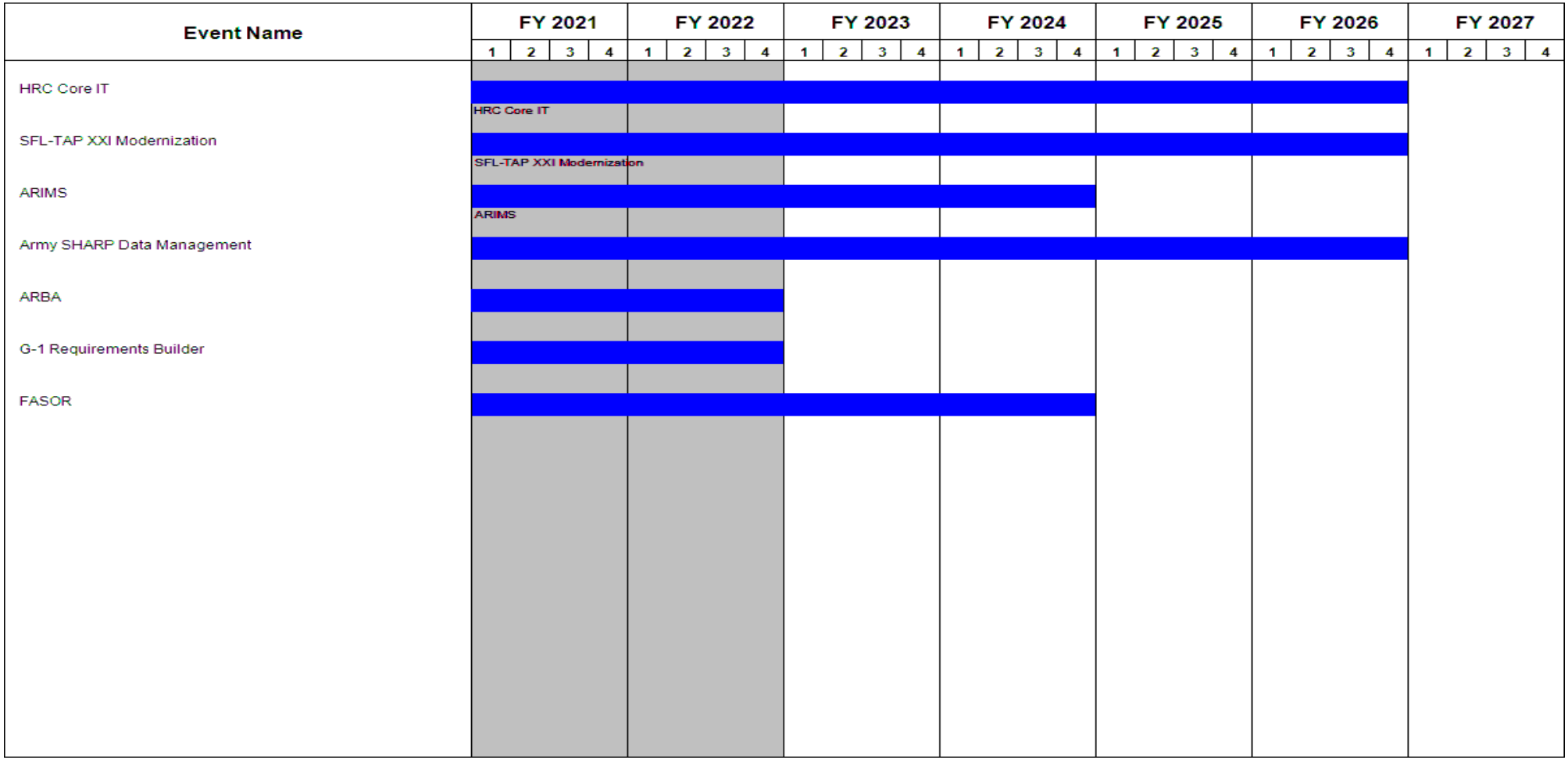

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM7 / *Human Resouces Information Technology*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
HRC Core IT	4	2020	4	2026
SFL-TAP XXI Modernization	1	2020	4	2026
ARIMS	1	2020	4	2024
Army SHARP Data Management	1	2020	4	2026
ARBA	2	2020	4	2022
G-1 Requirements Builder	1	2020	4	2022
FASOR	1	2020	4	2024

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM8 / *Information Technology for Training Systems*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FM8: *Information Technology for Training Systems*	-	37.011	62.969	57.108	-	57.108	26.073	3.488	3.541	3.576	0.000	193.766
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds information technology systems that support Army Training. The five systems under FM8 are described below. Of those, the Army Training Information System (ATIS) is the Army's priority and the focus of the major investment in FM8. ATIS directly supports two of the four Army Unit Readiness Priorities - Training and Leader Development and serves as an enabler for Manning and Equipping.

1. Army Training Information System (ATIS). The Army currently lacks an enterprise level Common Operational Picture (COP) of the training environment. The ATIS is designated a Defense Business System (DBS) that will develop, integrate, test, deliver, operate, and maintain an enterprise capability for the Army training and education communities. Existing training information systems do not provide Commanders, leaders, Soldiers, and civilians a centralized COP of the training environment that enables persistent, consistent access to the Training and Education information and products necessary to support readiness to meet emerging threats. Annual costs to maintain current legacy systems is ~$75 million. Without ATIS, Army organizations will continue to develop and maintain a multitude of training information systems that are not part of an enterprise, thus inhibiting efficient use of training resources, (people, time, money, material) that directly impacts the ability for units to meet readiness objectives.

ATIS is currently operating under the Defense Business System (DBS) pathway under DoDI 5000.75. Going forward ATIS will continue to operate under DoDI 5000.75, as well as utilize aspects of the Software Acquisition pathway, DoDI 5000.87. This hybrid pathway is designed to provide rapid development and deployment of software running on commercial hardware, including modified hardware, and cloud computing platforms.

Once fully-fielded, ATIS will sunset the functionality in 28 primary and 70 supporting information training systems with a single, integrated, user-friendly and technologically current system that will support management of the following training functions for 1.8 million users:

- Training Development. Provides ability to develop and coordinate information, including training packages, training events, courses, and exercises.
- Training Management. Provides centralized ability to access and manage information, including individual and collective/unit training that supports mission tasks and individual training records.
- Enterprise Scheduling. Provides a single integrated set of applications to schedule training resources, including transportation, classrooms, ranges, supplies, and mandated legal/social individual and unit training.
- Content Management. Provides centralized access to training information anytime, anywhere, including educational and professional instruction.
- Resource Management. Provides ability to manage availability/sustainability of training enablers and resources.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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With a revised roadmap that builds upon the lessons learned ATIS will compete a Lead System Integrator (LSI) that once awarded, will demonstrate the viability and effectiveness of the Army Learning Management Capability.

Minimum Viable Capability Release 1 (MVCR1) 3Q FY23
Under this MVCR ATIS will deliver the full capabilities of the Army Learning Management System (ALMS) and begin the incremental delivery of portions of the Army Training Management Capability (ATMC) with the initial focus being Individual Training Records.

The annual release of the MVCRs will continue throughout the lifecycle of ATIS.

NOTE: The next five systems are not part of the ATIS Development program.

2. DLPT5 Content Analysis, Categorization & Modeling (CACM). The DLPT5 Content Analysis, Categorization, and Modeling (CACM) contract is in direct response to DLIFLC's DoD Instruction assigned responsibilities for DLPT item bank maintenance, psychometric analysis, and informed pool management, and closely support the DLPT Validity Framework. This project enhances the DLIFLCs ability to efficiently execute high quality DLPT development processes through the integration of benchmark automation capabilities. Accomplishments include: developed and delivered ordered similarity analysis capabilities; developed and delivered integrated audio quality analysis capabilities; developed and delivered unordered similarity analysis capabilities; developed and delivered integrated Auto-ILR capabilities in 15 languages; developed and delivered integrated machine transcription capabilities in 6 languages; developed and delivered advanced text analytics capabilities; developed and delivered integrated grade level lookup capabilities; developed and delivered annotator alignment analysis capabilities in 2 languages.
3. Universal Course Authoring Tool / The UCAT (Universal Curriculum and Assessment Tool) will serve as the primary curriculum and assessment development tool for curriculum development projects in meeting the directives from higher headquarters to transition into a new, digital learning environment. UCAT will support the delivery of curriculum and assessment products on a variety of different platforms in support of both resident and non-resident programs. UCAT consists of server-side applications and associated web services, databases, and client-side components which are currently under development.
4. The Army Career Tracker is leader development tool that leverages Army's prior investments to integrate education, training, assignment, self-development and other systems by linking these valuable technologies and resources into a common user-friendly portal across 1.35 million users consisting of enlisted, officers, and civilians. Users can search multiple education and training resources, monitor career development, and receive advice from their leadership. ACT provides single-site, easy access, and offers a complete and personalized career picture not available until now. ACT allows users to manage career objectives and monitor progress towards career requirements and goals. ACT provides an integrated approach to supporting military and civilian personnel's personal and professional development which capitalizes on the mutual (personnel and Army) need for life-long learning. The unique inter-relationship between the user's personal growth and development, and the Army's need for Soldiers to be continuously developing, building and cultivating a culture of life-long learning is critical for the Soldier's and Army's success. Users manage their lifelong learning career objectives, monitor progress towards career development and goals, search multiple Army education and training resources, and receive personalized advice from their supervisor and Army leadership. Completed development will modernize the Army Career Tracker (ACT) system to render web pages correctly base on the size of the screen. Responsive Web Design (RWD) is an approach to web design that renders web pages based on the size of the device's display screen (e.g., computer, tablet, and phone). This allows the site to load quickly and ensures the display appears as if it were made expressly for the device being used. RWD improves user experience by displaying messages, links, and controls in a logical manner regardless of the device. The actual presentation may not look the

same across different devices; rather the rendering will depend on the Operating System (OS), screen size, screen resolution, and other factors. Implementing RWD on ACT would be a step forward toward allowing ACT to render better on tablets and other mobile devices (e.g., mobile phones).
5. Enhancement of Army Training Models (ATM) will provide the resources to build and sustain readiness requirements in a standardized process for automated methodology development and resource allocation in support of the Army's training needs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Army Training Information System (ATIS)	34.943	59.078	55.478

Description: Army Training Information System (ATIS) is a Defense Business System that will provide a common operational picture (COP) of the training environment in five integrated and interoperable capability areas: Training Development; Training Management; Training Enterprise Scheduling; Learning Content Management and Training Resource Management. These capabilities will enable Commanders, leaders, Soldiers, and civilians to better understand, visualize, describe, direct, lead, and assess training requirements so that they can more effectively plan, prepare, execute, and assess training. End result is an ATIS that enables Soldiers to train as they will fight, so they can effectively fight as they have trained.

FY 2022 Plans:
- Some of the funds will be reserved to pay for the allowable costs to include litigation costs as a result of terminating the contract.
- Funds will be used to restructure the existing software design architecture while leveraging the Army cloud and enterprise services. This includes data migration for Training Development, Training Management, and Learning Content Management capability.

SBIR/STTR Transfer of $2.238M

FY 2023 Plans:
Design and Development
- Funds will be used for the new Lead System Integrator (LSI) to assemble software architecture, infrastructure, services, pipelines, development, and test platforms in support of
the minimum viable capability release (MVCR) to deliver Training Management capability to include interfaces and data lakes. Given that the Agile Software Development
Methodology will be used, the insight derived from the MVCR will help shape scope, requirements, and design in future releases.

Management Services
- Funds will be used to procure professional staff, software development teams, (~20-30 FTEs) supporting the ATIS product management office in oversight of the development of ATIS and the sunsetting of legacy systems.

Support Services
- Funds will continue to procure cloud services via the Cloud Account Management Optimization (CAMO) record with the Department of the Army Enterprise Cloud Management
Agency.

Testing and Evaluation

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
- User test points will be conduct throughout the year, analysis gathered, and modifications made based upon feedback received. Every MVCR will consist of multiple user test points. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The decrease in funding between FY22 and FY23 is supported by a Program Office Estimate (POE) review conducted and approved Nov 2021. The POE focused on a revised scheduled closely aligned to DODI 5000.87. The funding in FY23 will support cloud storage services, Program Management Support Services, Testing and Evaluation, and the awarding of a Lead System Integrator (LSI) (3Q) contract. The Lead System Integrator contract will replace the current system developer, Peraton.			
Title: DLPT5 Content Analysis, Categorization & Modeling ***Description:*** Development of DLPT5 Content Analysis, Categorization and Modeling (CACM) capabilities. For integration within the DLIFLC MIT LL TIDWA Domino system. These capabilities are in direct response to DLIFLC?s DoDI assigned responsibilities for DLPT item bank maintenance, psychometric analysis and informed pool management, and closely support the DLPT Validity Framework. ***FY 2022 Plans:*** Create Automatic Comment & Content Coding and add Psychometric Analytic Tools. SIBR/STTR Transfer of $61K. ***FY 2023 Plans:*** - initiate development of Topic modeling capabilities - initiate development of predictive modeling capabilities ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increased due to the development of Topic modeling capabilities and predictive modeling capabilities.	1.151	1.400	1.517
Title: Universal Course Authoring Tool (UCAT) ***Description:*** The UCAT (Universal Curriculum and Assessment Tool) will serve as the primary curriculum and assessment development tool for curriculum development projects in meeting the directives from higher headquarters to transition into a new, digital learning environment. UCAT will support the delivery of curriculum and assessment products on a variety of different platforms in support of both resident and non-resident programs. UCAT consists of server-side applications and associated web services, databases, and client-side components which are currently under development.	0.240	-	-
Title: Army Career Tracker ***Description:*** The Army Career Tracker is leader development tool that leverages Army?s prior investments to integrate education, training, assignment, self-development and other systems by linking these valuable technologies and resources into a	0.195	0.192	0.113

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
common user-friendly portal across 1.35 million users consisting of enlisted, officers, and civilians. Modify the existing Individual Development Plan (IDP) feature in the Army Career Tracking system. ***FY 2022 Plans:*** Continued modernization and enhancements of the Army Training Models ***FY 2023 Plans:*** Continued modernization and enhancements of the Army Training Models. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decreased due to less enhancements of the Army Training Models.			
Title: Enhancement of Army Training Models (ATM) ***Description:*** Enhancement of Army Training Models (ATM) will provide the resources to build and sustain readiness requirements in a standardized process for automated methodology development and resource allocation in support of the Army's training needs.	0.482	-	-
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** FY22 SBIR/STTR Transfer ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SBIR/STTR Transfer	-	2.299	-
Accomplishments/Planned Programs Subtotals	37.011	62.969	57.108

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

C. Other Program Funding Summary ($ in Thousands) is listed below as a memo since ATIS is a child from the parent line, OPA2/BD3000.

		FY2022	FY2023	FY2024	FY2025	FY2026
Army	BE4162 - OPA2/BD3000/BE4162/MACOM AUTOMATION SYSTEMS	1,018	0	0	0	0

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

C. Other Program Funding Summary ($ in Millions)

Legacy systems that will be subsumed by the Army Training Information System (ATIS) are listed below. Annual cost to maintain these systems is ~$75M.

Acronym System Name

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1. ACT - Army Career Tracker (IDP and PDM only).
2. AIRS - Army IMCOM Reservation System.
3. ARM - Army Range Mapper - JMTC/TSAE (EUR).
4. ARTIMS - Army Training Information Management (NIPRnet version Only).
5. ATHD - Army Training Help Desk.
6. ATIA - Army Training Information Architecture.
7. ATLAS - Army Training and Learning Assessment System.
8. ATMS - Army Training Management System.
9. CAMP - Career Acquisition Management Portal.
10. DLRS-T - Distributed Learning Reporting and Scheduling Tool.
11. DLS - Distributed Learning System (Army Learning Management System).
12. ECDC - Enterprise Content Development Capability.
13. ESC - Enterprise Scheduling Capability. The Enterprise Scheduling Capability (ESC) (Interim) is used
14. GTIMS - Graduate Training Integration Management System (Aviation Resource Training System - ARTS)
15. IDMS - Inventory and Distribution Management System
16. LLC - Lifelong Learning Center
17. RFMSS - Range Facility Management Support System
18. SCINI - IMCOM Senior Commander Installation Needs and Issues
19. SMS - CGSC -Student Management System- Command and General Staff College
20. SRP GIS TK - Sustainable Range Program (SRP) Geographic Information System (GIS) ToolKit
21. SRPP - SRPWeb Portal
22. SWT - System Training Plan (STRAP) Writing Tool
23. TD2QA - Training and Doctrine Development Quality Assurance Management System
24. TDC - Training Development Capability
25. TMSS-E - Training Management Scheduling System - Enterprise
26. TSIMS - Training Support Information Management System *identified as a system to feed HQDA Training COP
27. TS-MATS - Training Support Materiel Army-wide Tracking System
28. WEB TED - Web Based Total Employee Development System

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

D. Acquisition Strategy

The Army Training Information System (ATIS) ATIS employs an acquisition approach aligned with DoDI 5000.75 Business Systems Requirements and Acquisition and Title 10 section 2222 requirements for covered Defense Business Systems (DBS); however,

- ATIS will utilize a mixture of Commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) solutions, it will model the acquisition approach that focuses on using:

* Flexible and adaptable requirements approach
* Smaller and more frequent releases
* Regular prioritization of needs
* Greater flexibility to accommodate adoption of new enabling technologies and services

- ATIS will use the five-phased Business Capability Acquisition Cycle (BCAC) that represents the governing process, but will apply modern software development methods to include Scaled Agile Framework (SAFe) release approaches that align with the concept that "software is never done".

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM8 / *Information Technology for Training Systems*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	0.692	-		-		-		-		-	0.000	0.692	-
ATIS Interface Agreements	MIPR	Various : Various	-	-		0.126		-		-		-	0.000	0.126	-
ATIS Program Management Office	C/FFP	ATIS Program Management Office : Newport News, VA	0.332	0.367	Jan 2021	7.275		11.800		-		11.800	Continuing	Continuing	Continuing
ATIS MITRE Support	MIPR	W4GV USA HQ COMM ELECT CMD : Aberdeen Proving Grounds, MD	-	-		1.300		1.883		-		1.883	Continuing	Continuing	Continuing
SBIR/STTR	TBD	TBD : TBD	-	-		2.299		-		-		-	0.000	2.299	-
		Subtotal	1.024	0.367		11.000		13.683		-		13.683	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATIS Product Development Contract	C/FPIF	Perspecta Enterprise Solutions LLC : Herndon, VA	14.836	34.461	Feb 2021	47.541		-		-		-	0.000	96.838	-
ATIS Lead System Integrator (LSI) Contract	C/TBD	To Be Determined : To Be Determined	-	-		-		40.367		-		40.367	Continuing	Continuing	Continuing
DLPT5 Content Analysis, Categorization & Modeling	TBD	TBD : TBD	-	1.151		1.400		1.517		-		1.517	Continuing	Continuing	Continuing
Universal Curriculum and Assessment Tool	TBD	TBD : TBD	-	0.240		-		-		-		-	Continuing	Continuing	Continuing
Army Career Tracker	TBD	TBD : TBD	-	0.195		0.192		0.113		-		0.113	Continuing	Continuing	Continuing
Enhancement Army Training Models (ATM)	TBD	To Be Determined : To Be Determined	-	0.482		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	14.836	36.529		49.133		41.997		-		41.997	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM8 / *Information Technology for Training Systems*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Originally the additional funding of $26.6M from FY 2021 Congressional adjusted funding to FY 2022 was driven by a significant increase in FY 2022 developmental efforts in support of Release 2 (R2). Since that time the decision was made to terminate the contract due to the vendor being able to only deliver a fraction (17%) of the Release 1 (R1) capabilities. The funds will now be reserved to pay for the allowable costs associated with litigation as a result of terminating the contract. The remaining funds will be used to restructure the existing software design architecture while leveraging the Army cloud and enterprise services. This includes data migration for Training Development, Training Management, and Learning Content Management capability.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATIS Cloud Services: CAMO (Cloud Account Management Optimization Agreement (CAMO)	MIPR	AWS : PEO EIS, FT. Belvoir, VA 22060	-	-		2.355		1.428		-		1.428	Continuing	Continuing	Continuing
		Subtotal	-	-		2.355		1.428		-		1.428	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ATIS - System Test and Evaluation	MIPR	Army Test and Evaluaction Center : Aberdeen Proving Grounds, Maryland	-	0.115	Dec 2020	0.481		-		-		-	Continuing	Continuing	Continuing
		Subtotal	-	0.115		0.481		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	15.860	37.011		62.969		57.108		-		57.108	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM8 / *Information Technology for Training Systems*	

	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Cost category that has "ATIS" supports the ATIS Product Development.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

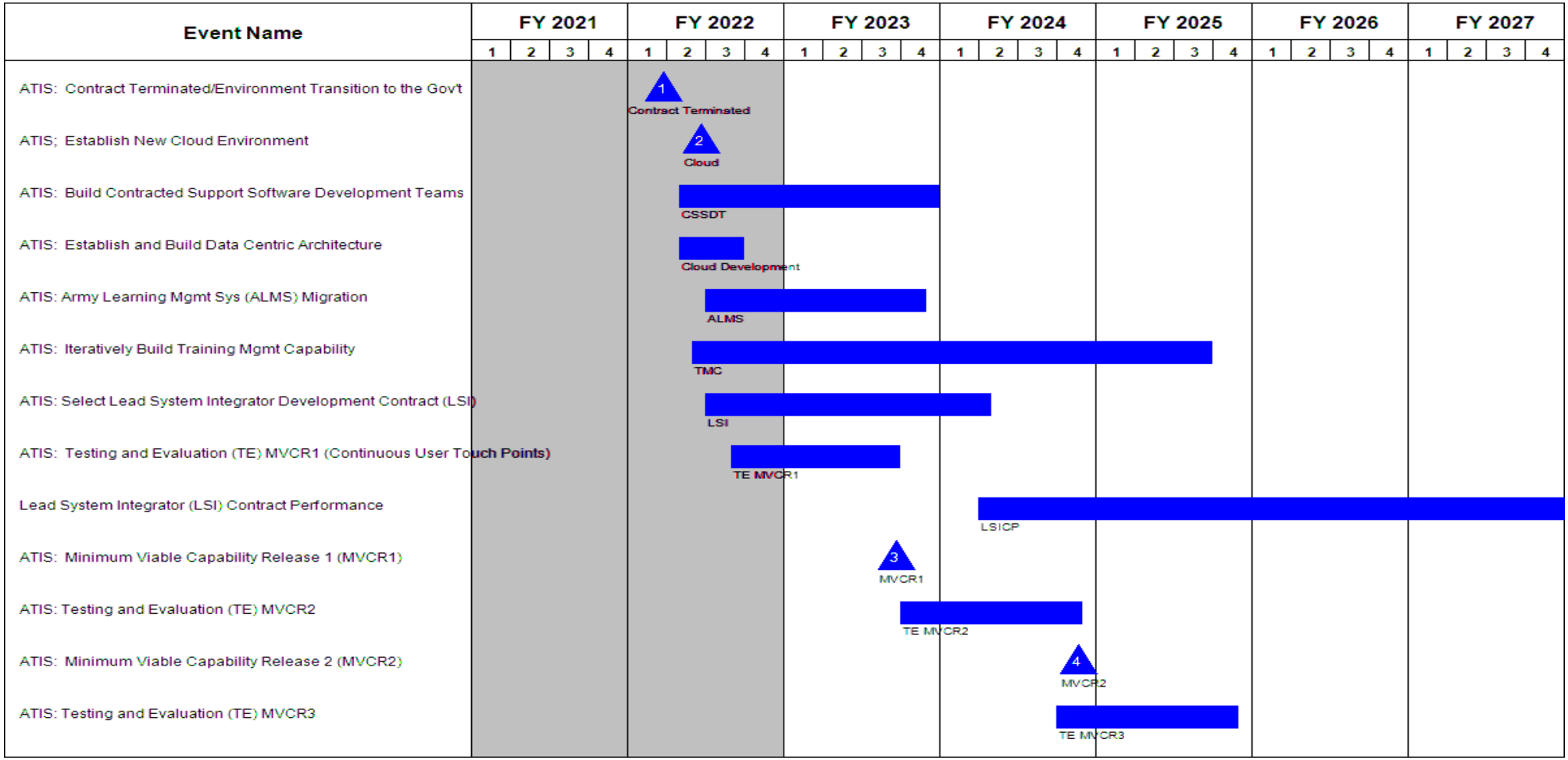
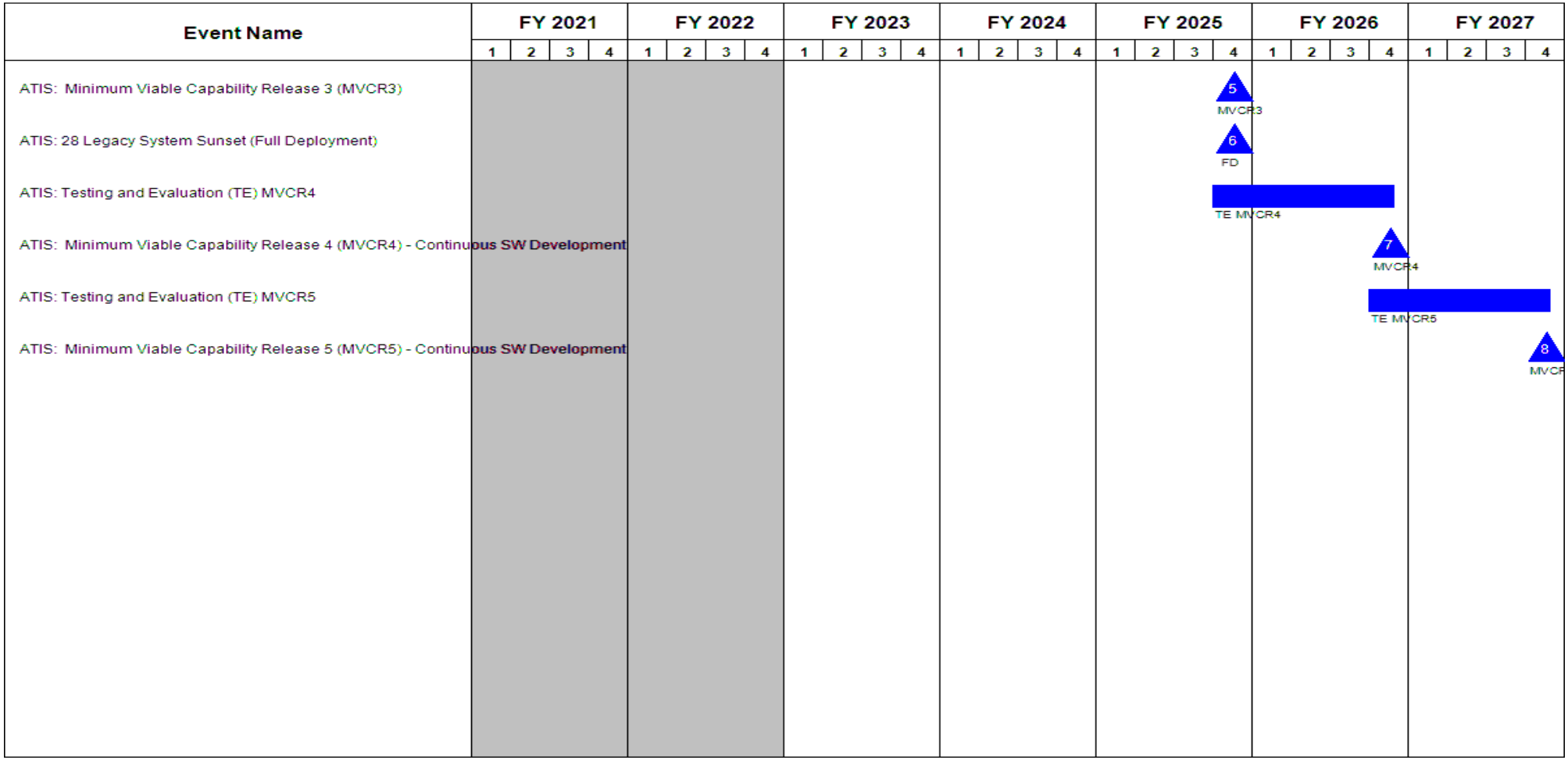


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*



Note

- Acquisition Authority-to-Proceed occurred on 24 Mar 2020
- Contract Award occurred on 14 May 2020

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ATIS: Functional Requirements Authority to Proceed (ATP)	2	2017	2	2017
ATIS: Acquisition Authority to Proceed (ATP)	2	2020	2	2020
ATIS: Contract Award	3	2020	3	2020
ATIS: Contract Terminated/Environment Transition to the Gov't	1	2022	1	2022
ATIS; Establish New Cloud Environment	2	2022	2	2022
ATIS: Build Contracted Support Software Development Teams	2	2022	4	2023
ATIS: Establish and Build Data Centric Architecture	2	2022	3	2022
ATIS: Army Learning Mgmt Sys (ALMS) Migration	3	2022	4	2023
ATIS: Iteratively Build Training Mgmt Capability	2	2022	3	2025
ATIS: Select Lead System Integrator Development Contract (LSI)	3	2022	2	2024
ATIS: Testing and Evaluation (TE) MVCR1 (Continuous User Touch Points)	3	2022	3	2023
Lead System Integrator (LSI) Contract Performance	2	2024	2	2029
ATIS: Minimum Viable Capability Release 1 (MVCR1)	3	2023	3	2023
ATIS: Testing and Evaluation (TE) MVCR2	4	2023	4	2024
ATIS: Minimum Viable Capability Release 2 (MVCR2)	4	2024	4	2024
ATIS: Testing and Evaluation (TE) MVCR3	4	2024	4	2025
ATIS: Minimum Viable Capability Release 3 (MVCR3)	4	2025	4	2025
ATIS: 28 Legacy System Sunset (Full Deployment)	4	2025	4	2025
ATIS: Testing and Evaluation (TE) MVCR4	4	2025	4	2026
ATIS: Minimum Viable Capability Release 4 (MVCR4) - Continuous SW Development	4	2026	4	2026
ATIS: Testing and Evaluation (TE) MVCR5	4	2026	4	2027
ATIS: Minimum Viable Capability Release 5 (MVCR5) - Continuous SW Development	4	2027	4	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM8 / *Information Technology for Training Systems*

Note

ATIS - The ATIS program will be officially baselined at the Limited Deployment - Acquisition Authority to Proceed (LD ATP) at the end of Release 1. The objective system is reached upon reaching full deployment in FY24.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) FM9 / *Information Technology for Criminal Investigations*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
FM9: *Information Technology for Criminal Investigations*	-	1.190	1.226	1.273	-	1.273	1.280	1.291	1.305	1.318	0.000	8.883
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project Criminal Investigation Management System (CIMS) is to develop, maintain, and operate a secure, unified comprehensive system of applications to support the Army's law enforcement mission.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Criminal Investigative Management System (CIMS)	1.190	1.181	1.273

Description: Criminal Investigative Management System (CIMS). CIMS, formerly known as the Law Enforcement Advisory Program (LEAP), is a collection of mission essential information technology (IT) systems within the United States Army Criminal Investigation Command (USACIDC) and the Office of the Provost Marshal General (OPMG). Through CIMS, the USACIDC and the OPMG developed an integrated and unified, comprehensive enterprise program / system that houses both classified and unclassified Law Enforcement Sensitive (LES) data. CIMS leverages existing and future Army Law Enforcement (LE) enterprise information technology (IT) assets and other external data sources providing a full rand of law enforcement functions to support business objective and mission. The primary component is a comprehensive enterprise system known as the Army Law Enforcement Reporting and Tracking System (ALERTS) providing Army LE stakeholders the enhanced capability to rapidly and efficiently manage a variety of LE and criminal intelligence functions as well as a broader range of senior executive reporting requirements. The Consolidated Operation Police Suite (COPS) was previously comprised of five separate applications: two of these applications have been rationalized under ALERTS: two of these applications have been consolidated into one and modernized under CIMS: the remaining application requires modernization to ensure continued function and security compliance. The Deserter Verification Information System (DVIS) is being modernized and rationalized under CIMS. RDT&E dollars are required to further enhance and enable CIMS consolidation/rationalization of LE applications thereby providing the LE community the tools to more quickly, investigate, solve, and prevent Army crime while also facilitating the management of those placed in correction facilities. At present, all requested CID RDT&E funding in program element 0606013A will be applied to CIMS initiatives.

FY 2022 Plans:

The FY2022 funds will be utilized to continue the modernization and rationalization of the final Consolidated Operation Police Suite (COPS) application (Detainee Reporting System (DRS)) into CIMS; continue the incorporation of the Defense Forensics Management Exchange (DFME) system consisting of three applications ? Evidence Management Portal (EMP), Evidence

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM9 / *Information Technology for Criminal Investigations*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Collection Management Extended (ECMX), and Next Generation Identification (Livescan/Fingerprints) into the CIMS environment. The three applications provide evidence collection and management to different branches of the military as well as the transmission of fingerprint data to the FBI?s National Crime Information Center (NCIC) for the prevention of firearms by individuals convicted of a criminal offense. The funds will also be utilized to begin the application modernization of the Army Law Enforcement Reporting and Tracking System (ALERTS), case management system. ***FY 2023 Plans:*** The major component of CIMS, ALERTS, is over 5 years old and requires a major rewrite of the software application and back-end database to ensure it maintains its operational efficiency, security requirements, and ability to support the LE stakeholder community will be started during FY 2023 and continue through the following FY. Rationalization and rewrite of the classified application, Detainee Reporting System, into CIMS will be completed during FY 2023. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase in funding from FY22 to FY23 is do to inflationary cost of mission.			
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** FY22 SBIR/STTR Transfer ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SBIR/STTR Transfer	-	0.045	-
Accomplishments/Planned Programs Subtotals	1.190	1.226	1.273

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• OMA - Firm Fix Price: *Labor IT Support Services*	-	1.181	4.700	-	4.700	-	-	-	-	0.000	5.881

Remarks

OMA dollars are used for the operations and maintenance of the CIMS environment which includes ensuring the mission applications are operational and available 24 hours 365 days per years. It includes server patching with the latest security patches, backing up the data, providing customer service through a CIMS Help Desk, creating/deleting user accounts, monitoring the health of the server environment.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM9 / *Information Technology for Criminal Investigations*

D. Acquisition Strategy

USACIDC utilized Agile Development which is a process where development is broken up into several stages. It involves constant collaboration with the stakeholders for continuous improvement and changes in each stage. Development is delivered in Releases to the customer for testing and acceptance ensuring that the project stays on track. The CIMS contract ends 30 June 2022 and a new contract will be negotiated to continue the RDT&E development of the CIMS applications.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM9 / *Information Technology for Criminal Investigations*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY22 SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.045		-		-		-	0.000	0.045	-
		Subtotal	-	-		0.045		-		-		-	0.000	0.045	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Criminal Investigative Management System (CIMS)	C/CPFF	ACC-New Jersey : New Jersey	0.813	1.190	Jul 2021	1.181	Jul 2022	1.273	Jul 2023	-		1.273	0.000	4.457	-
		Subtotal	0.813	1.190		1.181		1.273		-		1.273	0.000	4.457	N/A

Remarks

will continue to establish new congressional mandated law enforcement data transfer initiatives between multiple DoD internal and external law enforcement agencies

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	0.813	1.190		1.226		1.273		-		1.273	0.000	4.502	N/A

Remarks

Base contract started in 2017. Contract # W15QKN17F0046
2017: $2,167K/ Award Date 7/2017
2018: $3,579K Award date 6/2018
2019: $1,500K (T05) Award date 5/2019

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM9 / *Information Technology for Criminal Investigations*

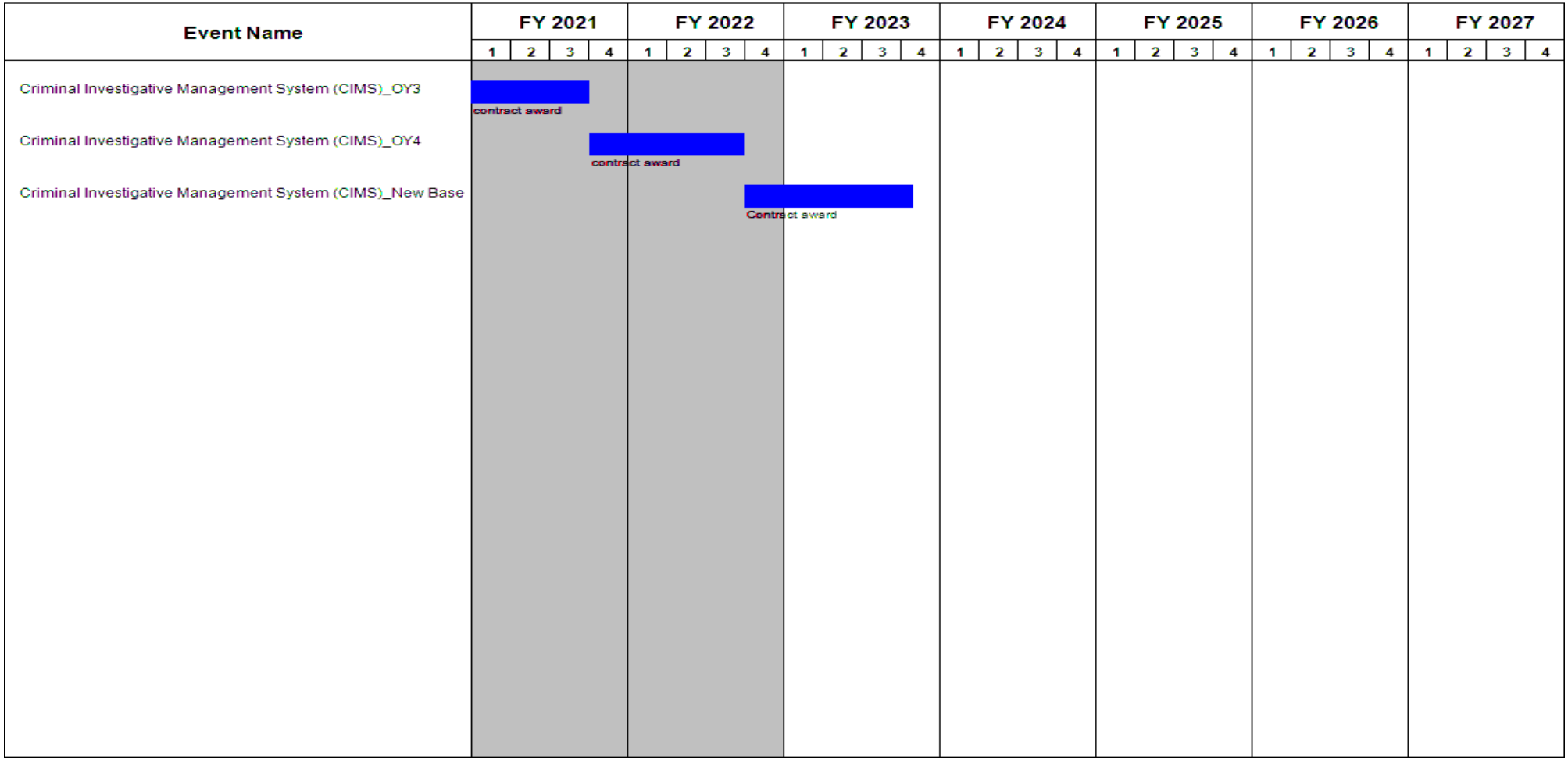


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** FM9 / *Information Technology for Criminal Investigations*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Criminal Investigative Management System (CIMS)_Base	4	2017	3	2018
Criminal Investigative Management System (CIMS)_OY1	4	2018	3	2019
Criminal Investigative Management System (CIMS)_OY2	4	2019	3	2020
Criminal Investigative Management System (CIMS)_OY3	4	2020	3	2021
Criminal Investigative Management System (CIMS)_OY4	4	2021	3	2022
Criminal Investigative Management System (CIMS)_New Base	4	2022	4	2023

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
T04: *USMEPCOM TRANSFORMTION - IT MODERNIZATION*	-	8.997	9.087	2.221	-	2.221	2.229	2.227	2.228	4.825	0.000	31.814
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

USMRS 1.1 Minimum Viable Product (MVP): Supports core functionality comprised of multiple sub applications and non-core applications modernization and testing and order writing applications. The US Military Entrance Processing Command Integrated Resource System (MIRS) provides automation and communications capabilities to support the peacetime, mobilization and wartime military manpower accession mission for the Armed Services. USMEPCOM conducts its work through 65 Military Entrance Processing Station (MEPS) across the country and 189 Military Entrance Test Sites (METS). MIRS provides automated support for conducting aptitude tests and medical examinations and administratively processing, enlisting and shipping applicants for the Armed Forces, Reserves, and Coast Guard. This includes support for automated versions of the Armed Services Vocational Aptitude Battery (ASVAB) tests. MIRS initiates Social Security Administration (SSA) checks for identity verification; interfaces with US Citizenship & Immigration Services (USCIS) to verify citizenship status for military service applicants to screen out individuals that may be security threats; and interfaces with the Federal Bureau of Investigation (FBI) for background screening, using digital fingerprints to identify/eliminate individuals with criminal records from entering military service.

USMEPCOM reports operationally to the Office of the Under Secretary for Personnel and Readiness and has an executive agency (EA) agreement with the Army. USMEPCOM serves all five uniformed services, but only receives funding from the Army to perform its mission.

MIRS supports recruiting capabilities through electronic interfaces and data sharing, using standard Department of Defense (DoD) data elements with Recruiting Service systems. In the event a military draft is required, MIRS supports mobilization through electronic links with the Selective Service System (SSS) as well as automated support for conducting aptitude tests and medical examinations and administratively processing, inducting and shipping SSS registrants.

Customers/beneficiaries of this investment: the Accessions Community of Interest (ACOI), including components of the Army, Navy, Air Force, Marines, Coast Guard, USMEPCOM, and Office of the Secretary of Defense (OSD) Personnel & Readiness (P&R)

Requested funding underpins system sustainability and scalability and improves cybersecurity to include protection of Personally Identifiable Information (PII). Funding covers costs to redesign/develop existing MIRS capabilities to operate efficiently in a cloud environment and to integrate with MHS-Genesis. This will allow for the closure of 65 Army data centers, in support of the Army Data Center Consolidation Plan (Army Directive 2016-38) and movement towards the Force of the Future mandate of all digital processing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: USMIRS Modernization/Digitization	8.997	8.753	2.221

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T04 / *USMEPCOM TRANSFORMTION - IT MODERNIZATION*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: As of March FY21, the USMIRS 1.1 Minimum Viable Product (MVP) was launched. This is the core functionality of the system. USMIRS 1.1 is a system that is comprised of multiple sub applications, and those non-core applications will need to be modernized. FY22 RDTE supports the further modernization of non-core applications in the USMRIS system of systems such as our testing and order writing applications. ***FY 2022 Plans:*** FY22 funding supports the expansion of the USMIRS 1.1. This expansion includes legacy application migration (non-core applications), and medical processing enhancements. SBIR/STTR Transfer of $334K ***FY 2023 Plans:*** FY23 BASE funding supports the continual modernization of USMIRS 1.1 core system and supporting applications. These funds ensure that incremental modernization efforts can be completed in order to keep the new system current and secure. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease of funding supports the successful launch of the USMIRS 1.1 MVP and the development of the remaining non-core USMIRS 1.1 applications in the following year. Focus will shift from wholesale modernizing to incremental updates and improvements, which is a much lower level of effort requiring fewer financial resources.			
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** FY22 SBIR/STTR Transfer ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SBIR/STTR Transfer	-	0.334	-
Accomplishments/Planned Programs Subtotals	8.997	9.087	2.221

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The overall effort of the USMEPCOM IT transformation is to modernize and fully digitize the US Military Entrance Processing Command Integrated Resource System (MIRS). The modernization of the system will minimize vulnerabilities and fully digitize 65 military entrance processing stations resulting in efficiencies to all five uniformed services.

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The modernization of the USMIRS system is being accomplished using the agile method of software development in short time-boxed "sprints". Program management functions were being performed by the Defense Digital Service (DDS). DDS managed an prototype development contract with a local consulting firm called Tandem (previously known as Devmynd. Based in Chicago IL). The DDS/Tandem effort ended in December of CY2019 and produced a prototype. An in-house program management element of USMEPCOM will manage a follow-on contract to turn the prototype USMIRS 1.1 into a deployable system in FY21.

The efforts in FY21 and beyond will be to develop the non-core applications of USMIRS 1.1 (plug in items to the main system that communicate with other systems across all five uniformed services to include Army Accession Information Environment (AIE)). The contracting for this is being done through GSA Chicago as the owning contract agency. This will most likely be awarded in October of FY2021 with work beginning in October.

Milestones:
1 - Core USMIRS 1.1 prototype delivered in December of Calendar 2019.
2 - Award contract to develop core USMIRS 1.1 prototype into a Minimum Viable Product that can be deployed to the field in 2Q FY2021.
3 - Award contract to develop the USMIRS 1.1 non-core applications (plug ins) in 1Q FY2021 with work to begin 2Q FY2021.
4 - FY22 and beyond will be to primarily establish the link between various systems (AIE, MHS Genesis Etc).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Defense Digital Services/ Tandem (Previously DEVMYND) USMIRS Prototype Development	MIPR	Defense Digital Services (DDS) Managing the Tandem contract (formerly DEVMYND) : Chicago, IL	6.893	-		-		-		-		-	0.000	6.893	-
BPR and BCA Study	C/FP	Sylvain Analytics INC : Fredericksburg VA	3.370	-		-		-		-		-	0.000	3.370	-
USMIRS SIBR/STTR	TBD	TBD : TBD	-	-		0.334		-		-		-	0.000	0.334	-
		Subtotal	10.263	-		0.334		-		-		-	0.000	10.597	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Develop CORE USMIRS Prototype into Minimum Viable Product (MVP)	C/TBD	TBD : TBD	13.842	-		-		-		-		-	0.000	13.842	-
Develop NON-CORE USMIRS 1.1 Applications	C/TBD	TBD : TBD	-	8.997	Jul 2022	8.753	Jul 2022	-		-		-	Continuing	Continuing	Continuing
USMIRS 1.1 Incremental Updates and Improvements	C/TBD	TBD : TBD	-	-		-		2.221		-		2.221	Continuing	Continuing	Continuing
USMIRS 1.1 PRE DDS Project Development	C/Various	Various : Various	10.122	-		-		-		-		-	0.000	10.122	-
		Subtotal	23.964	8.997		8.753		2.221		-		2.221	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Force of the Future Testing Modernization	Various	Various services performing testing modernization : Multiple	29.693	-		-		-		-		-	0.000	29.693	-
		Subtotal	29.693	-		-		-		-		-	0.000	29.693	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	63.920	8.997		9.087		2.221		-		2.221	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
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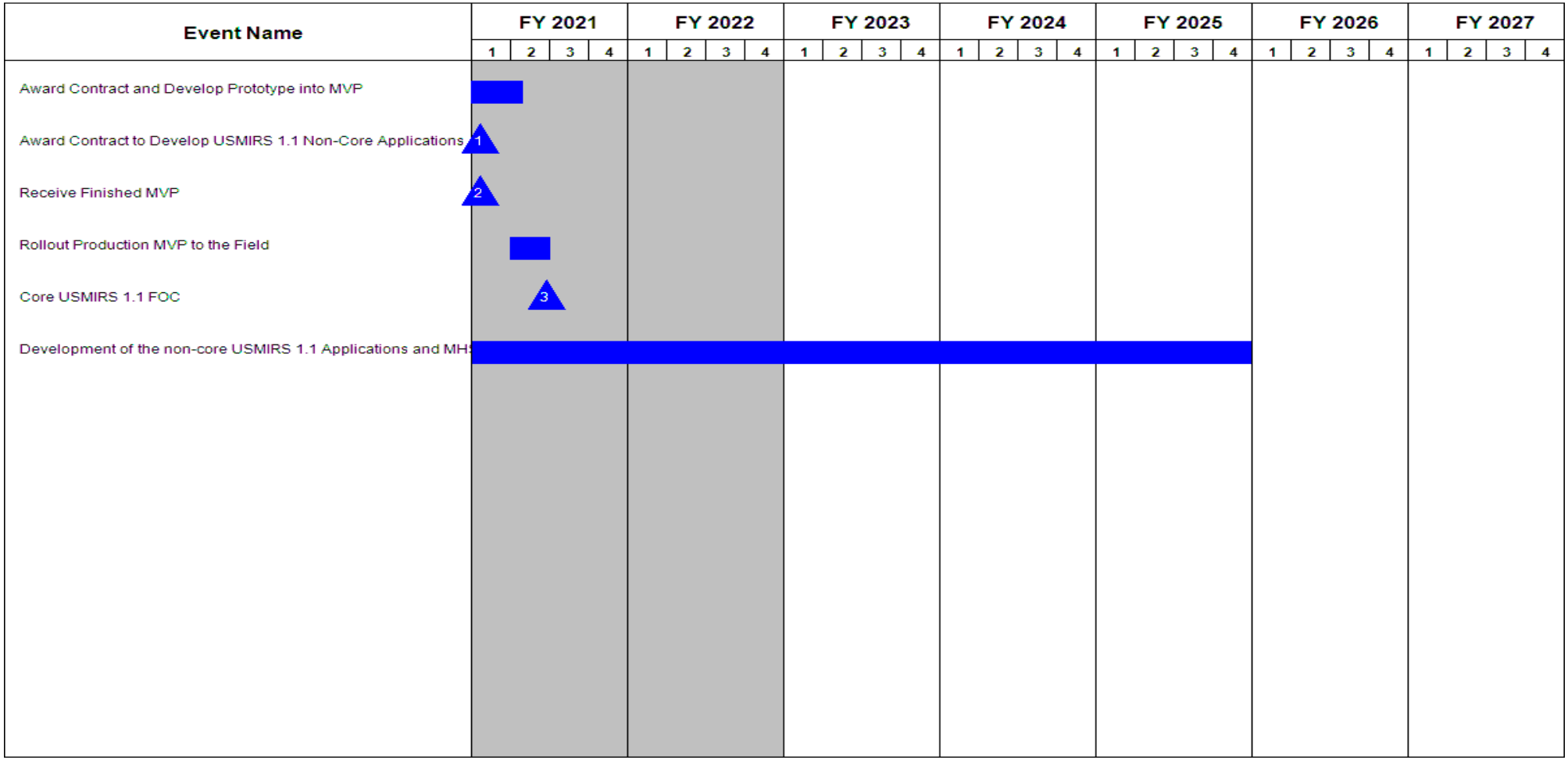

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Core USMIRS 1.1 Prototype is Delivered	1	2020	1	2020
Award Contract and Develop Prototype into MVP	1	2020	1	2021
Award Contract to Develop USMIRS 1.1 Non-Core Applications	1	2021	1	2021
Receive Finished MVP	1	2021	1	2021
Rollout Production MVP to the Field	1	2021	2	2021
Core USMIRS 1.1 FOC	2	2021	2	2021
Development of the non-core USMIRS 1.1 Applications and MHS Genesis Link	1	2021	4	2025

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T05 / *Army Business System Modernization Initiatives*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
T05: *Army Business System Modernization Initiatives*	-	16.286	20.606	24.875	-	24.875	3.206	4.767	4.802	4.836	0.000	79.378
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Global Force Information Management (GFIM): GFIM is a Global Force Management Data Initiative (GFM DI) compliant, integrated, and interoperable digital environment that enables, thru automation, the Deploy to Redeploy/Retrograde (D2RR) end-to-end business processes in support of Dynamic Force Employment (DFE). Today, over 85% of this core Army Business Process is done manually with tools that are available on antiquated, disparate technology platforms. GFIM will provide an integrated planning, programming, and production capability to dynamically develop, design, and document an Army at rest and in motion. GFIM will evolve both long-term and immediate bridging solutions that integrate and automate Army operational business processes, using an interoperable, collaborative environment, to enable the seamless creation and exchange of authoritative data across the operational community of practice to provide rapid, accurate, and auditable outcomes to support risk informed senior leader decisions. GFIM will provide the core data necessary for Enterprise Resource Planning (ERP) systems, other Business Mission Area (BMA) systems and Warfighting Mission Area (WMA) systems to efficiently and effectively execute business processes in support of Army Title 10 responsibilities and war fighting operations.

The Student Information Repository (SIR) Application will replace several independent applications and business processes used to track student data including, but not limited to, personal information, grades, attendance, official records, transcripts, teaching teams, student assignments, and surveys. It is a customized information system that is comprised of separate modules that are tied in together as one system.

Army Business System Modernization Initiatives (subline). The Program Planning Budget (PPB)- Business Operating System (BOS) will standardize and better integrate the transactional automated information systems used in the HQDA level programming and budgeting processes. These systems are core to the PPBE business processes of the HQ for gathering programmatic requirements, balancing resources and delivering the Army's program budget to OSD. This project is streamlining programming and budgeting processes and significantly improving strategic analysis capabilities. The project is architecting, reengineering, streamlining and consolidating HQDA systems, feeder data base systems, and streamlining the associated processes. These improvements will improve capability, eliminate redundancies and reduce overall cost of operations. The PPB BOS project is complementary to the Army's General Fund Enterprise Business System (GFEBS) program. It includes a new effort in FY 2014, the Army Contract Writing System, a replacement for the DoD Standard Procurement System (SPS). This Project undertakes necessary efforts to integrate, implement, and build the next generation of Enterprise Business Systems capabilities. This effort is required to develop a converged, modernized Enterprise Resource Planning system that streamlines and integrates the Army's core business functions.

Additive Manufacturing (AM) is a SEC Army priority. AM will fully integrate AM capabilities and enable the Digital Thread within the Army ERPs. It will provide a common collaboration portal to enable sharing of AM 3D print data across the Army and with other DoD entities to address Army readiness driver requirements. Capability will communicate and track user

requests for AM 3D print data, and allow users to search for relevant 3D print data with feedback to Engineering Support Activities, Army industrial base and Army tactical units.

The Enterprise Sustainment Management System (ESMS) Web Application is a cloud-based solution, bringing all real property infrastructure domains under the umbrella of a single SMS application. Performing long-range work requirements projections across all SMS domains allows for a comprehensive analysis of various courses of action and the related effects and tradeoffs of each decision. In addition to the incorporation of all SMS domains in a single application. The ESMS application provides increased control of user permission definition, teaming, and how permissions me applied; updated business intelligence reporting capabilities; and improved user experience, leveraging state of the art web development techniques for more efficient use from beginning to end. ESMS helps all real property asset management stakeholders - from civil engineers, technicians and managers to headquarters - decide when, where and how to best maintain existing infrastructure. Because assets are so vast and diverse, a "knowledge-based" philosophy drives the SMS process.

Army Energy and Water Reporting System (AEWRS) is used to collect rollups of energy and water usage at Army installations. AEWRS is the Army's official database of record for all energy and water usage data, and energy program management information. It provides the basis for documenting Army progress in meeting statutory and mandated performance metrics. Data is passed to DOD to be joined by similar energy and water data from the other services. AEWRS incorporated as a module the Solid Waste Annual Reporting for the Web (SWARWeb) which is a web-enabled system used to collect solid waste management data. SWARWeb provides a tool for tracking solid waste handling information at the Installation, Subordinate Command, Major Command, Region and Headquarters levels. Data is collected for disposal sites, disposal and recycling transactions, recycling revenues and recycling program management. Solid waste data collected throughout the fiscal year is submitted to higher command levels to fulfill reporting requirements and to track compliance with DoD waste reduction and recycling goals. Data collected in SWARWeb is maintained in a centralized database. Component and DoD requirements and goals for Solid Waste tracking and reporting are reflected in the SWARWeb system.

The Enterprise Architecture Business Systems Consolidation effort provides direct execution support for the following Major Objectives of ACP - Army Campaign Plan Strategy Map. The objective is a reduced number of systems and reduced IT costs. Current systems include Headquarters Installation Information System (HQIIS), Installation Decision Support (IDS), Real Property Planning and Analysis System (RPLANS), Army Stationing and Installation Plan, Installation Geospatial Information & Services (IGI&S), and Installations Status Report (ISR).
The Vantage Program [previously Army Leader Dashboard (ALD)] is a data integration and visualization platform that enables the Army to "see itself" by providing Senior Leaders, Soldiers, Staff, and analytic communities with a common, integrated data platform to visualize and analyze the current and predicted future state(s) of the Army. Vantage spans all data domains, powers a set of configurable views, and provides tools for making data-driven decisions at every level of the Army.

The Vantage Program is a data integration and visualization platform that enables the Army to "see itself" by providing Senior Leaders, Soldiers, Staff, and analytic communities with a common, integrated data platform to visualize and analyze the current and predicted future state(s) of the Army. Spans all data domains, powers a set of configurable views, and provides tools for making data-driven decisions at every level of the Army. VANTAGE supports up to five concurrent lines of effort (LOEs) - investments in new use cases, workflows, or capabilities. LOEs focus on platform configuration, data integration, and user engagement for select critical workflows. The features and advantages of the platform allow the Army to (1) see itself clearly through its data, (2) meet its strategic modernization objectives, and (3) rapidly realize ROI.

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Enterprise Business Systems Convergence (EBS-C)The Army relies on a force sustainment to enable force projection and force generation. We must preserve our ready force to meet today's challenges, while implementing a transformational modernization effort to ensure the Army is prepared for future threats. Establishing a Common Business Operational Environment (CBOE) through an Enterprise Resource Planning (ERP) Modernization effort that is commercial as possible and military as necessary will allow for supply chain simplification, process automation, resilient infrastructure, agility to support maneuver, and auditability. Given the imperatives of an end of service life for today's large SAP ERPs in 2027 (Global Combat Support System-Army, Army Enterprise Systems Integration Program, Logistics Modernization Program, General Funds Enterprise Business System, GFEBS Sensitive Activities and HQ Army Environmental System), unaffordable legacy ERP sustainment costs, and the need to support operational requirements (e.g. constant maneuver and protected digital data), the only way forward is to collapse the disparate EBSs into a common platform that will deliver clear business and readiness improvements to support Multi- Domain Operations (MDO) in Large Scale Combat Operations (LSCO). Funding program in FY23 supports evaluation of ERP modernization working with GCCS-A to address ERP obsolescence.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Global Force Information Management	11.725	11.412	13.230

Description: Global Force Information Management (GFIM): GFIM is a Global Force Management Data Initiative (GFM DI) compliant, integrated, and interoperable digital environment that enables, thru automation, the Deploy to Redeploy/Retrograde (D2RR) end-to-end business processes in support of Dynamic Force Employment (DFE). Today, over 85% of this core Army Business Process is done manually with tools that are available on antiquated, disparate technology platforms. GFIM will provide an integrated planning, programming, and production capability to dynamically develop, design, and document an Army at rest and in motion. GFIM will evolve both long-term and immediate bridging solutions that integrate and automate Army operational business processes, using an interoperable, collaborative environment, to enable the seamless creation and exchange of authoritative data across the operational community of practice to provide rapid, accurate, and auditable outcomes to support risk informed senior leader decisions. GFIM will provide the core data necessary for Enterprise Resource Planning (ERP) systems, other Business Mission Area (BMA) systems and Warfighting Mission Area (WMA) systems to efficiently and effectively execute business processes in support of Army Title 10 responsibilities and war fighting operations.
Using Other Transactional Authority (OTA), funding will be used to deliver a rapid prototype for Phase II of GFIM (DFE). Phase I focuses on developing capabilities for strategic planning, determining force requirements, and designing the force, while Phase II focuses on capabilities for preparing forces to deploy, mobilize, deploy forces, and retrograde forces and equipment in support of Multi-Domain Operations. FY22 funding provides for prototyping efforts including software licenses, labor, hosting, and managed services. This capability will be the authoritative transactional capability that creates and develops the requisite force structure, deployment, and readiness data needed to man, equip, train, ready, and resource an Army in Motion.

FY 2022 Plans:
Funding will be used to deliver a rapid prototype for Phase II of GFIM (Dynamic Force Employment). This capability will be the authoritative transactional capability that creates and develops the requisite force structure, deployment, and readiness data needed to man, equip, train, ready, and resource an Army in Motion

FY 2023 Plans:

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
? Using OTA, funding will be used for completion of Phase II of GFIM (DFE), and award of a production contract. In FY23, costing includes software engineering and data analytics labor, risk mitigation, application development, data analytics, technical support, and hosting. This minimum viable capability will be the authoritative transactional capability that creates the requisite force structure, deployment, and readiness data needed to man, equip, train, ready, and resource an Army at Rest and an Army in Motion. 1st QTR, FY23 ? Develop an integration point with the D2RR data layer to enable data flow of authoritative global force management data to and from the transactional materiel solution; data produced in by the transactional materiel system will be stored in the D2RR data layer for distribution to ERP and non-ERP consumers of bulk data. ? Select best of breed solutions from prototyping efforts from Phase I and Phase II. ? Phase I best of breed solutions for an Army at Rest include using machine intelligence, predictive analytics, and automated workflows to perform Army strategic planning, determine force requirements and design the force. ? Phase II best of breed solutions for an Army in Motion include generating authoritative data for aligning, preparing, mobilizing, deploying/employing forces, supporting deployed forces, redeploying and demobilizing, and regenerating forces. 2d QTR, FY23 ? Award production contract for the most viable solution to provide an integrated and interoperable transactional platform for the force management community to plan, program, and produce authoritative data for the Army for an Army at Rest and an Army in Motion. ? Synchronize deployment of capability with force management process cycles for 1. Total Army Analysis (TAA), which is a phased force structure analysis process that defines the required Army force structure within end strength and accounts for the military and DA Civilian requirements and authorizations necessary to comply with DOD guidance. The TAA provides the basis for the Army?s POM development and the establishment of the POM Force. 2. Command Plan (CPLAN), which is the annual force management process designed to account for and document force structure decisions and directives. ? Capability releases for all D2RR elements fielded to approximately 20k users in HQDA, Army Commands, Army National Guard/ National Guard Bureau, Army Reserve. 3rd QTR, FY23 ? Capability releases for all D2RR elements fielded to approximately 140k users in the remainder of the Army National Guard and Reserve, Army Service Component Commands, Corps, and Divisions (all COMPOs). ? Monitor deployment fielding and assess production capabilities during CPLAN 25 and TAA Cycles 26-30 and 27-31. 4th QTR, FY23 ? Capability releases to remedy gaps assessed in production to date.			

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
? Monitor deployment fielding and assess production capabilities as CPLAN 25 and TAA Cycle 26-30 concludes. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Global Force Information Management (GFIM) funding increase is related to the change in focus from initial development in FY22 to completion of development and start of production in FY 2023.			
Title: Army Business System Modernization Initiatives ***Description:*** Modernization requirements will add new capabilities to legacy IT systems that support human resource functions such as organization and position management, training, and employment. The PPB BOS system standardize and integrate the transactional information systems used in the Headquarters Department of Army (HQDA) Programming and Budgeting processes. The program is streamlining programming and budgeting business processes and significantly improving strategic analysis capabilities. The PPB BOS architecture reengineers, streamlines, and consolidates HQDA systems and financial feeder systems; aligns to the DoD Business Enterprise Architecture (BEA); implements powerful business intelligence analytical tools to support strategic planning, programming, and budgeting within HQDA; and provides access to GFEBS funds management and execution data through system interfaces with required SFIS compliancy integral to the PPB BOS data model. The LEAP program will provide criminal intelligence querying and reporting capabilities in compliance with regulatory and policy standards for Army Law Enforcement regarding investigation of felony crimes. LEAP captures criminal case investigative information regarding incidents, location descriptors, entities (name, social security number, rank, title, physical characteristics, sex, birth place, and date), agent assignment, crime description and identifiers, statements, property data, laboratory tests; verifies and stores this data for criminal intelligence purposes: and reports this information to the proper authorities from the Division Commanding Officer to the United States Grand Jury. The system will extract necessary data for consolidation and input to Defense Incident-Based Reporting System (DIBRS) monthly reports, National Incident-Based Reporting System (NIBRS) monthly reports and the Defense Clearance and Investigations Index (DCII) daily updates. The LIMS system will automate business processes that support the forensic examiners. These processes include, but are not limited to, analytics, materials management, management reporting, Freedom of Information Act requests (FOIA), legal discovery request, court preparation and outsource processing. Civilian Personnel Online - Portal (CPOL-Portal) is a one stop secure site which provides Army civilian employees and HR specialists access to a private portal with a complete set of employment related resources, links and web based applications that require single sign-on access - Army Regional Tools (ART). CPOL-Portal will provide an Integrated Management System (IMS) in support of Civilian Workforce Transformation (CWT). It will support Civilian human capital decision making and allow leaders and	2.836	0.935	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
employees to perform their roles more efficiently in support of Army goals and missions. CPOL Portal will provide the full spectrum of IT application support and access to Acquire, Develop, Distribute and Sustain components of the Army Civilian HCM Life-Cycle and link to G3 'Structure' IT Enterprise Applications. The Fully Automated System for Classification (FASCLASS) is a centralized, web-based system that maintains civilian position descriptions and position related information across Department of the Army. It provides classifiers and managers capability to create, edit, and verify position descriptions. Also it offers robust search, report generation, and lookup & support capabilities. The Overseas Entitlement Tracker (OET) provides the capability to accurately track Living Quarters Allowance (LQA). LQA is provided to reimburse employees for suitable, adequate living quarters at posts where the U.S. Government does not provide quarters. OET also tracks these other overseas entitlements for employees: Advance Pay, Danger Pay, Imminent Danger Pay, Foreign Differential, Home Leave, Post Allowance, Separation Maintenance Allowance, and Temporary Quarters Subsistence Allowance. ***FY 2022 Plans:*** Continue to fund Army Business System Modernization Initiatives. SBIR/STTR Transfer $35K. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No program funds for FY23 due to planned mission accomplishment in FY 2022.			
Title: Corp of Engineers Installation IT Support ***Description:*** Funding is used to modernize Army installation IT systems. ***FY 2022 Plans:*** Funding is used to modernize Army installation IT systems. SBIR/STTR Transfer of $36K. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No program funds for FY23 due to planned mission accomplishment in FY 2022.	1.725	0.951	-
Title: Additive Manufacturing ***Description:*** Additive Manufacturing (AM) is a SEC Army priority. AM will fully integrate AM capabilities and enable the Digital Thread within the Army ERPs. It will provide a common collaboration portal to enable sharing of AM 3D print data across the Army and with other DoD entities to address Army readiness driver requirements. Capability will communicate and track user requests for AM 3D print data, and allow users to search for relevant 3D print data with feedback to Engineering Support Activities,	-	4.841	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Army industrial base and Army tactical units. It will also enable interface between the LMP DT repository and the DLA JAMMEX system ***FY 2022 Plans:*** $4.915M to conduct User Acceptance testing, training delivery, and finalize the Additive Manufacturing digital thread solution for Package 1 and 2. The solution will be deployed in 2nd quarter FY22. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding is decrease because all approved requirements will be completed for AM in FY 2020.			
Title: Installation Systems Modernization ***Description:*** Consolidation of installation systems and upgrades of applications ***FY 2022 Plans:*** Upgrade software, SBIR/STTR Transfer $65K ***FY 2022 to FY 2023 Increase/Decrease Statement:*** No program funds for FY23 due to planned mission accomplishment in FY 2022.	-	1.716	-
Title: VANTAGE ***Description:*** The Vantage Program is a data integration and visualization platform that enables the Army to ?see itself? by providing Senior Leaders, Soldiers, Staff, and analytic communities with a common, integrated data platform to visualize and analyze the current and predicted future state(s) of the Army. Spans all data domains, powers a set of configurable views, and provides tools for making data-driven decisions at every level of the Army. VANTAGE supports up to five concurrent lines of effort (LOEs) - investments in new use cases, workflows, or capabilities. LOEs focus on platform configuration, data integration, and user engagement for select critical workflows. The features and advantages of the platform allow the Army to (1) see itself clearly through its data, (2) meet its strategic modernization objectives, and (3) rapidly realize ROI. ***FY 2023 Plans:*** FY23 RDTE funds will be used to assess and evaluate Advana capabilities, define requirements and build Vantage capabilities, and improve the trustworthiness of Vantage by supporting process champions, domain data stewards and other subject matter experts verify and endorse the data, sources, pipeline integration and logic. Will also be used to improve data quality by making all data visible, accessible, understandable, trusted and interoperable.	-	-	10.363

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Make data available to external partners through Common Data Platform capabilities. The Army Vantage Program supports up to five concurrent LOEs - investments in new use cases, workflows, or capabilities. LOEs focus on platform configuration, data integration, and user engagement for select critical workflows. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 is for new development efforts to improve the trustworthiness of Vantage by supporting process champions, domain data stewards and other subject matter experts to verify and endorse the data, sources, pipeline integration and logic.			
Title: Enterprise Resource Planning (ERP) Modernization ***Description:*** Description: EBS-Convergence will consolidate the major Army Finance and Logistics ERPs & top tier Defense Business Systems into a Post Modern ERP environment with integration to enduring systems and microservices. ***FY 2023 Plans:*** Funds will be used to analyze legacy ERPs to consider modernization efforts in preparation for development efforts starting in FY24. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 will be used to analyze legacy ERPs to consider modernization efforts in preparation for development efforts.	-	-	0.021
Title: IEE EBS SYSTEM CONSOLIDATION ***Description:*** Development of interface of legacy DBS systems with Enterprise Resource Planning (ERP) modernization efforts. ***FY 2023 Plans:*** In FY23 RDTE fund will be used for preliminary development of interface of legacy DBS systems with Enterprise Resource Planning (ERP) modernization. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 is due to ERP modernization.	-	-	0.488
Title: IEE EBS FOR FACILITY & ENERGY SYSTEMS (AWERS AND SWARWeb) ***Description:*** Update application software for the Army Energy and Water Reporting System (AEWRS). AEWRS is the Army's official database of record for all energy and water usage data, energy program management information, and solid waste management/recycling program information. AEWRS provides the basis for documenting and reporting Army progress in meeting statutory and mandated performance metrics for the active Army, National Guard, Reserves at the Installation, Subordinate	-	-	0.303

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Command, Major Command, Region, Headquarters, and supporting organization levels. Army data is reported to DoD to be joined with similar reporting from other services and reporting agencies. AEWRS incorporated as a module the Solid Waste Annual Reporting for the Web (SWARWeb) system which was decommissioned. Funding is required to modernize application software and update/expand data collection as required by revised statutes and federal/DoD policies. ***FY 2023 Plans:*** In FY23 RDTE funds will be used to update application software for the Army Energy and Water Reporting System (AEWRS). AEWRS is the Army's official database of record for all energy and water usage data, energy program management information, and solid waste management/recycling program information. AEWRS provides the basis for documenting and reporting Army progress in meeting statutory and mandated performance metrics for the active Army, National Guard, Reserves at the Installation, Subordinate Command, Major Command, Region, Headquarters, and supporting organization levels. Army data is reported to DoD to be joined with similar reporting from other services and reporting agencies. AEWRS incorporated as a module the Solid Waste Annual Reporting for the Web (SWARWeb) system which was decommissioned. Funding is required to modernize application software and update/expand data collection as required by revised statutes and federal/DoD policies. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 for system consolidation of legacy systems.			
Title: IEE EBS BUILDER and PAVER ***Description:*** Development of interface of Interface Energy and Environment related to Construction and Real Property with Enterprise Business Systems-Convergence (EBS-C) for Multifunctional Capabilities Team (MFCT). In addition, FY23 RDTE funds will be used for preliminary development of interface of interface Energy and Environment related to Construction and development of the Real Property Enterprise Sustainment Management System (SMS) BUILDER SMS, and PAVER SMS. ***FY 2023 Plans:*** In FY23 RDTE fund will be used for preliminary development of interface of Interface Energy and Environment related to Construction and Real Property with Enterprise Business Systems-Convergence (EBS-C) for Multifunctional Capabilities Team (MFCT). In addition, FY23 RDTE funds will be used for preliminary development of interface of interface Energy and Environment related to Construction and development of the Real Property Enterprise Sustainment Management System (SMS) BUILDER SMS, and PAVER SMS. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 for system consolidation for Enterprise Builder system.	-	-	0.470
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:***	-	0.751	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY22 SBIR/STTR Transfer			
FY 2022 to FY 2023 Increase/Decrease Statement: FY22 SBIR/STTR Transfer			
Accomplishments/Planned Programs Subtotals	16.286	20.606	24.875

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

GFIM will leverage an Other Transactional Authority Firm Fixed Price contract to execute development efforts. Each acquisition activity will be supported by an acquisition plan, market research, and an independent government cost estimate.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T05 / *Army Business System Modernization Initiatives*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SFL-TAP XXI Modernization	TBD	To Be Determined : To Be Determined	0.639	-		-		-		-		-	0.000	0.639	-
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	0.324	-		-		-		-		-	0.000	0.324	-
OA22 - G-8 Funding	TBD	TBD : TBD	-	-		1.716		-		-		-	0.000	1.716	-
SBIR/STTR	TBD	TBD : TBD	-	-		0.751		-		-		-	0.000	0.751	-
		Subtotal	0.963	-		2.467		-		-		-	0.000	3.430	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PRODUCT DEVELOPMENT FOR KEYSTONE RETAIN SYSTEM, i-PERMS PRODUCT DEVELOPMENT	MIPR	M&RA/G-1 : ARLINGTON, VA	16.570	-		-		-		-		-	0.000	16.570	-
PPBOS PRODUCT DEVELOPMENT	MIPR	OAA : FORT BELVOIR, VA	26.832	-		-		-		-		-	0.000	26.832	-
Product Development for ACWS	C/IDIQ	PEO EIS : Alexandria, VA	45.741	-		-		-		-		-	0.000	45.741	-
ATIS	C/IDIQ	PEO EIS : FT Eustice VA	50.720	-		-		-		-		-	0.000	50.720	-
Army Career Tracker	C/FFP	TBD : Reston, VA	2.538	-		-		-		-		-	0.000	2.538	-
Army Business System Modernization Initiatives	TBD	To Be Determined : To Be Determined	31.599	2.836		0.935		-		-		-	Continuing	Continuing	-
Defense Language Software Upgrade	C/FFP	TBD : TBD	5.286	-		-		-		-		-	0.000	5.286	-
Global Force Information Management	Option/ CPAF	CACI : Chantilly, VA	3.919	11.725		11.412		13.230		-		13.230	Continuing	Continuing	Continuing
Army SHARP	TBD	Various : Various	1.453	-		-		-		-		-	0.000	1.453	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) T05 / *Army Business System Modernization Initiatives*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SFL-TAP XXI Modernization	TBD	To Be Determined : To Be Determined	0.333	-		-		-		-		-	0.000	0.333	-
HRC Core IT	C/CPFF	Digital Management, LLC / SAIC : Bethesda, MD / Reston, VA	5.163	-		-		-		-		-	Continuing	Continuing	Continuing
ARIMS	TBD	TBD : TBD	2.283	-		-		-		-		-	0.000	2.283	-
FASOR	MIPR	CECOM : CECOM	1.914	-		-		-		-		-	0.000	1.914	-
Corp of Engineers Installation IT Suppor	TBD	TBD : TBD	-	1.725		0.951		-		-		-	0.000	2.676	-
Additive Manufacturing	TBD	TBD : TBD	4.958	-		4.841		-		-		-	0.000	9.799	-
VANTAGE	C/TBD	TBD : TBD	-	-		-		10.363		-		10.363	0.000	10.363	-
Enterprise Business Systems Convergence (EBS-C)	C/TBD	TBD : TBD	-	-		-		0.021		-		0.021	0.000	0.021	-
IEE EBS SYSTEM CONSOLIDATION	C/TBD	TBD : TBD	-	-		-		0.488		-		0.488	0.000	0.488	-
IEE EBS FOR FACILITY & ENERGY SYSTEMS (AWERS AND SWARWeb)	C/TBD	TBD : TBD	-	-		-		0.303		-		0.303	0.000	0.303	-
IEE EBS BUILDER and PAVER	C/TBD	TBD : TBD	-	-		-		0.470		-		0.470	0.000	0.470	-
		Subtotal	199.309	16.286		18.139		24.875		-		24.875	Continuing	Continuing	N/A

Remarks

Global Force Information Management (GFIM): GFIM will provide the Army an enterprise, integrated authoritative force management capability for lifecycle management of force/organizational structure data for the total force. In addition, it will establish a common data standard for force structure data by implementing the Global Force Management - Data Initiative (GFM-DI).

Army Training Information System (ATIS) is an enterprise system that will provide a common operational picture of the training environment through integrated, interoperable training development, management, scheduling, and delivery capabilities. These capabilities will enable commanders, leaders, soldiers, and civilians to better understand, visualize, describe, direct, lead and assess training requirements so they can more effectively plan, prepare, execute, and assess training. End result is an ATIS that enables soldiers to train as they fight so they can effectively fight as they have trained.

RDTE funds will be used to improve the trustworthiness of Vantage by supporting process champions, domain datastewards and other subject matter experts verify and endorse the data, sources, pipeline integration and logic. Will also be used to improve data quality by making all data visible, accessible, understandable, trusted and

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
interoperable. Make data available to external partners through Common Data Platform capabilities. The Army Vantage Program supports up to five concurrent LOEs - investments in new use cases, workflows, or capabilities. LOEs focus on platform configuration, data integration, and user engagement for select critical workflows.															
The Army Human Resources Command (HRC) has several efforts for which RDT&E will be applied. One is to prepare those systems for subsumption into the Integrated Personnel and Pay System(IPPS-A). The other is to disconnect and upgrade those systems not being subsumed by IPPS-A. Systems that will be targeted by HRC to prepare for IPPS-A subsumption or upgrade are the Automated Orders and resources System (AORS), Army Selection Board System (ASBS), Data Base Administration Suite of System (DBA), Enlisted Distribution and Assignment system (EDAS), Enlisted Promotion Model (EPM), Enterprise Service Bus (ESB), Human Resource Command Identity Management System (HIMS), Integrated Total Army Personnel Database (ITAPDB), Officer Selection Support System (OSSS), Reserve Statistics Accounting System/ Reserve Component Common Personnel Data System (RSAS/RCCPDS), Senior Enlisted Promotions Model (SEPM), Single Evaluation Processing System (SEPS), Soldier Management System Webified Suite of System (SMSWEB), Total Army Personnel Data Base - Active Enlisted (TAPDB-AE), Total Army Personnel Data Base - Active Officer (TAPDB-AO), Total Army Personnel Data Base - Active Reserve (TAPDB-AR), Total Officer Personnel Management Information System (TOPMIS), Total Officer Personnel Management Information System II (TOPMIS II), Keystone Request/Retain System, and the Interactive Personnel Electronic Records Management System (iPERMS). HRC Core IT: Award date shown reflects iPERMS IT Integration Contract. SMS-WEB and ASBS 2.0 are on the Digital Application Support Task Order (DASTO) with an award date of 6 Feb 2018.														

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	200.272	16.286		20.606		24.875		-		24.875	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

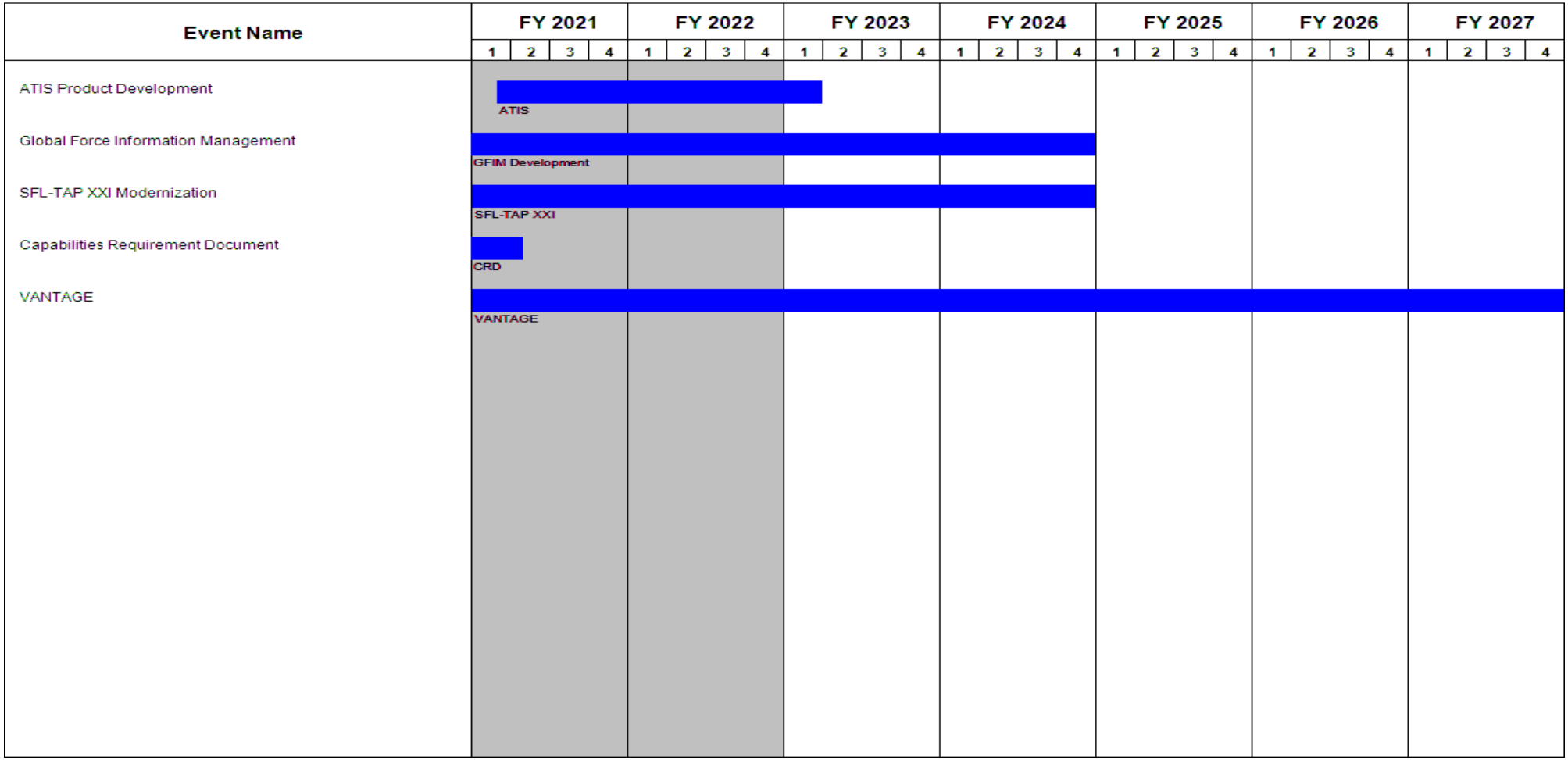

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** T05 / *Army Business System Modernization Initiatives*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
ATIS Product Development	1	2016	1	2023
Global Force Information Management	2	2019	4	2024
SFL-TAP XXI Modernization	1	2019	4	2024
HRC Core IT	4	2018	4	2020
Capabilities Requirement Document	1	2020	1	2021
VANTAGE	1	2018	4	2027

Note

Army Contract Writing System moved to 0605047 in FY 2017. The Commanders Risk Reduction Dashboard (CRRD) requirements moved to and are now maintained within PE 0605013A, Project 099 in FY2019.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) VR3 / *ASMIS-R (REPORTIT)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
VR3: *ASMIS-R (REPORTIT)*	-	3.041	3.180	3.341	-	3.341	3.387	3.418	3.454	3.487	0.000	23.308
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Army Safety Management Information System (ASMIS) 2.0 is the Army's designated system of record for Army Safety and Occupational Health (SOH) data collection, information management, decision support, and reporting (formerly known as ASMIS-R and ASOHEIMS). It is built to holistically support the information management needs of the Army SOH program in accordance with Public Law 91-596, Executive Order 12196, DoDI 6055.01, The Army Strategy LOE 1: Build Readiness, LOE 2 (Modernize), AR 385-10, and ASA(IEE) strategic guidance. ASMIS 2.0 provides support for the five key Army SOH capabilities: (1) Mishap and Near Miss Investigations and Reporting, (2) Safety Assessments and Inspections, (3) Hazard Management, (4) SOH Program Management, and (5) SOH Training and Education.

ASMIS 2.0 enables commanders and Army senior leaders to use data collected via these five key capabilities and other DoD data sources to prevent accidental losses, reduce associated costs, and enhance readiness. ASMIS 2.0 currently interfaces with 11 DoD systems and will interface with 22 upon completion. It directly supports the Warfighter through improved IT-enabled business processes and enterprise data analytics to enhance decision-making at all levels of the Army through greater use of leading indicators. In support of the Army Data Strategy, ASMIS 2.0 enables the Army to make SOH data visible, accessible, understandable, linked, trustworthy, interoperable, and secure (VAULTIS). Beyond the cost avoidance and reduction achieved by loss prevention, ASMIS 2.0 provides additional cost savings by eliminating 12 legacy systems.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: ASMIS-R Development	3.041	3.064	3.341
Description: ASMIS 2.0 provides a framework of people, processes and technology to synchronize, integrate and optimize Army SOH capabilities to preserve war fighting capabilities and enhance the force by providing a safe and healthy environment for Soldiers, Families, Civilians, and contractors. An analysis of Army SOH DOTMLPF-P in 2014 determined that the legacy system, a Defense Business System, was not able to satisfy current and emerging SOH capability requirements without modernization to resolve these capability gaps. Changes in requirements for the Army Safety and Health Management System (Programmatic) related to DoDI 6055.01, AR 385-10, Information Assurance requirements and direct feedback from the Safety professionals within the DoD and the Army have resulted in the need for changes in associated business processes. Additionally, a business gap analysis performed by the ASA(ESOH) revealed a deficiency in the system's requirements that would support Army Commands in identifying hazards in the work place, determining hazard mitigation strategies and controls, employing these strategies and controls, and measuring their potential for reducing mishaps. Addressing these problems will have an immediate and direct impact on meeting regulatory requirements, improving data integrity, improving information assurance			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** VR3 / *ASMIS-R (REPORTIT)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
posture (compliance), increasing the Army's ability to reduce mishaps across the force structure, and promoting ARFORGEN capabilities. ***FY 2022 Plans:*** Continue work with Army Analytics Group and contract for the development of the fourth and fifth activity. FY22 SBIR Title 15 USC 638(f)(1) Reduction =102 FY22 STTR Title 15 USC 638(f)(1) Reduction =14 FY22 Total Reduction =3180-116=3064 SBIR=Small Business Innovation Research STTR=Small Business Technology Transfer Reduction will delay development and reduce contract for Option year one. ***FY 2023 Plans:*** Continue work with Army Analytics Group and contract for the development of the fifth activity. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding Increase in FY23 for cost to complete development of the fifth activity.			
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** FY22 SBIR/STTR Transfer ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY22 SBIR/STTR Transfer	-	0.116	-
Accomplishments/Planned Programs Subtotals	3.041	3.180	3.341

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

ASMIS 2.0 is comprised of five distinct capabilities, as outlined on the previous page, and each of these is being developed incrementally with a strategic sequencing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** VR3 / *ASMIS-R (REPORTIT)*

that enables the primary data collection modules to be completed first with the risk analysis and program management modules executed subsequently.

The acquisition strategy employed executed separate contracts for the construction of the first three modules, with a distinct deployment phase concluding the last two. With the maturity of the fielded capabilities in support of the first three, a multi-year contract was issued for the sustainment and operation of the first three modules and the development and deployment of the latter two. This contract will enter Option Year 1 in May 2022 with another option year thereafter.

Acquisition is executed and managed by the USACRC and the organization is directly engaged with its Contracting Office and Contracting Office Representative.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605013A / *Information Technology Development*	Project (Number/Name) VR3 / *ASMIS-R (REPORTIT)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
FY 2020 SBIR/STTR Transfer	TBD	TBD : TBD	0.180	-		-		-		-		-	0.000	0.180	-
ASMIS-R FY2022 SIBR/ STTR	TBD	TBD : TBD	-	-		0.116		-		-		-	0.000	0.116	-
		Subtotal	0.180	-		0.116		-		-		-	0.000	0.296	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASMIS-R	MIPR	AAG : Monterrey, CA	0.953	0.156		-		0.341		-		0.341	Continuing	Continuing	Continuing
		Subtotal	0.953	0.156		-		0.341		-		0.341	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ASMIS-R	MIPR	DLA : Fort Belvoir, VA	6.411	2.885		3.064		3.000		-		3.000	Continuing	Continuing	Continuing
		Subtotal	6.411	2.885		3.064		3.000		-		3.000	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	7.544	3.041		3.180		3.341		-		3.341	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** VR3 / *ASMIS-R (REPORTIT)*

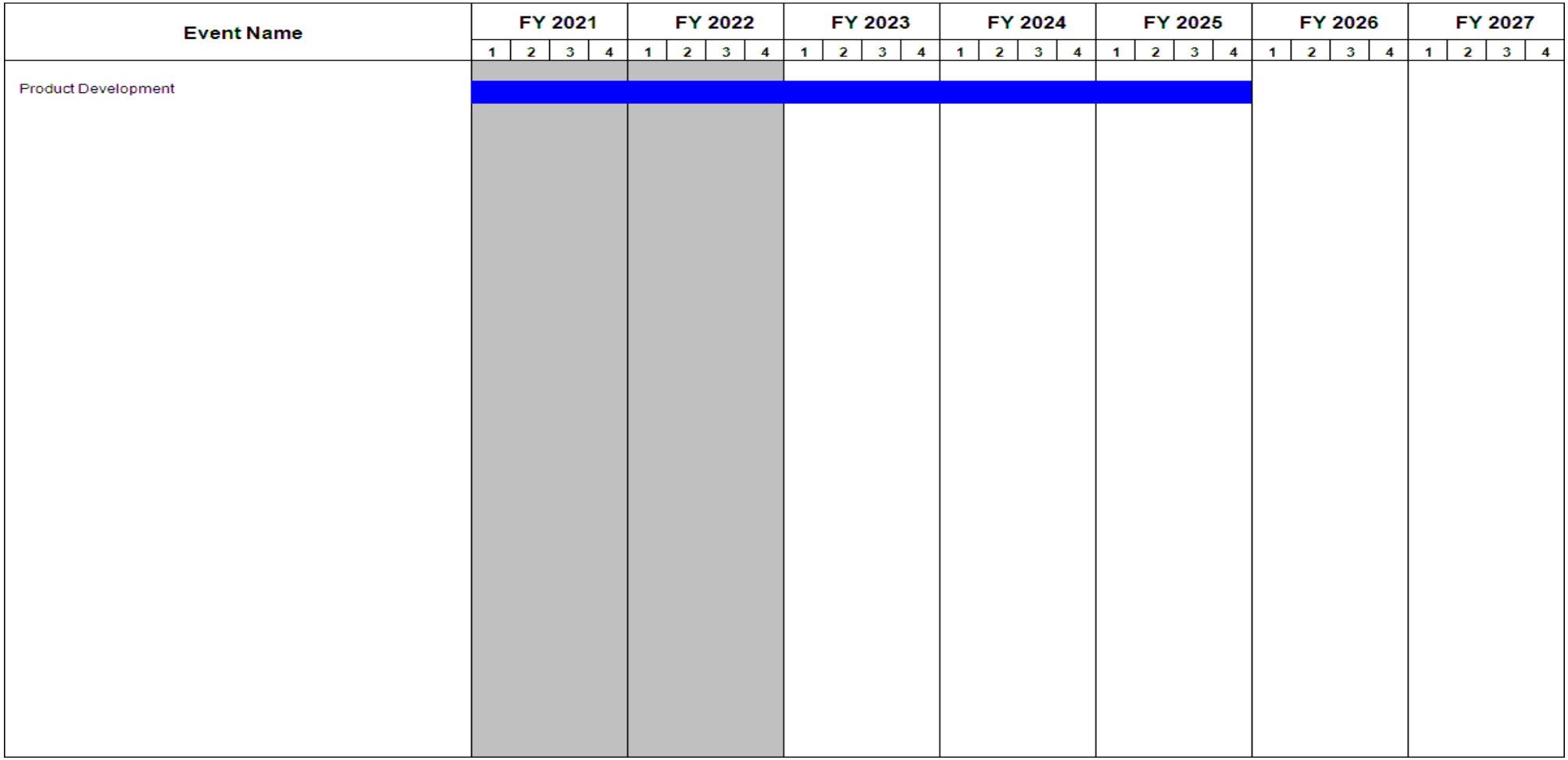

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605013A / *Information Technology Development*	**Project (Number/Name)** VR3 / *ASMIS-R (REPORTIT)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Product Development	3	2018	4	2025

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605018A *I Integrated Personnel and Pay System-Army (IPPS-A)*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	111.078	67.701	67.564	-	67.564	94.133	66.490	43.128	43.548	Continuing	Continuing
ED9: *Integrated Personnel and Pay System - Army Inc 2*	-	111.078	67.701	67.564	-	67.564	94.133	66.490	43.128	43.548	Continuing	Continuing

A. Mission Description and Budget Item Justification

The Integrated Personnel and Pay System-Army Increment II (IPPS-A Inc II) provides an integrated, multi-Component, personnel and pay system that streamlines existing Human Resources (HR) systems and processes by enhancing efficiency and accuracy of personnel and pay procedures in support of 1.1 million Soldiers. The Army will deploy IPPS-A Inc II to all Components in three software releases. In March 2020, the Army completed deployment of Release 2 to all Army National Guard (ARNG) units in the 54 states and territories. Release 2 replaced the ARNG's Standard Installation/Division Personnel System and consolidated many disparate state/territory systems into one. Release 3 will provide accountability and essential personnel services to all three Army Components when deployed in September 2022. Release 4 will provide a fully-integrated personnel and pay system to all three Army Components and is planned for deployment to the Total Force no later than 2QFY27. IPPS-A Inc II will subsume approximately 52 legacy systems (full and partial) across the Active, ARNG, and Reserve Components into a single, integrated system. IPPS-A Inc II is a web-based tool, available 24-hours a day, accessible to HR professionals, Combatant Commanders, pay managers, and other authorized users throughout the Army. IPPS-A Inc II addresses major deficiencies in the execution of military personnel and pay services by providing the necessary internal control and audit procedures, as well as preventing erroneous payments and loss of funds. This program is an essential building block to reform the Department of the Army towards achieving greater performance and affordability in support of the National Defense Strategy and the Congressional audit mandate.

IPPS-A Inc II is the number one HR modernization effort in the Army and will deliver fully integrated personnel and pay services for all Army Components building on the trusted database delivered by IPPS-A Inc I. The program is a critical enabler for The Army People Strategy and its transition to a Talent Management System and an HR data-rich environment. IPPS-A Inc II will link the personnel and pay functions for all Army personnel, eliminating duplicate data entry, reducing complex system maintenance, and minimizing pay discrepancies. IPPS-A Inc II will account for status changes between Active, National Guard, and Reserve Components to ensure accurate credit for service and individual pay and will enable disciplined human resource management.

The Fiscal Year 2023 (FY23) requested budget supports the program's Acquisition Strategy approved by the Army Acquisition Executive (AAE) on 24 July 2019, and provides funding to start the Release 4 design and build (Integrated Pay for Active, National Guard, and Reserve Components) and, design and build of enhancements approved by Army Senior Leaders for development in FY23 through FY27.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605018A *I Integrated Personnel and Pay System-Army (IPPS-A)*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	111.078	76.936	0.000	-	0.000
Current President's Budget	111.078	67.701	67.564	-	67.564
Total Adjustments	0.000	-9.235	67.564	-	67.564
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-9.235			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	67.564	-	67.564

Change Summary Explanation

Fiscal Year 2023 (FY2023) funding increase reflects the fact that the FY2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
ED9: *Integrated Personnel and Pay System - Army Inc 2*	-	111.078	67.701	67.564	-	67.564	94.133	66.490	43.128	43.548	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Integrated Personnel and Pay System-Army Increment II (IPPS-A Inc II) provides an integrated, multi-Component, personnel and pay system that streamlines existing Human Resources (HR) systems and processes by enhancing efficiency and accuracy of personnel and pay procedures in support of 1.1 million Soldiers. The Army will deploy IPPS-A Inc II to all Components in three software releases. In March 2020, the Army completed deployment of Release 2 to all Army National Guard (ARNG) units in the 54 states and territories. Release 2 replaced the ARNG's Standard Installation/Division Personnel System and consolidated many disparate state/territory systems into one. Release 3 will provide accountability and essential personnel services to all three Army Components when deployed in September 2022. Release 4 will provide a fully-integrated personnel and pay system to all three Army Components and is planned for deployment to the Total Force no later than 2QFY27. IPPS-A Inc II will subsume approximately 52 legacy systems (full and partial) across the Active, ARNG, and Reserve Components into a single, integrated system. IPPS-A Inc II is a web-based tool, available 24-hours a day, accessible to HR professionals, Combatant Commanders, pay managers, and other authorized users throughout the Army. IPPS-A Inc II addresses major deficiencies in the execution of military personnel and pay services by providing the necessary internal control and audit procedures, as well as preventing erroneous payments and loss of funds. This program is an essential building block to reform the Department of the Army towards achieving greater performance and affordability in support of the National Defense Strategy and the Congressional audit mandate.

IPPS-A Inc II is the number one HR modernization effort in the Army and will deliver fully integrated personnel and pay services for all Army Components building on the trusted database delivered by IPPS-A Inc I. The program is a critical enabler for The Army People Strategy and its transition to a Talent Management System and an HR data-rich environment. IPPS-A Inc II will link the personnel and pay functions for all Army personnel, eliminating duplicate data entry, reducing complex system maintenance, and minimizing pay discrepancies. IPPS-A Inc II will account for status changes between Active, National Guard, and Reserve Components to ensure accurate credit for service and individual pay and will enable disciplined human resource management.

The Fiscal Year 2023 (FY23) requested budget supports the program's Acquisition Strategy approved by the Army Acquisition Executive (AAE) on 24 July 2019, and provides funding to start the Release 4 design and build (Integrated Pay for Active, National Guard, and Reserve Components) and, design and build of enhancements approved by Army Senior Leaders for development in FY23 through FY27.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Analysis and Design, Development, and Integration of IPPS-A Increment II	111.078	65.230	67.564
Description: The Fiscal Year 2023 (FY23) requested budget provides funding to start the Release 4 requirements analysis, design, and build for the integrated Pay solution for Active, National Guard, and Reserve Components and; the design and build of enhancements approved by Army Senior Leaders for development beginning in FY23.			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 Plans: In FY22, IPPS-A Inc II will complete the Limited User Testing leading to the deployment of Release 3 to all three Army Components in September 2022. ***FY 2023 Plans:*** IPPS-A Inc II will start design and development of Release 4 (Integrated Pay for Active, National Guard, and Reserve Components) and four enhancements approved by Army Senior Leaders for development and deployment between FY23 and FY27. Requested funding provides for the procurement and renewal of software licenses ($0.468K), engineering the product development and system integration ($57.136M), data center hosting, testing and evaluation ($8.686M), and program management services ($1.274M). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The decrease from FY22 to FY23 is due to the difference in program activities in FY22 and FY23. During FY22, IPPS-A is completing testing of Release 3. Release 4 design activities will begin during 2QFY23 following the Release 4 contract award.			
Title: SBIR/STTR Transfer ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638	-	2.471	-
Accomplishments/Planned Programs Subtotals	111.078	67.701	67.564

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B66706: *IPPS-A INC 2*	9.071	16.077	6.926	-	6.926	7.022	9.146	5.648	5.646	Continuing	Continuing
• OMA - Sustainment and Support OMA: *OMA - 432612000 / 435107000*	92.796	107.056	107.180	-	107.180	109.317	122.609	139.122	140.513	Continuing	Continuing

Remarks

B66706000 (Other Procurement, Army) funding supports continued system implementation and deployment of the Integrated Personnel and Pay System-Army Increment III (IPPS-A Inc II). The FY23 procurement funds will support the Release 4 enhancements training and instruction development for all Army components (Army, National Guard, Reserves - 48,700 total Human Resource transactional users).

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost

432612000 (Operations and Maintenance, Army (OMA)) and 435107000 (civilian pay, OMA) funding supports overall software system sustainment including Help Desk support (Tier I through Tier II), system maintenance break/fixes, minor enhancements, software licenses, cyber compliance, program office contractor support, civilian salaries, and program office operations. Beginning in September FY22 and continuing into FY23, total system users will equal 1.1 million and infrastructure and system hosting services costs for R3 will move to OMA funding.

D. Acquisition Strategy

In accordance with Title 10 United States Code 2222 and the Department of Defense Instruction (DODI) 5000.75, the Integrated Personnel and Pay System-Army Increment II (IPPS-A Inc II) (Project ED9) is a Priority Defense Business System Category I (BCAT 1) program that achieved a Milestone B on 14 December 2014 while under DODI 5000.02 oversight. IPPS-A Inc II will deliver fully integrated personnel and pay services to all Army Components, building on the trusted database delivered by the IPPS-A Inc I program. In Fiscal Year 2019 (FY19), the program transitioned to DODI 5000.75 oversight, and at the direction of Army Senior Leaders, completed a restructure and re-baseline. On 24 July 2019, the Army Acquisition Executive (AAE) signed the new IPPS-A Inc II Acquisition Strategy. On 7 January 2020, the AAE signed the new IPPS-A Inc II Army Program Baseline. On 18 February 2020, the Assistant Secretary of the Army (Financial Management and Comptroller) approved the program's updated Army Cost Position that aligns the program's costs to the new Acquisition Strategy. The new Acquisition Strategy reduces risk by minimizing concurrent software release development and focuses on deployment of a Minimum Viable Solution (MVS) for the remaining IPPS-A Inc II releases and defers the majority of Release 3 and all of Release 4 enhancements to the Capability Support Phase in FY26 and beyond. The re-baselined IPPS-A Inc II schedule consists of three software releases (2, 3, and 4) that build upon one another, culminating in a personnel and pay solution for the Total Force.

Release 2 Full Release: The Release 2 deployment was completed on 24 March 2020. Release 2 replaced the Standard Installation/Division Personnel System within Army National Guard units in all 54 states and territories with approximately 343,000 users.

Release 3 MVS: Release 3 MVS will provide all accountability and essential personnel services necessary to subsume numerous legacy field systems including Electronic Military Personnel Office and Total Army Personnel Database-Reserve. It will allow Commanders in the field to access timely, accurate, and standardized personnel data for Soldiers in all three Army Components. In addition to delivering most of the functions required to establish an Army-wide personnel system, Release 3 MVS will bring Human Resource payroll drivers on board to enhance accuracy of pay, credit for service, and benefits. IPPS-A Inc II will serve as the authoritative data source for all personnel within the system. Design work began in FY17, but was not completed due to the program's need to focus on completing Release 2. The final critical design effort was completed in November 2019, and the program awarded a contract modification for Release 3 MVS build and testing on 22 November 2019. Release 3 MVS is on schedule for deployment to the Total Force in September 2022.

Release 4 MVS: Release 4 MVS will provide a fully-integrated personnel and pay system to the Total Force. The program began work on Release 4 in FY18, but executed a stop-work order in January 2019 as a result of the program's need to focus on Release 3 and re-baseline IPPS-A Inc II. As part of the new program strategy, the program will conduct a competitive follow-on contract for Release 4 MVS, and all other activities to occur following the deployment of Release 3 MVS. These follow-on activities include system design, development, testing and deployment of enhancements approved by Army Senior Leaders for deployment beginning in FY23 and

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

ending in FY27. Follow-on activities also include Capability Support for the deployed baseline and training and deployment. The program's goal is to award a competitive follow-on contract in 1QFY23 to support the delivery of Release 4 MVS to the Total Force by 2QFY27. Release 4 MVS will incorporate pay functionality to include, but not limited to, base pay, taxes, allowances, bonuses, allotments and leave. At deployment, Release 4 MVS will serve as the authoritative data source for all personnel and pay transactions and will satisfy Army audit goals.

Capability Support Phase (CSP): The CSP is anticipated to begin in FY28. After Release 4 MVS is deployed and the program achieves Full Deployment, the program will conduct a CSP Authority to Proceed (ATP) decision. During this ATP, the Functional Sponsor will approve entry of the IPPS-A Inc II capability into the CSP. The IPPS-A Inc II program will continue to sustain, modernize, and enhance the IPPS-A capability during this phase. In accordance with Army Senior Leader direction, the program is poised to begin development of Release 3 enhancements as early as FY23, in parallel with Release 4 MVS development. These are necessary to ensure Army objectives and audit requirements are completed in a timely manner.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	C/CPIF	Program oversight, resource justification, budget and programming, milestone and schedule tracking : Various	27.962	4.246	Jun 2021	1.360	Jun 2022	1.202	Jun 2023	-		1.202	Continuing	Continuing	Continuing
In-House Government Management Support	Allot	Program oversight, resource justification, budget and programming, milestone and schedule tracking : NCR	16.017	0.082	Apr 2021	-		-		-		-	0.000	16.099	-
PMO Change Management Travel	Allot	PM IPPS-A : Arlington, VA	-	-		-		0.072		-		0.072	Continuing	Continuing	Continuing
SBIR / STTR Transfer	TBD	PM IPPS-A : Arlington, VA	-	-		2.471		-		-		-	Continuing	Continuing	Continuing
		Subtotal	43.979	4.328		3.831		1.274		-		1.274	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software License -All Others	C/FFP	Various : Various	12.468	0.365		-		-		-		-	Continuing	Continuing	Continuing
Software Licenses - IBM	C/FFP	Immixtechnology INC : McLean, Va	2.776	-		-		-		-		-	0.000	2.776	-
Software Licenses - GRC	C/FFP	Mythics : Virginia Beach, VA	3.974	-		-		-		-		-	0.000	3.974	-
Software Ab Initio	C/FFP	Various : Various	5.997	-		-		-		-		-	Continuing	Continuing	Continuing
Oracle Bundle - Software	SS/FFP	Oracle America INC : Reston, VA	20.112	-		-		-		-		-	0.000	20.112	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Oracle - ULA	C/FFP	Myhtics : Virginia Beach, VA	7.145	-		-		-		-		-	Continuing	Continuing	Continuing
Software Licenses- CA	SS/FFP	Immix Tech : McLean, VA	0.859	-		-		-		-		-	0.000	0.859	-
Software Licenses -ESB	SS/FFP	Actuate Corp : San Mateo, CA	3.750	-		-		-		-		-	Continuing	Continuing	Continuing
Software Product Level SME Consulting Support	SS/FFP	Various : Various	16.811	1.009		0.735	May 2022	0.468	May 2023	-		0.468	Continuing	Continuing	Continuing
in House contract support of system development	C/CPFF	Various : Various	100.169	25.758	May 2021	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering & Technical Assitance	C/CPFF	Various : Various	-	-		11.195	Jul 2022	15.704	Mar 2023	-		15.704	Continuing	Continuing	Continuing
Functional in house contract support of system development-Army National Guard/Army Reserve/FMD	C/FFP	BAH : NCR	11.383	-		-		-		-		-	0.000	11.383	-
Design, Development and Integration - Increment II	C/CPIF	CACI : Chantilly, VA	305.417	49.409	Jan 2021	-		-		-		-	Continuing	Continuing	Continuing
Follow-on Design, Development and Integration - Increment II	C/Various	To Be Determined : To Be Determined	-	-		39.835	Mar 2022	41.432	Dec 2022	-		41.432	Continuing	Continuing	Continuing
Network Support/ Production Hosting Services/Hardware Leasing	MIPR	Defense Information Systems Agency (DISA) Defense Enterprise Computing Center (DECC) : various	153.624	24.810	May 2021	7.879	Jan 2022	6.786	Jan 2023	-		6.786	Continuing	Continuing	Continuing
Software Licenses -m Factory C	C/FP	ACC -NJ : New Jersey	1.806	-		-		-		-		-	Continuing	Continuing	Continuing
Software Licenses- PeopleSoft Enterprise Licenses	C/FFP	PeopleSoft : Pleasanton, CA	4.892	-		-		-		-		-	0.000	4.892	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Interfaces	C/ FFPLOE	FMS, DMDC, GFEBS, HRC : Various Locations	22.368	1.762	Mar 2021	1.766	Jul 2022	1.900	Jul 2023	-		1.900	Continuing	Continuing	Continuing
		Subtotal	673.551	103.113		61.410		66.290		-		66.290	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Facilities/Lease/Rents	MIPR	Facilities/Leases/ Rents : Various	18.012	-		-		-		-		-	Continuing	Continuing	Continuing
Equipment and Supplies MISC	Various	Various : Various	5.279	-		-		-		-		-	Continuing	Continuing	Continuing
		Subtotal	23.291	-		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Increment II - Product Level Test (PLT) / Developer Integration Test (DIT)	MIPR	Government & Support Contractors : Various	17.013	0.260	Oct 2020	-		-		-		-	Continuing	Continuing	Continuing
Increment II-Government Acceptance Testing (GAT): System Integration Test / System Acceptance Test	MIPR	Various Government Agencies : Various	15.969	0.190	Jun 2021	-		-		-		-	Continuing	Continuing	Continuing
Increment II-Operational Test - Limited User Test (LUT)	MIPR	Various Government Agencies : Various	0.250	3.187	Aug 2021	2.460	Oct 2021	-		-		-	0.000	5.897	-
		Subtotal	33.232	3.637		2.460		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	Project (Number/Name) ED9 / *Integrated Personnel and Pay System - Army Inc 2*	

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	774.053	111.078		67.701		67.564		-		67.564	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

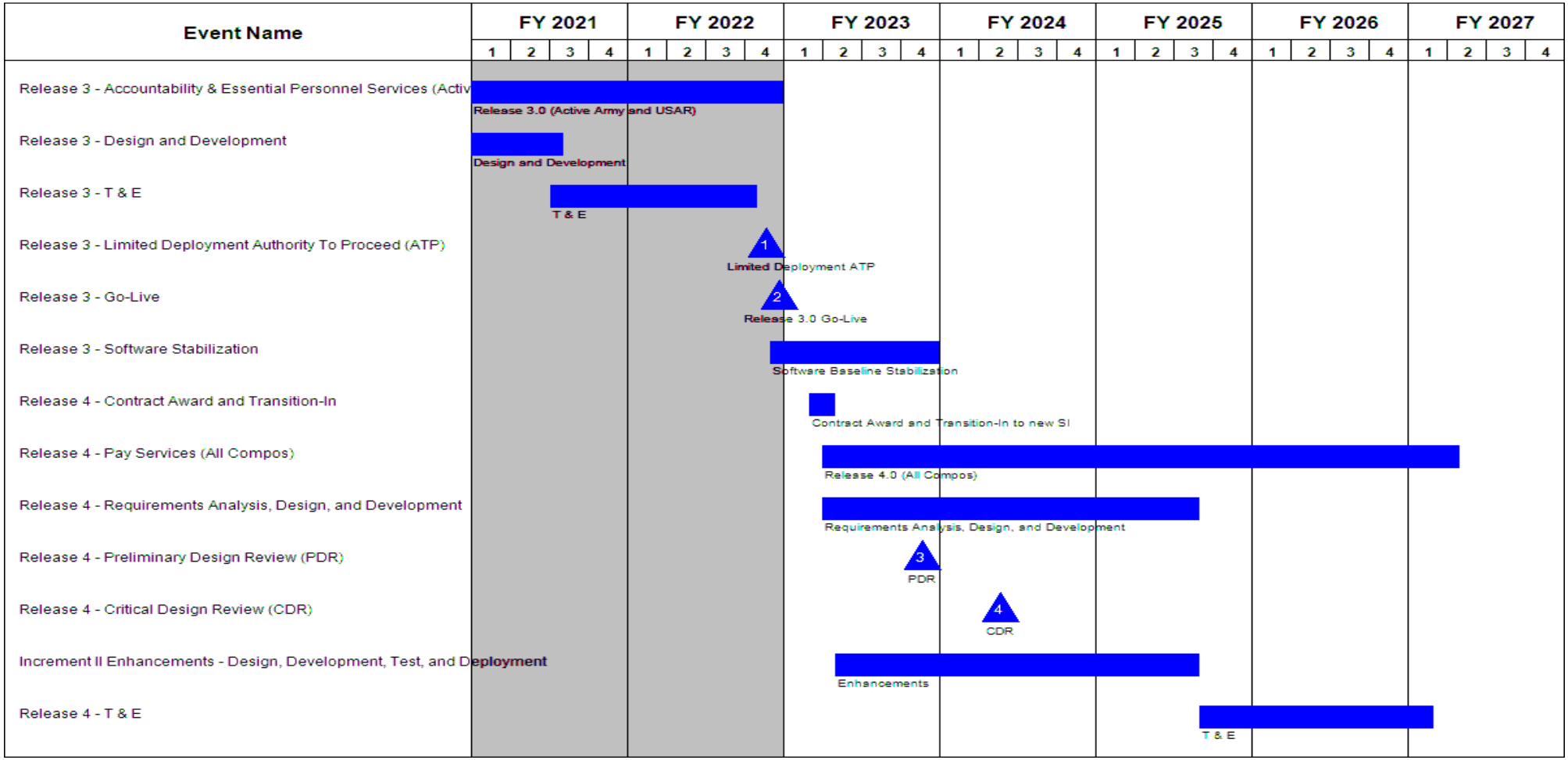

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Release 4 - Full Deployment Authority To Proceed (ATP)																									5 Full Deployment ATP			

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B (MS B) - Increment II	1	2015	1	2015
Release 2 - SIDPERS Functionality (ARNG)	4	2015	3	2020
Release 2 - Configuration, Development, and Integration	3	2017	3	2018
Release 2 - T & E	4	2018	2	2019
Release 2 - Limited Deployment Authority To Proceed (ATP)	3	2019	3	2019
Release 3 - Accountability & Essential Personnel Services (Active & AR)	4	2017	4	2022
Release 3 - Design and Development	2	2020	3	2021
Release 3 - Integrated Baseline Review (IBR)	3	2018	3	2018
Release 3 - Preliminary Design Review (PDR)	4	2019	4	2019
Release 3 - Critical Design Review (CDR)	1	2020	1	2020
Release 3 - T & E	3	2021	4	2022
Release 3 - Limited Deployment Authority To Proceed (ATP)	4	2022	4	2022
Release 3 - Go-Live	4	2022	4	2022
Release 3 - Software Stabilization	4	2022	4	2023
Release 4 - Contract Award and Transition-In	1	2023	2	2023
Release 4 - Pay Services (All Compos)	2	2023	2	2027
Release 4 - Requirements Analysis, Design, and Development	2	2023	3	2025
Release 4 - Preliminary Design Review (PDR)	4	2023	4	2023
Release 4 - Critical Design Review (CDR)	2	2024	2	2024
Increment II Enhancements - Design, Development, Test, and Deployment	2	2023	3	2025
Release 4 - T & E	3	2025	1	2027
Release 4 - Full Deployment Authority To Proceed (ATP)	2	2027	2	2027

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605018A / *Integrated Personnel and Pay System-Army (IPPS-A)*	**Project (Number/Name)** ED9 / *Integrated Personnel and Pay System - Army Inc 2*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Incrememt II Capability Support Authority to Proceed (CS ATP)	2	2028	2	2028
Increment II Enhancement Integration	2	2028	2	2032

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605028A *I Armored Multi-Purpose Vehicle (AMPV)*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	76.140	35.560	-	-	-	0.000	0.000	0.000	0.000	0.000	111.700
EB5: *Armored Multi-Purpose Vehicle*	-	76.140	35.560	-	-	-	-	-	-	-	0.000	111.700

A. Mission Description and Budget Item Justification

This funding line is directly aligned to the Next Generation Combat Vehicle (NGCV) Army Modernization Priority. The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 mission equipment packages to a new Military Vehicle Derivative platform. In total, the AMPV FoV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

1. Mission Command Vehicle (MCmd): This platform enables effective mission command planning and execution for both the Tactical Operations Center and Tactical Command Vehicle versions of the MCmd. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Vehicle: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Vehicle: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litters or six ambulatory patients, with a crew of three medical attendants.
4. General Purpose (GP) Vehicle: This platform will operate throughout the battle space by conducting re-supply, maintenance, casualty evacuation, and other tasks within the formation.
5. Mortar Carrier (MC) Vehicle: This platform will provide immediate responsive fire support to conduct fast-paced offensive operations.

The AMPV program was initiated as an Acquisition Category (ACAT) ID program at Milestone B (MS B). The Defense Acquisition Executive signed the Acquisition Decision Memorandum (ADM) on 22 December 2014, authorizing entry into the Engineering and Development phase and approving contract award to BAE Systems Land & Armaments, L.P. The vehicle was developed to the Capability Development Document, which was approved 21 June 2013 and revised 24 October 2016. The DAE issued an ADM 26 September 2017 that approved revising the acquisition documentation tailoring plan, revising Milestone C entrance criteria, and increasing the Low Rate Initial Production (LRIP) quantity to 551 vehicles (to recognize the Army's desire for early fielding of AMPVs for the European Deterrence Initiative). AMPV was re-designated as an ACAT IC program on 1 November 2017, with the Army Acquisition Executive (AAE) and as the Milestone Decision Authority. The Army convened an Army Systems Acquisition Review Council (ASARC) for Milestone C on December 20, 2018, and the AAE signed the ADM on January 25, 2019. As a result of vehicle delivery delays, the AAE approved a revised Acquisition Program Baseline to adjust the program schedule on January 7, 2021.

The Fiscal Year (FY) 2022 planned program primarily consists of continued efforts associated with Production Qualification Testing (PQT), Initial Operational Test & Evaluation (IOT&E), Live Fire Test and Evaluation (LFT&E) and corrective action implementation resulting from test results. Prime contractor support will be required

for testing and engineering to ensure adequate system support packages will be available during the tests. Government test locations will be used for the tests and government personnel will be responsible for the overall management of the efforts.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	76.140	35.560	0.000	-	0.000
Current President's Budget	76.140	35.560	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	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EB5: *Armored Multi-Purpose Vehicle*	-	76.140	35.560	-	-	-	-	-	-	-	0.000	111.700
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Armored Multi-Purpose Vehicle (AMPV) is the materiel solution for replacement of the Army's Armored Personnel Carrier (M113) Family of Vehicles (FoV) within the Armored Brigade Combat Team (ABCT). It will mitigate current and future capability gaps in force protection, mobility, reliability, and interoperability across the Spectrum of Conflict. The AMPV will replace five mission roles currently performed by the M113 FoV by transferring the current M113 mission equipment packages to a new Military Vehicle Derivative platform. In total, the AMPV FoV will account for approximately 30% of the ABCT's tracked fleet and consists of the following five variants:

1. Mission Command (MCmd) Variant: This platform enables effective mission command planning and execution for both the Tactical Operations Center and Tactical Command Vehicle versions of the MCmd. It will host current Battle Command Systems, future replacements, and upgrades of hardware and software.
2. Medical Treatment (MT) Variant: This platform will provide a protected surgical environment, with adequate lighting and accessible medical equipment. It will provide a capability for immediate medical care for one patient by a medical crew of four.
3. Medical Evacuation (ME) Variant: This platform will conduct ambulance type activities and provide casualty evacuation for up to four litters or six ambulatory patients, with a crew of three medical attendants.
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The AMPV program was initiated as an Acquisition Category (ACAT) ID program at Milestone B (MS B). The Defense Acquisition Executive signed the Acquisition Decision Memorandum (ADM) on 22 December 2014, authorizing entry into the Engineering and Development phase and approving contract award to BAE Systems Land & Armaments, L.P. The vehicle was developed to the Capability Development Document, which was approved 21 June 2013 and revised 24 October 2016. The DAE issued an ADM 26 September 2017 that approved revising the acquisition documentation tailoring plan, revising Milestone C entrance criteria, and increasing the Low Rate Initial Production (LRIP) quantity to 551 vehicles (to recognize the Army's desire for early fielding of AMPVs for the European Deterrence Initiative). AMPV was re-designated as an ACAT IC program on 1 November 2017, with the Army Acquisition Executive (AAE) and as the Milestone Decision Authority. The Army convened an Army Systems Acquisition Review Council (ASARC) for Milestone C on December 20, 2018, and the AAE signed the ADM on January 25, 2019. As a result of vehicle delivery delays, the AAE approved a revised Acquisition Program Baseline to adjust the program schedule on January 7, 2021.

The Fiscal Year (FY) 2022 planned program primarily consists of finalizing efforts associated with Production Qualification Testing (PQT), Initial Operational Test & Evaluation (IOT&E), Live Fire Test and Evaluation (LFT&E) and corrective action implementation resulting from test results. Prime contractor support will be required for testing and engineering to ensure adequate system support packages will be available during the tests. Government test locations will be used for the tests and

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

government personnel will be responsible for the overall management of the efforts. This program supports the Next Generation Combat Vehicle (NGCV) Cross Functional Team (CFT).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Armored Multi-Purpose Vehicle (AMPV) Product Development	34.797	23.353	-
Description: AMPV Product Development costs include all efforts provided under the AMPV Engineering and Manufacturing Development (EMD) prime contract along with Government Furnished Material (GFM). Significant examples of prime contract effort include: development engineering, system engineering/program management, prototype hardware procurement, prototype system level fabrication and integration, software development, support to the government test program, and oversight of subcontractors/suppliers. Also included are all efforts performed by subcontractors / suppliers who are under contract to the AMPV EMD prime contractor. This element also includes the recurring manufacturing cost to procure the vehicles that will support Full-Up System Level (FUSL) live fire testing. ***FY 2022 Plans:*** Prime contractor activities in FY2022 consist of ongoing efforts that support PQT, LFT&E, IOT&E and design efforts to address changes stemming from said tests and/or to satisfy other emerging Army requirements. As required, the contractor will continue to analyze the results of the testing program and incorporate any necessary design changes into LRIP vehicles. Based on all engineering design work, the contractor will also update and deliver a Technical Data Package (TDP) as well as continue work related to Logistics/Product Support to ensure the AMPV can be organically maintained. Will continue to evaluate, verify and validate additional AMPV capabilities required to counter evolving threats in multi-domain operations including, but not limited to, the AMPV key performance parameters and system attributes, Army's integrated tactical network, vehicle prognostics/predictive maintenance, producibility and cybersecurity/software. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY2022 to FY2023 is due to program funding for AMPV RDT&E completing with FY2022 funding.			
Title: AMPV Government Program Management Costs	2.171	2.719	-
Description: AMPV Government Program Management costs include efforts to provide Government oversight of the AMPV program. This includes Systems Engineering and Program Management. Government and support Contractor salaries are included, as well as travel and other support costs that are required to effectively manage the program. Costs in this category do not include Government Furnished Material or efforts that are specific and unique to end item testing that is performed at Government test locations. ***FY 2022 Plans:*** Provide continued integrated program management for all development activities, to include providing oversight to BAE. The primary area of emphasis for the RDT&E funded Government Project Management team in FY2022 is to provide oversight to			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
those LRIP activities that are traceable to PQT, LFT&E, and IOT&E. All other Government Program Management efforts in support of LRIP will be covered by Procurement funding. As required, the AMPV Government Project Management team will support Army assessment and experimentation efforts relating to emerging Army requirements impacting the AMPV design. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY2022 to FY2023 is due to program funding for AMPV RDT&E completing with FY2022 funding.			
Title: Government Test Costs ***Description:*** Government Test costs are for efforts required to perform and validate system-related tests. This element includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing. Also included are costs necessary to acquire data during the conduct of the Government tests. The actual test articles (i.e., functionally configured systems) are excluded from this element. Also excluded are prime contractor costs incurred in support of the Government system level test. ***FY 2022 Plans:*** Government Test costs in FY2022 reflect ongoing LRIP testing activities, test data evaluation, and final reporting for PQT, LFT&E, and IOT&E. PQT began 1QFY2021 and is planned to conclude in FY2022. LFT&E is scheduled to begin 2QFY2021 and end in FY2022. IOT&E is scheduled to start during the first half of FY2022 and will be conducted under realistic operational conditions using Army units executing decisive action operations IAW U.S. Army doctrine against a representative OPFOR. The test events are designed to produce data to satisfy evaluation requirements in order to assess the operational effectiveness and suitability of the system undergoing test. The location of the IOT will be determined by the Army TSARC based on availability of units and maneuver area (at this time the location is assumed to be Fort Stewart, GA). PdM AMPV will support contractor Instructor and Key Personnel Training (I&KPT), OPNET, and FLMNET. PdM AMPV will also provide a New Material Introductory Briefing (NMIB) to the IOT unit prior to OPNET, and finalize with the unit the target audience for New Equipment Training. PdM AMPV will further plan and coordinate any follow-on developmental and/or operational testing required due to configuration changes during production, or verification that any post-production deficiencies in materiel, training, or concepts have been satisfactorily corrected. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease from FY2022 to FY2023 is due to program funding for AMPV RDT&E completing with FY2022 funding.	39.172	8.190	-
Title: FY2022 SBIR/STTR Transfer ***Description:*** FY2022 SBIR/STTR transfer. ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	1.298	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	76.140	35.560	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• G80819: *Armored Multi Purpose Vehicle (AMPV)*	56.000	83.346	380.677	-	380.677	682.429	678.352	677.655	677.722	10,659.603	13,895.784

Remarks

D. Acquisition Strategy

The AMPV program was initiated at Milestone B (MS B). The 22 December 2014 MS B Acquisition Decision Memorandum (ADM) approved contract award for the Engineering and Manufacturing Development phase plus three Low Rate Initial Production (LRIP) options to BAE Systems Land & Armaments, L.P. on a competitive basis. The Army Acquisition Executive (AAE) approved the Milestone C ADM on January 25, 2019, authorizing Low Rate Initial Production. All three LRIP options have since been exercised. As a result of vehicle delivery delays, the AAE approved a revised Acquisition Program Baseline to adjust the program schedule on January 7, 2021.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
SBIR/STTR Transfer	Allot	OASA(FM&C) : Washington, D.C.	-	-		1.298		-		-		-	0.000	1.298	-
		Subtotal	-	-		1.298		-		-		-	0.000	1.298	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Contractor Development Engineering	C/CPIF	BAE : Sterling Heights, MI	241.845	19.393	Dec 2020	11.569	Dec 2021	-		-		-	0.000	272.807	-
Prototype Material Contractor	C/CPIF	BAE : Sterling Heights, MI	119.298	-		-		-		-		-	0.000	119.298	-
Prototype Material Government Furnished	Various	Various : .	27.673	-		-		-		-		-	0.000	27.673	-
Contractor System Engineering, Data, Test and Program Management	C/CPIF	BAE : Sterling Heights, MI	158.104	6.259	Dec 2020	5.995	Dec 2021	-		-		-	0.000	170.358	-
Procurment of Live Fire Test Assets	Option/ FPIF	BAE : York, PA	50.650	-		-		-		-		-	0.000	50.650	-
Contractor Support to Qualification, Live Fire, & Operational Testing	C/CPIF	BAE : Sterling Heights, MI	49.208	9.145	Dec 2020	5.789	Dec 2021	-		-		-	0.000	64.142	-
		Subtotal	646.778	34.797		23.353		-		-		-	0.000	704.928	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	MIPR	PMO : Warren, MI	117.971	2.171	Dec 2020	2.719	Dec 2021	-		-		-	0.000	122.861	-
FY 2018 NDAA SEC 825 MDAP Cost Overrun	Allot	OASA(FM&C) : Washington, D.C.	0.170	-		-		-		-		-	0.000	0.170	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	Project (Number/Name) EB5 / *Armored Multi-Purpose Vehicle*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	118.141	2.171		2.719		-		-		-	0.000	123.031	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Testing	MIPR	Various : .	113.452	39.172	Dec 2020	8.190	Dec 2021	-		-		-	0.000	160.814	-
		Subtotal	113.452	39.172		8.190		-		-		-	0.000	160.814	N/A

Remarks

Testing locations are as follows. Aberdeen Test Center (ATC) = Maryland, Yuma Test Center (YTC) = Arizona, White Sands Missile Range (WSMR) = New Mexico, Electronic Proving Ground (EPG) = Arizona, Cold Regions Test Center (CRTC) = Alaska, Tropic Regions Test Center (TRTC) = Suriname, South America, Dugway Proving Grounds (DPG) = Utah

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	878.371	76.140		35.560		-		-		-	0.000	990.071	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

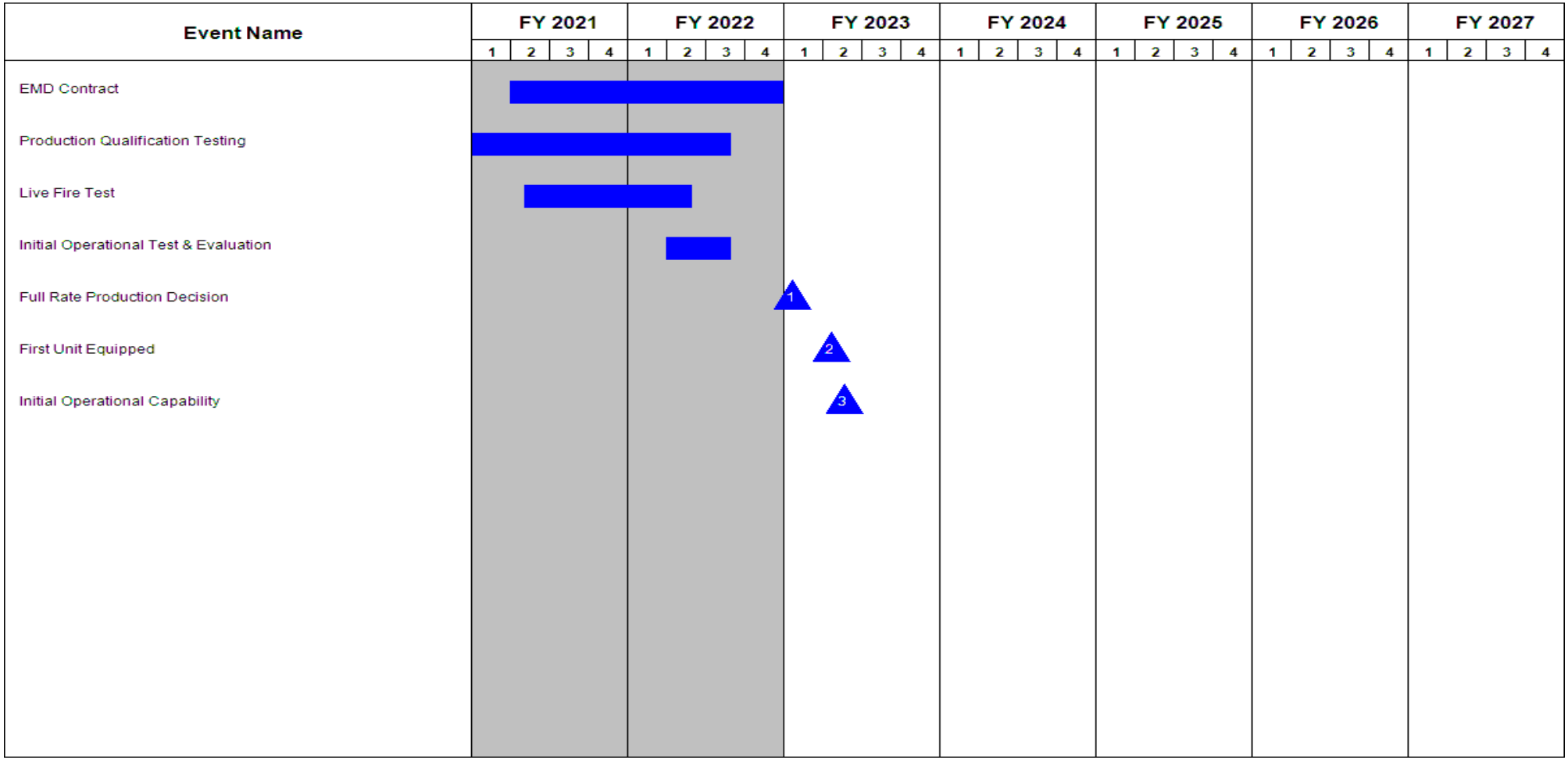

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605028A / *Armored Multi-Purpose Vehicle (AMPV)*	**Project (Number/Name)** EB5 / *Armored Multi-Purpose Vehicle*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Milestone B Decision	1	2015	1	2015
EMD Contract	1	2015	4	2022
Preliminary Design Review	3	2015	3	2015
Critical Design Review	3	2016	3	2016
Production Prove Out Test	4	2017	4	2018
Limited User Test	4	2018	1	2019
Milestone C	2	2019	2	2019
Low Rate Initial Production 1	2	2019	2	2019
Production Qualification Testing	1	2021	3	2022
Live Fire Test	2	2021	2	2022
Initial Operational Test & Evaluation	2	2022	3	2022
Full Rate Production Decision	1	2023	1	2023
First Unit Equipped	2	2023	2	2023
Initial Operational Capability	2	2023	2	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	15.671	16.350	17.950	-	17.950	6.195	6.301	6.433	6.467	Continuing	Continuing
EA8: *Joint Tactical Networking Center*	-	15.671	16.350	17.950	-	17.950	6.195	6.301	6.433	6.467	Continuing	Continuing

Note

Joint Tactical Networking Center (JTNC) is funded using a Joint budget strategy. Each Military Department (MILDEP) budgets for one-third of the total program RDT&E requirements for joint efforts. Fiscal Year (FY) 2021 through FY 2023 funding reflects the full Army JTNC requirement with the consolidated funding from Air Force and Navy. FY 2024 and beyond reflects the Army one-third portion of total program Research Development Test & Evaluation (RDT&E) funds. Out-year funding is programmed in PE 0605030A by the Army, PE 0605030N by the Navy and PE 0605030F by the Air Force. Prior to submission of the President's Budget, the funding is consolidated in Army PE 0605030A for execution per OSD direction.

A. Mission Description and Budget Item Justification

This funding line supports the Army Network Modernization Strategy line of effort (LOE) 1, Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

The Joint Tactical Networking Center (JTNC) is chartered to enable the Department of Defense (DoD)'s rapid identification, characterization, procurement, fielding, and sustainment of modular, innovative tactical communications products that ensure secure, interoperable, and resilient Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities. The JTNC provides technical expertise to facilitate tactical communications management, innovation, and standardization. The JTNC: (1) maintains a cyber-hardened DoD Information Repository (IR), (2) provides Technical Analyses/Capability Characterizations on tactical communications products, (3) provides Open Systems Architecture Standards, (4) provides exportability analysis and licensing reviews, and (5) serves as Technical Advisor to the Communications, Command, and Control Leadership Board (C3LB) and Tactical Communications Senior Steering Group (TCSSG).

JTNC mission is executed in coordination with key government stakeholders to include: C3LB, TCSSG, Communications Technologies and Waveforms Working Group (CTWWG), Resiliency Sub-Working Group (RSWG), the Department of Defense (DoD) Chief Information Officer (CIO), Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), Joint Staff J6 (JS J6), The Under Secretary of Defense for Research and Engineering, abbreviated USD(R&E), and the Services. Particular attention is paid to ensuring that interagency work is collaborative and eliminates duplicative capability. The JTNC enables a common software baseline that is hardware agnostic leading to increased competition for Software Defined Radios (SDR).

Through collaboration with DoD matrixed and industry partners, the JTNC is engaged in the analysis of directed software, artifacts, and support of the National Security Agency (NSA) Commercial Communications Security (COMSEC) Evaluation Program (CCEP). Additionally, the JTNC participates in Standards-related activities such as the Interface Control Working Group (ICWG), and continues evolving its Capabilities Characterization and Joint Communications Marketplace (CC & JCM) and Modular Radio Architecture (MRA) processes. Further JTNC directed requirements outlined by the C3LB consist of CTWWG, Joint All-Domain Command and Control (JADC2),

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605030A *I Joint Tactical Network Center (JTNC)*

continued development/maturation of the DoD IR framework & Cloud migration, as well as JCM Development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	15.671	16.364	0.000	-	0.000
Current President's Budget	15.671	16.350	17.950	-	17.950
Total Adjustments	0.000	-0.014	17.950	-	17.950
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	17.950	-	17.950
• FFRDC Transfer	-	-0.014	-	-	-

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*				Project (Number/Name) EA8 / *Joint Tactical Networking Center*			
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
EA8: *Joint Tactical Networking Center*	-	15.671	16.350	17.950	-	17.950	6.195	6.301	6.433	6.467	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Joint Tactical Networking Center (JTNC) is funded using a Joint budget strategy. Each Military Department (MILDEP) budgets for one-third of the total program RDT&E requirements for joint efforts. Fiscal Year (FY) 2021 through FY 2023 funding reflects the full Army JTNC requirement with the consolidated funding from Air Force and Navy. FY 2024 and beyond reflects the Army one-third portion of total program Research Development Test & Evaluation (RDT&E) funds. Out-year funding is programmed in PE 0605030A by the Army, PE 0605030N by the Navy and PE 0605030F by the Air Force. Prior to submission of the President's Budget, the funding is consolidated in Army PE 0605030A for execution per OSD direction.

A. Mission Description and Budget Item Justification

This funding line supports the Army Network Modernization Strategy line of effort (LOE) 1, Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

The Joint Tactical Networking Center (JTNC) is chartered to enable the Department of Defense (DoD)'s rapid identification, characterization, procurement, fielding, and sustainment of modular, innovative tactical communications products that ensure secure, interoperable, and resilient Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities. The JTNC provides technical expertise to facilitate tactical communications management, innovation, and standardization. The JTNC: (1) maintains a cyber-hardened DoD Information Repository (IR), (2) provides Technical Analyses/Capability Characterizations on tactical communications products, (3) provides Open Systems Architecture Standards, (4) provides exportability analysis and licensing reviews, and (5) serves as Technical Advisor to the Communications, Command, and Control Leadership Board (C3LB) and Tactical Communications Senior Steering Group (TCSSG).

JTNC mission is executed in coordination with key government stakeholders to include: C3LB, TCSSG, Communications Technologies and Waveforms Working Group (CTWWG), Resiliency Sub-Working Group (RSWG), the Department of Defense (DoD) Chief Information Officer (CIO), Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), Joint Staff J6 (JS J6), The Under Secretary of Defense for Research and Engineering, abbreviated USD(R&E), and the Services. Particular attention is paid to ensuring that interagency work is collaborative and eliminates duplicative capability. The JTNC enables a common software baseline that is hardware agnostic leading to increased competition for Software Defined Radios (SDR).

Through collaboration with DoD matrixed and industry partners, the JTNC is engaged in the analysis of directed software, artifacts, and support of the National Security Agency (NSA) Commercial Communications Security (COMSEC) Evaluation Program (CCEP). Additionally, the JTNC participates in Standards-related activities such as the Interface Control Working Group (ICWG), and continues evolving its Capabilities Characterization and Joint Communications Marketplace (CC & JCM) and Modular Radio Architecture (MRA) processes. Further JTNC directed requirements outlined by the C3LB consist of CTWWG, Joint All-Domain Command and Control (JADC2),

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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continued development/maturation of the DoD IR framework & Cloud migration, as well as JCM Development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: DoD Waveform IR Support, Waveform Standards Evolution and Compliance & Certification Analysis	15.671	15.752	17.950

Description: Joint Tactical Networking Center (JTNC) aligns with the Communications, Command, and Control Leadership Board (C3LB), DoD Chief Information Officer (CIO), Joint Staff, the Services, and other key stakeholders for those JTNC chartered processes that ensure secure, interoperable, and resilient tactical communications. The JTNC: (1) maintains a cyber-hardened DoD Information Repository (IR), (2) provides Technical Analyses/Capability Characterizations on tactical communications products, (3) provides Open Systems Architecture Standards, (4) provides exportability analysis and licensing reviews, and (5) serves as Technical Advisor to the JTNC Board of Directors (BoD). The Joint Tactical Networking Center supports the Army's Network Modernization Strategy Line of Effort 1A - Unified Network.

FY 2022 Plans:
Continued analysis of C3LB approved waveforms in accordance with Service priorities and the FY 2022 JTNC Management Plan. The JTNC continued to support both the Services and Principal Staff Assistant (DoD CIO) in oversight of Lead Service activities and assist in the identification and resolution of cross-service networking disconnects. JTNC engaged in Joint All Domain Command and Control (JADC2) Operational Planning Teams/systems engineering support across the Services. The JTNC enhanced DoD IR capabilities by evolving framework compliance and Cloud migration. Continued Joint Communications Marketplace (JCM) development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09. Continued managing Joint warfighter challenges and solutions as assigned by the Tactical Communications Senior Steering Group (TCSSG.)

The JTNC continued collecting relevant software, technical documentation, and cataloging/inducting other DoD and industry Communication Waveforms listed in the DoD Communication Waveform Inventory. Continued to enhance DoD IR capability and approved standards promulgation.

The JTNC continued development of tactical communications vendor product capability characterizations for commercial off-the-shelf (COTS) and non-developmental item (NDI) tactical communication products. Continued to evolve DoD Waveform Standards to facilitate common development, interoperability and re-use, reducing product development time and facilitating faster delivery of capabilities to warfighters. Continued to support export requests and analyses of products for exportability. Continued development of MRA. Conducted technical waveform and software artifact analyses against published standards. Supported export requests and analyses of products for exportability. Certified secure, reusable software waveforms based on Government controlled open architecture to encourage a competitive, cost effective, interoperable networking environment.

FY 2023 Plans:

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
JTNC will continue to serve as Chair of the Communications Waveforms and Technologies Working Group (CTWWG), supporting both TCSSG and C3LB efforts towards managing Joint warfighter challenges and fielding tactical communications solutions. JTNC will continue technical analysis efforts for C3LB approved waveforms, in accordance with Service priorities and the FY 2023 JTNC Management Plan. The JTNC will continue to support both the Services and Principal Staff Assistant (DoD CIO) in oversight of Lead Service activities as Technical Advisor, assisting in the identification and resolution of cross-service networking disconnects. The JTNC will remain engaged in Joint All Domain Command and Control (JADC2) Operational Planning Teams/ systems engineering support across the Services. The JTNC, through the efforts of the CTWWG's Resiliency Sub-Working Group, will coordinate and socialize resiliency terminology, processes, and support resources to design, test, compare, and field tactical radio products most capable of mitigating adversary detection, interception, geolocation, and jamming threats. The JTNC will continue managing and maintaining the DoD Information Repository (IR), providing controlled access for proprietary and nonproprietary waveforms and associated tactical communications products. The JTNC will enhance DoD IR capabilities by evolving framework compliance and Cloud migration. The JTNC will continue Joint Communications Marketplace (JCM) development to meet DoD and Industry requirements in conjunction with DoD Instruction 4630.09. The JTNC will manage evolution of the JCM to provide value-added collaborative environment tools, enabling Government and Industry to share information on innovative technologies and DoD capability gaps leading to rapid acquisition efforts to meet warfighter needs. JCM capabilities/communities will continue to support PEO C3T and Network Cross-Functional Team (N-CFT) requirements for Industry engagement, TEMs, whitepaper submission and evaluation, and follow-on contract efforts. The JTNC will continue development of tactical communications vendor product capability characterizations for commercial off-the-shelf (COTS) and non-developmental item (NDI) tactical communication products. The JTNC will continue to evolve DoD Waveform Standards to facilitate common development, interoperability and re-use, reducing product development time and facilitating faster delivery of capabilities to warfighters. Focused efforts will leverage emerging Spectrum activities and facilitate deployment of the Modular Radio Architecture (MRA). Finally, the JTNC will continue to support export requests and analyses of products for exportability. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY23 increase represents consolidated program funding from Army (065030A), Navy (0605030N) and Air Force (0605030F) per OSD direction.			
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	0.598	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Networking Center*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	15.671	16.350	17.950

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

Due to Joint Funding Strategy, there is no prior year funding for JTNC in the other Service lines. Prior to the year of execution, the JTNC funding is consolidated in Army PE 0605030A for execution.

D. Acquisition Strategy

The Joint Tactical Networking Center (JTNC) is a Joint support program to the Services, the DoD Chief Information Officer (CIO), the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)), and USD Research and Engineering (USD(R&E)). JTNC core functions as defined in the JTNC Acquisition Decision Memorandum and Charter signed on 20 January 2014 and revalidated on 13 September 2019 include execution in the following areas: Information Repository, Technical Analysis, Open Systems Architecture Standards, Exportability Analysis and Licensing Review, and Technical Advisor to the C3LB. The services derived from these core functions reinforce an acquisition environment which ensures that interoperable, secure, and resilient joint tactical waveforms and wireless communications applications can operate in a variety of hardware transport solutions.

The FY 2023 Budget supports continued development/maturation of the DoD IR, analysis of directed software and artifacts, support of the National Security Agency (NSA) Commercial Communications Security (COMSEC) Evaluation Program (CCEP), JTNC Standards Interface Control Working Group (ICWG), the Capabilities Characterization and Joint Communications Marketplace (CC & JCM). The FY 2023 budget supports the Lead Service Initiative where JTNC will serve as a technical advisor and source of engineering and analytic resources in the conduct of Joint enterprise-level systems engineering and analysis and support DoD CIO. The FY 2023 budget supports the continued management of Joint warfighter challenges and solutions as assigned by the TCSSG. The FY 2023 budget supports Modular Radio Architecture (MRA) work, where JTNC will lead development and promulgation of a framework containing a collection of DoD standards and a description or architecture of how to use these to compose or control a communications system. The MRA defines how to implement a communications system or radio on select platforms.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support	Various	Multiple Contract Awards : Various	7.269	0.183	Oct 2020	0.180	Oct 2021	0.195	Oct 2022	-		0.195	Continuing	Continuing	Continuing
Program Management Support	C/CPFF	G2 Software Systems : San Diego, CA	4.194	0.484	Nov 2020	0.490	Nov 2021	0.617	Oct 2022	-		0.617	Continuing	Continuing	Continuing
Program Management Support	MIPR	NIWC PACIFIC : San Diego, CA	0.718	0.397	Dec 2020	0.391	Dec 2021	0.375	Nov 2022	-		0.375	Continuing	Continuing	Continuing
FY22 SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.598		-		-		-	0.000	0.598	-
		Subtotal	12.181	1.064		1.659		1.187		-		1.187	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTNC Product Development Support	MIPR	NIWC PACIFIC : San Diego, CA	5.071	0.512	Oct 2020	0.517	Oct 2021	0.928	Oct 2022	-		0.928	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	G2 Software Systems : San Diego, CA	13.921	2.965	Nov 2020	2.940	Nov 2021	3.329	Oct 2022	-		3.329	Continuing	Continuing	Continuing
JTNC Product Development Support	MIPR	NIWC ATLANTIC : Charleston, SC	3.152	2.956	Oct 2020	2.960	Oct 2021	1.181	Dec 2022	-		1.181	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	NIWC ATLANTIC JCM (SRC) : Atlanta, GA	-	-		0.439	Oct 2021	1.820	Nov 2022	-		1.820	Continuing	Continuing	Continuing
JTNC Product Development Support	C/CPFF	Various : San Diego, CA	2.248	0.049	Nov 2020	-		-		-		-	0.000	2.297	2.299
		Subtotal	24.392	6.482		6.856		7.258		-		7.258	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605030A / *Joint Tactical Network Center (JTNC)*	Project (Number/Name) EA8 / *Joint Tactical Networking Center*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JTNC Engineering/ Technical Support	C/CPFF	G2 Software Systems : San Diego, CA	6.911	0.771	Nov 2020	0.779	Nov 2021	0.847	Oct 2022	-		0.847	Continuing	Continuing	Continuing
JTNC Engineering/ Technical Support	FFRDC	MITRE Corporation : McLean, VA	1.079	0.146	Oct 2020	0.148	Oct 2021	0.246	Oct 2022	-		0.246	Continuing	Continuing	Continuing
JTNC Engineering/ Technical Support	MIPR	Aberdeen Proving Grounds : Aberdeen, MD	3.502	0.757	Nov 2020	0.766	Nov 2021	0.490	Dec 2022	-		0.490	Continuing	Continuing	Continuing
JTNC Engineering/ Technical Support	MIPR	NIWC PACIFIC : San Diego, CA	3.392	0.883	Oct 2020	0.892	Oct 2021	1.277	Nov 2022	-		1.277	Continuing	Continuing	Continuing
		Subtotal	14.884	2.557		2.585		2.860		-		2.860	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Development/Test & Evaluation	MIPR	NIWC PACIFIC : San Diego, CA	9.308	1.899	Oct 2020	1.910	Oct 2021	2.613	Nov 2022	-		2.613	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	G2 Software Systems : San Diego, CA	12.404	3.051	Nov 2020	3.003	Nov 2021	3.801	Oct 2022	-		3.801	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	Multiple Awards : Various	1.820	0.353	Nov 2020	0.337	Nov 2021	0.231	Nov 2022	-		0.231	Continuing	Continuing	Continuing
Development/Test & Evaluation	C/CPFF	Booz Allen Hamilton - NSA : Ft. Meade, MD	0.499	0.265	Nov 2020	-		-		-		-	0.000	0.764	0.774
		Subtotal	24.031	5.568		5.250		6.645		-		6.645	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	75.488	15.671		16.350		17.950		-		17.950	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Networking Center*

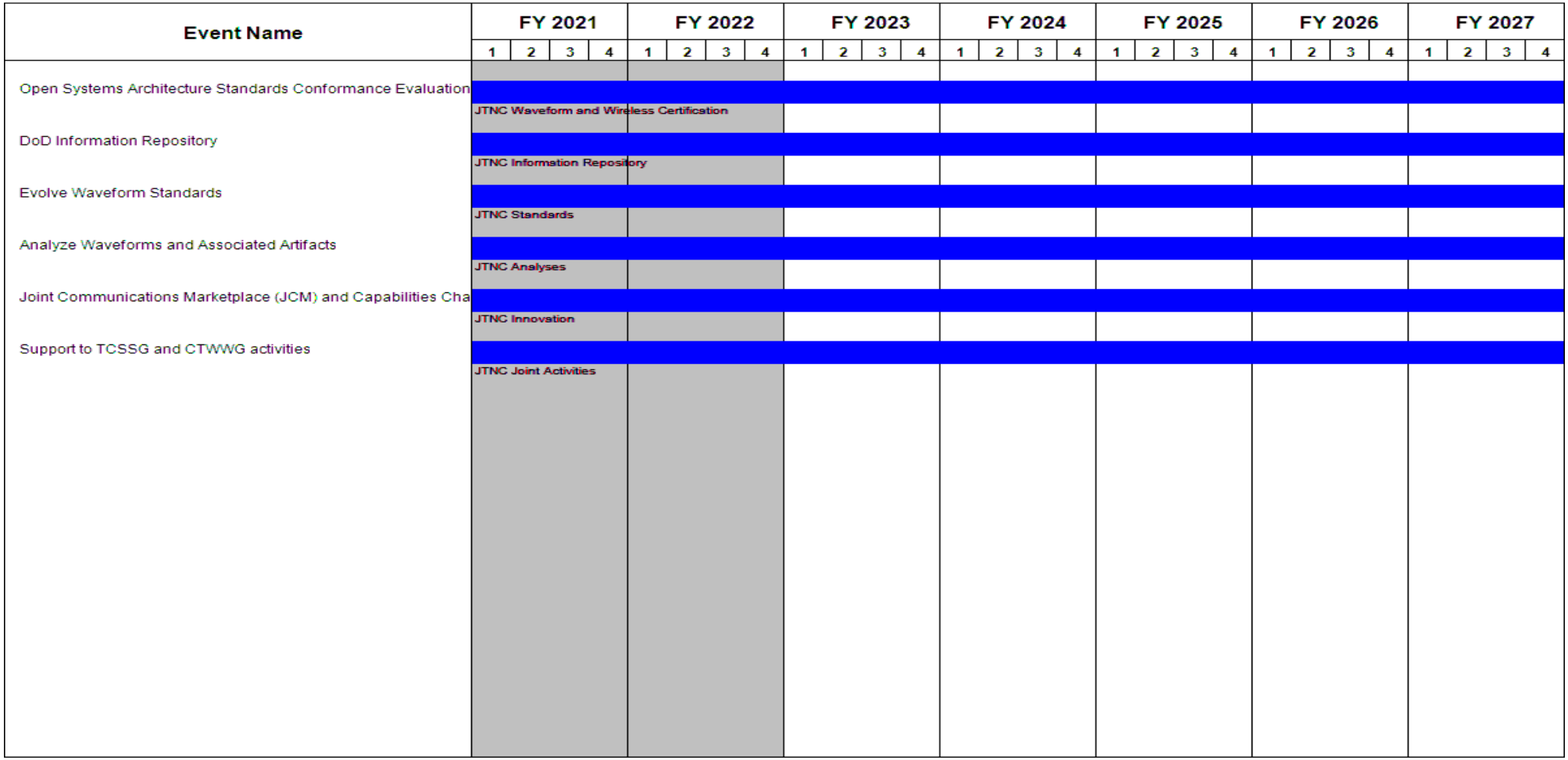


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605030A / *Joint Tactical Network Center (JTNC)*	**Project (Number/Name)** EA8 / *Joint Tactical Networking Center*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Open Systems Architecture Standards Conformance Evaluations	1	2020	4	2027
DoD Information Repository	1	2020	4	2027
Evolve Waveform Standards	1	2020	4	2027
Analyze Waveforms and Associated Artifacts	1	2020	4	2027
Joint Communications Marketplace (JCM) and Capabilities Characterization (CC)	1	2020	4	2027
Support to TCSSG and CTWWG activities	1	2020	4	2027

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	30.540	28.905	30.169	-	30.169	24.697	26.804	26.770	27.013	Continuing	Continuing
EF5: *Joint Tactical Network (JTN)*	-	10.327	10.009	10.714	-	10.714	4.184	4.306	4.307	4.349	Continuing	Continuing
EX6: *Waveforms*	-	20.213	18.896	19.455	-	19.455	20.513	22.498	22.463	22.664	Continuing	Continuing

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of Army Network Modernization Strategy LOE 1, Unified Network.

EF5 project: This funding line is a key enabler of the Army Modernization Priorities in support of the network. This funding line is a key enabler of the Army Modernization Priorities in support of Unified Network (LOE 1) and Joint Interoperability/Coalition Accessible (LOE 3). The Joint Enterprise Network Manager (JENM) software provides a single, converged network management tool allowing the Warfighter to plan, configure, load, and manage the Joint Services' Tactical Radios and their networks in the field - a capability not available in legacy planning systems. JENM funding supports several types of tactical radios, such as the Manpack and Rifleman, enabling them to utilize Mobile Ad Hoc Networking (MANET) and other waveforms to include: Mobile User Objective System (MUOS) waveform, Demand Assigned Multiple Access (DAMA) Satellite Communications (SATCOM), Integrated Waveform (IW), and Single Channel Ground and Airborne Radio System (SINCGARS) waveform. Using its Over-the-Air-Management (OTAM) functionality, JENM provides the Commander the ability to quickly reconfigure critical networks. JENM enhances the S6's ability to conduct Course of Action (COA) Analysis and the Military Decision Making Process (MDMP), providing commanders critical information regarding their ability to communicate.

FY 2023 funding will continue radio planner development efforts to design, engineer, integrate and test of planning and management capabilities for the Tactical Radio network in support of the Advanced Networking Waveform (ANWf). Continued development provides further integration of the Integrated Tactical Network (ITN) and Network Management of its emerging systems to enable Soldiers the ability to effectively manage the ITN. Radio planner development efforts will also support MUOS Waveform Planning Continuing System Improvements and rapid provisioning of MUOS end-user terminals.

Planning applications are deployed on, and critically tied to the Ruggedized Application Platform - Tactical Radios (RAP-TR) hardware from Division to the Company level.

EX6 project: Product Manager (PdM) Waveforms provides the transport technologies necessary to support the overall connectivity of the Unified Network. PdM Waveforms' technology assessments, integration, and configuration management enable seamless updates and fluid communication between echelons of the Unified Network.

PdM Waveforms delivers, maintains, and upgrades portable, interoperable, MANET waveforms, Advanced Networking Waveforms (ANWf), and network enterprise services in support of the N-CFT capability set approach to achieve the network modernization strategy.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605031A *I Joint Tactical Network (JTN)*

PdM Waveforms will remain agile to accommodate emerging warfighter needs by addressing the following:
1) Waveform (WF) analysis and system engineering activities for DoD as Lead Service Activity for Ground/Line of Sight (LoS) Waveforms (currently TSM, WREN, and SINCGARS) in accordance with Deputy Secretary of Defense memo for Enhancing DoD's Joint Tactical Networks and Datalink Modernization, 29 March 2019
2) Development and/or integration efforts of Broadcast Waveforms (i.e. SINCGARS, WREN, ANWf) and Radio Services (i.e. enterprise Over The Air Management (eOTAM)) in support of Army Network modernization, and agile mission support initiatives
3) Viability assessments of ANWf in support of the Integrated Tactical Network (ITN) and future capability sets to ensure waveform performance in advance of formal ITN experimentation and fielding activities

FY 2023 RDT&E dollars will fund next generation Government developed waveforms and Radio Service applications, system and architectural engineering for ANWf radio communications technologies, program management support and logistics in support of N-CFT Capability Set (CS) for the Unified Network LOE, and examine modular and open system architectures to decrease future integration and waveform porting costs.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	30.540	28.954	0.000	-	0.000
Current President's Budget	30.540	28.905	30.169	-	30.169
Total Adjustments	0.000	-0.049	30.169	-	30.169
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	30.169	-	30.169
• FFRDC Transfer	-	-0.049	-	-	-

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EF5: *Joint Tactical Network (JTN)*	-	10.327	10.009	10.714	-	10.714	4.184	4.306	4.307	4.349	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

JENM 655031EF5 funding is aligned with the Joint Service Agreement established with the Army, Navy and Air Force. $10,714K reflects the Army, Navy and Air Force funding for JENM 655031EF5.

A. Mission Description and Budget Item Justification

EF5 project: This funding line is a key enabler of the Army Modernization Priorities in support of the network. This funding line supports the Army Network Modernization Strategy (LOE 1), Unified Network and Joint Interoperability/Coalition Accessible (LOE 3). Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

The Joint Enterprise Network Manager (JENM) software provides a single, converged network management tool allowing the Warfighter to plan, configure, load, and manage the Joint Services' Tactical Radios and their networks in the field - a capability not available in legacy planning systems. JENM funding supports several types of tactical radios, such as the Manpack and Rifleman, enabling them to utilize Mobile Ad Hoc Networking (MANET) and other waveforms to include: Mobile User Objective System (MUOS) waveform, Demand Assigned Multiple Access (DAMA) Satellite Communications (SATCOM), Integrated Waveform (IW), and Single Channel Ground and Airborne Radio System (SINCGARS) waveform. Using its Over-the-Air-Management (OTAM) functionality, JENM provides the Commander the ability to quickly reconfigure critical networks. JENM enhances the S6's ability to conduct Course of Action (COA) Analysis and the Military Decision Making Process (MDMP), providing commanders critical information regarding their ability to communicate.

FY 2023 funding will continue radio planner development efforts to design, engineer, integrate and test of planning and management capabilities for the Tactical Radio network in support of the Advanced Networking Waveform (ANWf). Continued development provides further integration of the Integrated Tactical Network (ITN) and Network Management of its emerging systems to enable Soldiers the ability to effectively manage the ITN. Radio planner development efforts will also support MUOS Waveform Planning Continuing System Improvements and rapid provisioning of MUOS end-user terminals.

Planning applications are deployed on, and critically tied to the Ruggedized Application Platform - Tactical Radios (RAP-TR) hardware from Division to the Company level.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: JENM Program Office Support	2.236	2.418	3.671
Description: Program Management Office support in the development of the JENM software.			
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
The JENM program office funding will continue to support JENM design, engineering, integration and test of planning and management capabilities for the Tactical Radio network. The JENM program office supports the vision of integrating lower and mid-tier Network Management capabilities to enable Soldiers to manage their entire consolidated tactical network in conjunction with network elements managed by Sailors, Marines, and Airmen. Program office funding will also support completion of MUOS waveform planning simplification and rapid provisioning of MUOS end-user terminals. ***FY 2023 Plans:*** The JENM program office will continue to support the expansion of JENM design, engineering, integration and test of planning and management capabilities for the Tactical Radio Network in support of Joint Service requirements through the use of Matrix and Contractor support. The JENM program office supports the vision of integrating lower and mid-tier Network Management capabilities to enable Soldiers to manage their entire consolidated tactical network in conjunction with network elements managed by Sailors, Marines, and Airmen. Program office funding will also support completion of MUOS waveform planning simplification and rapid provisioning of MUOS end-user terminals and expansion for deployment onto the Top Secret Enclave. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase driven by the expansion of software integration for the Joint Services and deployment onto the Top Secret Enclave.			
Title: JENM Development ***Description:*** JENM provides consolidated communications planning, network configuration, network activation, position reporting, fault management, security management, and network health and status reporting needed to establish and maintain a mobile wireless network comprised of SW defined network waveforms. JENM interfaces with other external network managers, mission planning systems, network planning systems, key management systems, and spectrum planning systems. JENM is considered a mission essential system. JENM is also considered a critical element within the Ruggedized Application Platform ? Tactical Radios (RAP-TR) hardware configuration management tool kit. ***FY 2022 Plans:*** Development funding will continue design, engineering, integration and test of planning and management application for the Tactical Radio network. Support to align with Army Network Modernization to provide further integration of the lower and mid-tier Network Management with that of PM TN to enable Soldiers the ability to manage the entire, consolidated, tactical network. Development funding will also support completion of MUOS waveform planning simplification and rapid provisioning of MUOS end-user terminals for joint service requirements. JENM planning applications are deployed on, and critically tied to the RAP-TR hardware from Division to the Company level. ***FY 2023 Plans:*** Development funding will continue design, engineering, integration and test of planning and management application for the Tactical Radio network. Support to align with Army Network Modernization to provide further integration of the lower and mid-	8.091	7.226	7.043

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
tier Network Management for Integrated Tactical Network (ITN) to enable Soldiers the ability to manage the entire consolidated tactical network in conjunction with network elements managed by Sailors, Marines, and Airmen. Development funding will also support completion of MUOS waveform planning simplification and rapid provisioning of MUOS end-user terminals for joint service requirements. JENM planning applications are deployed on, and critically tied to the RAP-TR hardware from Division to the Company level. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** As the product has matured, the continuing system improvement requirement has decreased.			
Title: FY22 SBIR / STTR Transfer ***Description:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638	-	0.365	-
Accomplishments/Planned Programs Subtotals	10.327	10.009	10.714

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• 0605031N: *0605031N; JTN, RDTE,N*	2.705	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• 0605031F: *0605031F; JTNC, RDTE,F*	3.844	-	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• B99318: *Joint Network Management System*	3.904	0.930	1.967	-	1.967	2.028	2.106	2.112	2.110	Continuing	Continuing

Remarks

PE 0605031A contains only the JTN (PdM Waveforms and PdM TCNO (JENM)) RDTE funding.
Joint Enterprise Network Manager (JENM) is funded using a Joint budget strategy. Each Military Department (MILDEP) budgets for approximately one-third of the total program RDT&E requirements for joint efforts. Out-year funding is programmed in PE 0605031A by the Army, PE 0605031N by the Navy and PE 0605031F by the Air Force. JENM and baseline planning applications are deployed on the RAP-TR hardware from Division to the Company level. JENM Logistics & Training capabilities are captured under the Joint Network Management System OPA-2 line (JNMS B99318)

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

D. Acquisition Strategy

Joint Tactical Network Center (JTNC) Acquisition Decision Memorandum (ADM) (July 2012) (JENM Supporting Role). Per the December 2014 Joint Tactical Network (JTN) Select Acquisition Report (SAR), JTN was 90% expended and changed to inactive. Defense Acquisition Management Information Retrieval (DAMIR) reflected the inactive status on 3 June 2015 JTN APB (13 October 2015) (JENM Supporting Role).

Product Manager Tactical Cyber & Network Operations (TCNO) manages a Government Owned, Government Operated (GOGO) Software Development & Integration Facility which employs competitive contracting strategies for software development & sustainment of the network manager components to ensure warfighter access to the best technology and innovative capabilities while addressing emerging threats and future requirements via an affordable, operationally effective, and timely framework.

The Army will continue a radio planner effort that will plan, manage, and provision capabilities for simplified workflow based planning solutions to rapidly meet emerging capability requirements stemming from Network Cross Functional Team (CFT) initiatives and directed requirements.

JENM will support continuing system improvements for JENM v3.5 development, which includes upgrades of MUOS, upgrades to JENM Public Key Infrastructure (PKI) certificate management, and cyber enhancements.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EF5 / *Joint Tactical Network (JTN)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JENM Program Management Support	MIPR	Various : Various	7.641	2.236	Jan 2021	2.418	Oct 2021	3.671	Oct 2022	-		3.671	Continuing	Continuing	Continuing
FY22 SBIR/STTR Transfer	TBD	TBD : TBD	-	-		0.365		-		-		-	0.000	0.365	-
		Subtotal	7.641	2.236		2.783		3.671		-		3.671	Continuing	Continuing	N/A

Remarks

Increase of Management Services support driven by the expansion of software integration for the Joint Services and deployment onto the Top Secret Enclave.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JENM NMRIL Development CIT II	MIPR	NM RIL : San Diego, CA	3.970	2.429	Jan 2021	2.575	Dec 2021	2.685	Dec 2022	-		2.685	Continuing	Continuing	Continuing
JENM NMRIL Development	MIPR	NMRIL : San Diego, CA	19.081	3.140	Jan 2021	2.672	Oct 2021	1.111	Oct 2022	-		1.111	Continuing	Continuing	Continuing
JENM NMRIL Development SSA	MIPR	TBD : TBD	5.536	2.522	Jan 2021	1.979	Jan 2022	3.247	May 2023	-		3.247	Continuing	Continuing	Continuing
		Subtotal	28.587	8.091		7.226		7.043		-		7.043	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.228	10.327		10.009		10.714		-		10.714	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

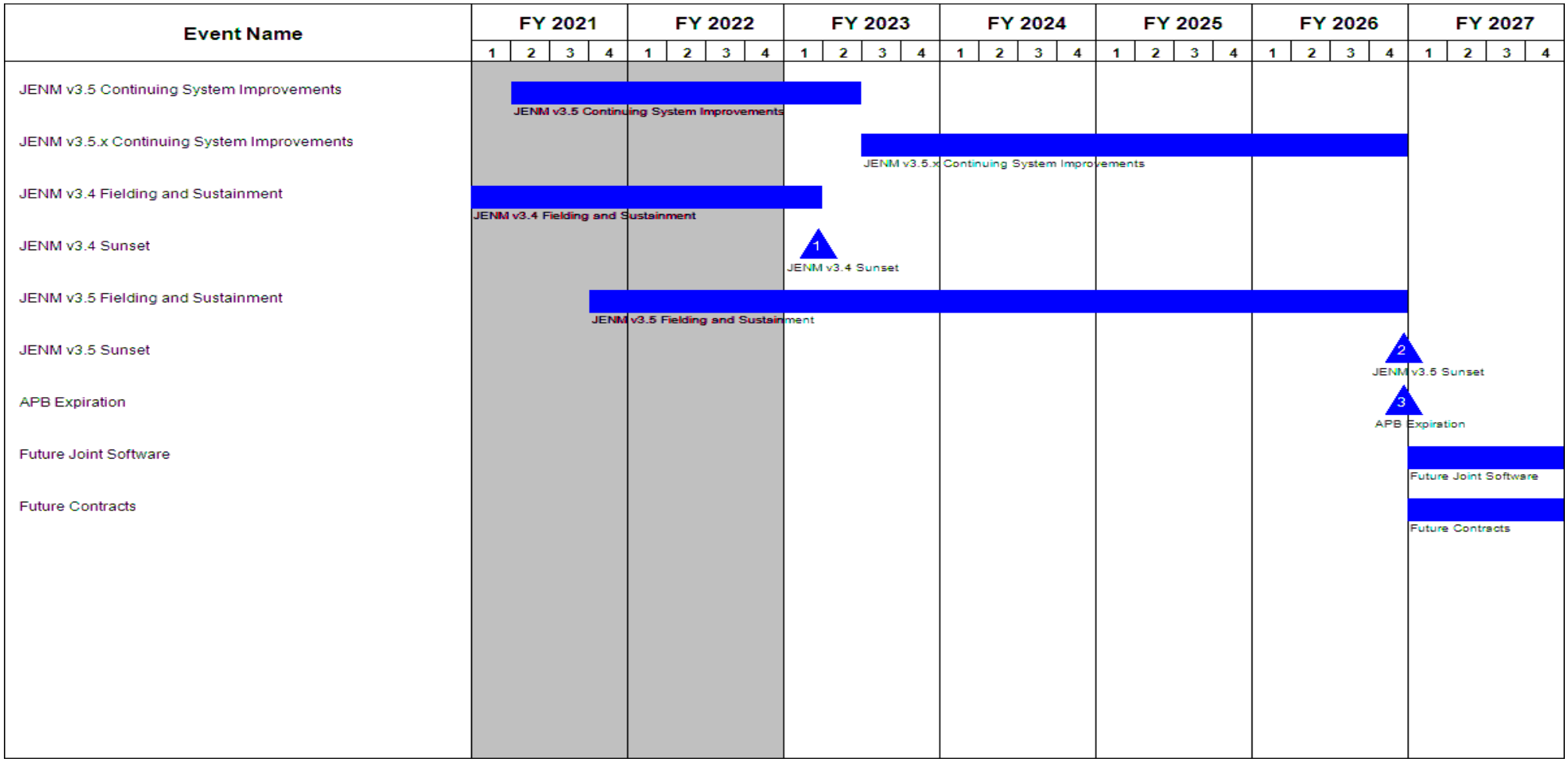


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EF5 / *Joint Tactical Network (JTN)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JENM v3.5 Continuing System Improvements	2	2021	2	2023
JENM v3.5.x Continuing System Improvements	3	2023	4	2026
JENM v3.5 FQT	2	2020	2	2020
Next Generation Planner v1.0	4	2018	4	2019
Next Generation Planner v1.1	3	2019	4	2020
MUOS MOT&E 1	4	2019	4	2019
JENM v3.3.2 Sunset	4	2020	4	2020
JENM v3.4 Fielding and Sustainment	4	2019	1	2023
JENM v3.4 Sunset	1	2023	1	2023
JENM v3.5 Fielding and Sustainment	4	2021	4	2026
JENM v3.5 Sunset	4	2026	4	2026
APB Expiration	4	2026	4	2026
Future Joint Software	1	2027	4	2027
Future Contracts	1	2027	4	2027

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EX6 / *Waveforms*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EX6: *Waveforms*	-	20.213	18.896	19.455	-	19.455	20.513	22.498	22.463	22.664	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding line supports the Army Network Modernization Strategy Line Of Effort (LOE) 1, Unified Network. Efforts are aligned to support the Network-Cross Functional Team's (N-CFT) capability set approach to achieve the network modernization strategy.

Product Manager (PdM) Waveforms provides the transport technologies necessary to support the overall connectivity of the Unified Network. PdM Waveforms' technology assessments, integration, and configuration management enable seamless updates and fluid communication between echelons of the Unified Network.

PdM Waveforms delivers, maintains, and upgrades portable, interoperable, Mobile Ad-hoc Networking (MANET) waveforms, Advanced Networking Waveforms (ANWf), and network enterprise services in support of the N-CFT capability set approach to achieve the network modernization strategy. These waveforms and services are deployed by technical insertion into production of Program of Record (PoR) radios and field upgrades to existing tactical radios.

PdM Waveforms will remain agile to accommodate emerging warfighter needs by addressing the following:
1) Waveform (WF) analysis and system engineering activities for DoD as Lead Service Activity for Ground/Line of Sight (LoS) Waveforms (currently TSM), Warrior Robust Enhanced Network (WREN), and Single Channel Ground and Airborne Radio System (SINCGARS)) in accordance with (IAW) Deputy Secretary of Defense memo for Enhancing DoD's Joint Tactical Networks and Datalink Modernization, 29 March 2019
2) Development and/or integration efforts of Broadcast Waveforms (i.e. SINCGARS, WREN, ANWf) and Radio Services (i.e. enterprise Over The Air Management (eOTAM)) in support of Army Network modernization, and agile mission support initiatives
3) Viability assessments of ANWf in support of the Integrated Tactical Network (ITN) and future capability sets to ensure waveform performance in advance of formal ITN experimentation and fielding activities

FY 2023 RDT&E dollars will fund next generation Government developed waveforms and Radio Service applications, system and architectural engineering for ANWf radio communications technologies, program management support and logistics in support of N-CFT Capability Set (CS) for the Unified Network LOE, and examine modular and open system architectures to decrease future integration and waveform porting costs.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Program Management Office Support	2.873	2.375	2.986
Description: Waveform matrix and contractor support, including technical, logistics, and business staff oversight			
FY 2022 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding will provide for matrix and contractor support for Waveforms engineering development, testing, and program oversight. ***FY 2023 Plans:*** Continue Program Management support for PdM Waveforms, including contractors. Funding will provide for matrix and contractor support for Waveforms engineering development, testing, and program oversight. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to inflation			
Title: Waveforms Software Development ***Description:*** PdM Waveforms provides software development and waveforms support for tactical radios operational and networking requirements for the following: 1) Single Channel Ground and Airborne Radio System (SINCGARS) - Develop NexGen SINCGARS waveform to combat the adversary's near, mid, and far-term Electronic Attack/Electronic Warfare (EA/EW) capabilities 2) Warrior Robust Enhanced Network (WREN) Waveform will enhance range, scalability, and Electronic Protection (EP) for a unified transport to Army tactical networks. 3) Radio Services (i.e. enterprise Over The Air Management (eOTAM) in support of Army Network modernization, and agile mission support initiatives. ***FY 2022 Plans:*** Funding will support the requirement and initial design development of SINCGARS NexGen, WREN problem fixes and hardening the capability in support of the ITN and CS23. Support will include effort to alleviate Cyber Electro-Magnetic Activities (CEMA) threats for SINCGARS and WREN, including Lead Service activities, develop & integrate EW capabilities, and initiate development and release of SATR-DSA 1 for efficient spectrum use ***FY 2023 Plans:*** Funding will support the requirement and initial design development of SINCGARS NexGen, WREN problem fixes and hardening the capability in support of the ITN and CS25. Support will include effort to alleviate Cyber Electro-Magnetic Activities (CEMA) threats for SINCGARS and WREN, including Lead Service activities, and Radio Services (i.e. enterprise Over The Air Management (eOTAM)). ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to inflation	10.385	9.059	9.445
Title: Waveforms Test and Evaluation ***Description:*** PdM Waveforms performs test and evaluation activities to address interoperability, range, scalability, resiliency, Electronic Warfare (EW)/Cyber Electromagnetic Activities (CEMA), and readiness. Advanced Networking Waveforms (ANWf) assessments support inclusion and/or integration of technologies into Army experimentation and Capability Sets (CS's) Viability	5.126	5.019	5.325

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
and Readiness Assessments including Technology Readiness Level (TRL) assessment, test and evaluation of EW and cyber capabilities in support of Integrated Tactical Network (ITN), performance and behavior analysis of waveforms against topologies, architectures, operational use cases as defined by Network-Cross Functional Team (N-CFT) and fielding activities ***FY 2022 Plans:*** Funding will validate initial design and system engineering activities of the NexGen of Single Channel Ground and Airborne Radio System (SINCGARS), validate and test the enhancements and problem fixes of the Warrior Robust Enhanced Network (WREN) waveforms, validate implementation of enterprise Over The Air Management (eOTAM) 2.1, performance characterization and analysis of waveforms to meet the warfighter's requirements, and validate and test Spectrum Aware Tactical Radio-Dynamic Spectrum Access (SATR-DSA) Release 1 ***FY 2023 Plans:*** Funding will validate continued design and system engineering activities of the NexGen of Single Channel Ground and Airborne Radio System (SINCGARS), validate and test the enhancements and problem fixes of the Warrior Robust Enhanced Network (WREN) waveforms, validate implementation of fielded enterprise Over The Air Management (eOTAM), and provide performance characterization and analysis of waveforms to meet current and future warfighter's requirements. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Increase due to inflation			
Title: Waveforms Software Support and System Engineering ***Description:*** PdM Waveforms software support and systems engineering for waveforms and network manager applications provides the following: 1) Radio Services applications that enable over-the-air (OTA) NSA cryptographic key, radio and network configuration tools and bandwidth efficient OTA protocols supporting the Unified Network Line of Effort (LOE) for CSs 2) eOTAM will enhance radio health services, Common Management Information Base (MIB) integration, integration with Army network management systems and comply with NSA security standards 3) Evaluate the Technology Readiness Level (TRL) of ANWf in support of the ITN, N-CFT and CS' requirements and architectures 4) Oversight and inform policy for SINCGARS, WREN, TSM, eOTAM, and related products for DoD, including Lead Service activities ***FY 2022 Plans:*** Funding will support radio services software, product enhancement, and systems engineering & integration (SE&I) as described above in support of PdM Waveforms. Support will include: release of enterprise Over The Air Management (eOTAM) 2.1; Lead Service activities for the integration of existing and emerging waveforms in the DoD; analysis of TSM capabilities for Warrior	1.829	1.752	1.699

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Robust Enhanced Network (WREN) integration and release to DoD; and NATO and ABCANZ ensuring interoperability between the US and Coalition partners, including Lead Service activities ***FY 2023 Plans:*** Funding will support radio services software, product enhancement, and systems engineering & integration (SE&I) as described above in support of PdM Waveforms. Support will include: release of enterprise Over The Air Management (eOTAM); Lead Service activities for the integration of existing and emerging waveforms in the DoD; analysis of TSM capabilities for Warrior Robust Enhanced Network (WREN) integration to Manpack and Leader Radios, and release to DoD, NATO and ABCANZ ensuring interoperability between the US and Coalition partners, including Lead Service activities. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Decrease due to a reduction in commercial waveforms vetting, analysis and characterization efforts.			
Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) ***Description:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638	-	0.691	-
Accomplishments/Planned Programs Subtotals	20.213	18.896	19.455

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

PdM Waveforms is responsible for core activities, including; developing and updating legacy waveforms and analyzing Advance Networking Waveforms (ANWf) that operate on multiple radio sets and in all operational environments that support network-centric operational warfare. Waveform developments (upgrading, developing, and maintaining) will generally be procured through full and open contract competitions.

While maintaining legacy networking waveforms, PdM Waveforms implemented a strategy which focuses on vetting and analyzing ANWf. The product office continues to establish working relationships with industry partners within the waveform market. The strategy consists of conducting initial analysis of commercial waveforms, documenting vulnerabilities, identifying implementation strategies, and making recommendations to senior leadership on potential Army and other Services' use cases.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EX6 / *Waveforms*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support - Matrix	MIPR	C5ISR Center : APG, MD	4.299	1.051	Jan 2021	0.413	Jan 2022	0.820	Jan 2023	-		0.820	Continuing	Continuing	Continuing
Program Management Support - SETA	C/CPFF	SEV1-Tech : Woodbridge, VA	6.997	1.822	Nov 2020	1.558	Nov 2021	2.166	Nov 2022	-		2.166	Continuing	Continuing	Continuing
SBIR/STTR Transfer	Various	TBD : TBD	-	-		0.691		-		-		-	0.000	0.691	-
		Subtotal	11.296	2.873		2.662		2.986		-		2.986	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development - C5ISR Center	MIPR	C5ISR Center : APG, MD	29.241	9.135		7.986	Nov 2021	7.868	Nov 2022	-		7.868	Continuing	Continuing	Continuing
Software Development - Technical/Coding (MA-IDIQ)	C/CPAF	MA - IDIQ : Various Locations	18.382	1.250		1.275	Dec 2021	1.577	Jan 2023	-		1.577	Continuing	Continuing	Continuing
		Subtotal	47.623	10.385		9.261		9.445		-		9.445	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering - SSC NIWC	MIPR	SSC LANT/PAC : Charleston, SC; San Diego, CA	1.688	0.460		0.511	Dec 2021	0.560	Dec 2022	-		0.560	Continuing	Continuing	Continuing
Software Support - WREN	MIPR	C5ISR Center : APG, MD	4.624	1.369		1.241	Nov 2021	1.139	Nov 2022	-		1.139	Continuing	Continuing	Continuing
		Subtotal	6.312	1.829		1.752		1.699		-		1.699	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605031A / *Joint Tactical Network (JTN)*	Project (Number/Name) EX6 / *Waveforms*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation - C5ISR Center	MIPR	C5ISR Center : APG, MD	9.038	5.126		4.711	Feb 2022	5.026	Feb 2023	-		5.026	Continuing	Continuing	Continuing
Test and Evaluation - NATO	MIPR	RAND : Arlington, VA	0.490	-		0.510	Jun 2022	0.299	Jun 2023	-		0.299	Continuing	Continuing	Continuing
		Subtotal	9.528	5.126		5.221		5.325		-		5.325	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	74.759	20.213		18.896		19.455		-		19.455	Continuing	Continuing	N/A

Remarks

FY 2021 and out reflect a reduction in reimbursable manpower as a result of a realignment of matrixed business management support from Army Material Command, to direct funded Operations and Maintenance.

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

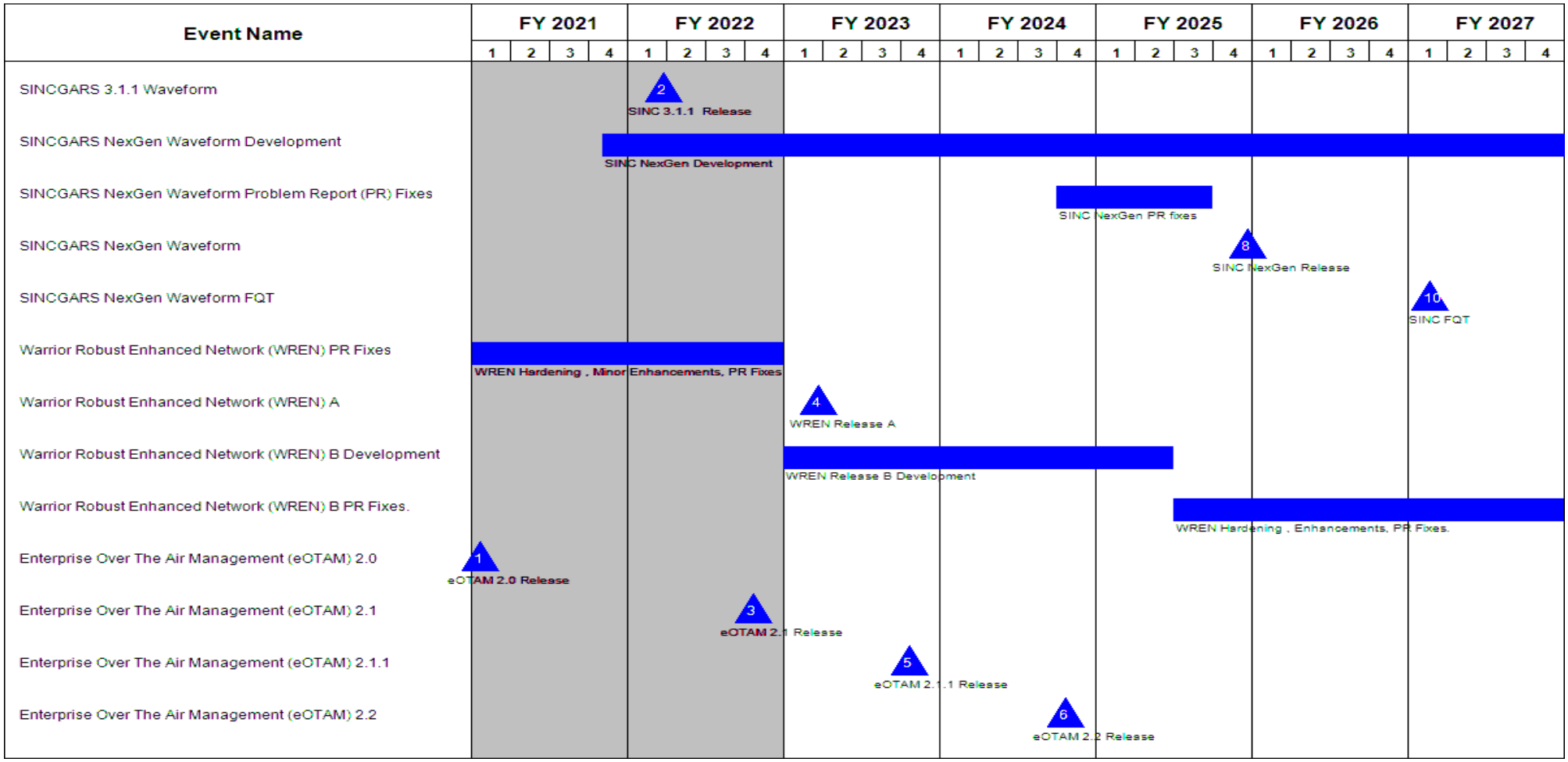


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

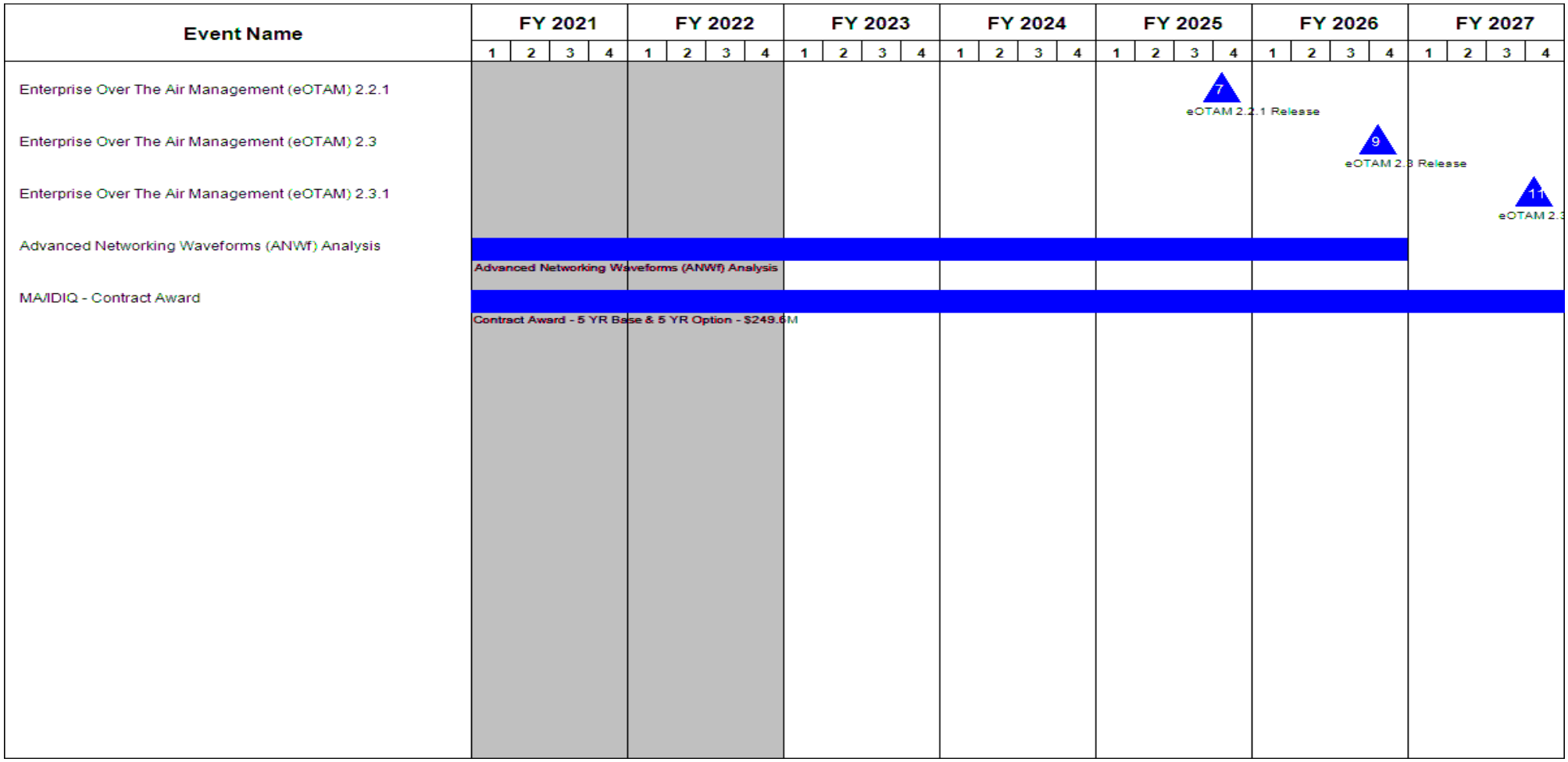


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605031A / *Joint Tactical Network (JTN)*	**Project (Number/Name)** EX6 / *Waveforms*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SINCGARS 3.1.1 Waveform	1	2022	1	2022
SINCGARS NexGen Waveform Development	4	2021	3	2028
SINCGARS NexGen Waveform Problem Report (PR) Fixes	4	2024	3	2025
SINCGARS NexGen Waveform	4	2025	4	2025
SINCGARS NexGen Waveform FQT	1	2027	1	2027
Warrior Robust Enhanced Network (WREN) C5ISR Transition	4	2020	4	2020
Warrior Robust Enhanced Network (WREN) PR Fixes	1	2021	4	2022
Warrior Robust Enhanced Network (WREN) A	1	2023	1	2023
Warrior Robust Enhanced Network (WREN) B Development	1	2023	2	2025
Warrior Robust Enhanced Network (WREN) B PR Fixes.	3	2025	4	2027
Enterprise Over The Air Management (eOTAM) 2.0	1	2021	1	2021
Enterprise Over The Air Management (eOTAM) 2.1	4	2022	4	2022
Enterprise Over The Air Management (eOTAM) 2.1.1	4	2023	4	2023
Enterprise Over The Air Management (eOTAM) 2.2	4	2024	4	2024
Enterprise Over The Air Management (eOTAM) 2.2.1	4	2025	4	2025
Enterprise Over The Air Management (eOTAM) 2.3	4	2026	4	2026
Enterprise Over The Air Management (eOTAM) 2.3.1	4	2027	4	2027
Advanced Networking Waveforms (ANWf) Analysis	1	2021	4	2026
MA/IDIQ - Contract Award	4	2018	4	2028

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605033A *I Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	5.758	-	-	-	-	0.000	0.000	0.000	0.000	0.000	5.758
EQ3: *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*	-	5.758	-	-	-	-	-	-	-	-	0.000	5.758

A. Mission Description and Budget Item Justification

Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. G-BOSS(E) will replace obsolete, Quick Reaction Capability (QRC) surveillance and force protections systems utilizing modular configurations: Medium variant (mid sensor height) for small to medium size base camps and Heavy variant (high level sensor height) for large contingency base camps. G-BOSS(E) will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	5.758	0.000	0.000	-	0.000
Current President's Budget	5.758	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	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOS S-E)*	Project (Number/Name) EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EQ3: *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*	-	5.758	-	-	-	-	-	-	-	-	0.000	5.758
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. G-BOSS(E) will replace obsolete, Quick Reaction Capability (QRC) surveillance and force protections systems utilizing modular configurations: Medium variant (mid sensor height) for small to medium size base camps and Heavy variant (high level sensor height) for large contingency base camps. G-BOSS(E) will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide.

FY21 is the last year of RDT&E funding for this program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: GBOSS-E Design and Build	5.758	-	-
Description: Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)) will replace the interim Persistent Surveillance System-Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities and will provide network integration and better mobility utilizing modular configurations. G-BOSS(E) will replace obsolete, Quick Reaction Capability (QRC) surveillance and force protections systems utilizing modular configurations: Medium variant (mid sensor height) for small to medium size base camps and Heavy variant (high level sensor height) for large contingency base camps. G-BOSS(E) will operate in a stand-alone mode or as part of an integrated network utilizing government owned software, be easily operated and maintained, and be rugged enough to support employment in expeditionary operations worldwide. FY21 Base funding in the amount of $5.976 million completes design engineering, documentation, and integration activities, builds Low Rate Initial Production (LRIP) systems, conducts Developmental Testing (DT) and Operational Assessment in lieu of an Initial Operational Test (IOT) and Limited User Test (LUT), Logistics Demonstration, Cyber related test events/assessments, and provides Program Management support.			
Accomplishments/Planned Programs Subtotals	5.758	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOS S-E)*	**Project (Number/Name)** EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Ground-Based Operational Surveillance System (Expeditionary) (G-BOSS(E)) will replace the interim Persistent Surveillance System - Ground (PSS-G) Increment 1 towers with improved persistent surveillance capabilities along with network integration and better mobility utilizing modular configurations. The G-BOSS(E) Capability Development Document (CDD) was Army Requirements Oversight Council (AROC) approved in May 2014. In FY 2013, FY 2014 & FY 2015, the Department of Defense (DoD) Physical Security Enterprise and Analysis Group (PSEAG) provided funds to conduct Pre-Milestone B activities.

G-BOSS(E) received an approved Materiel Development Decision (MDD) from the Milestone Decision Authority (MDA) on 4 December 2015. Milestone B decision accomplished 29 September 2017, the existing United States Marine Corps (USMC) tower's design (Ground-Based Operational Surveillance System) (G-BOSS) will be leveraged and modified to meet the Army's G-BOSS(E) program requirements.

The acquisition strategy for G-BOSS(E) was approved by the MDA on 11 December 2016, which approved plans to leverage the Naval Surface Warfare Center (NSWC) at Crane, Indiana and the Night Vision and Electronic Sensors Directorate (NVESD), Fort Belvoir, Virginia to provide system design, development, and integration support, as well as a Technical Data Package (TDP) to support future procurements.

Milestone C is planned for 2Q FY22.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOS S-E)*	**Project (Number/Name)** EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBOSS-E Project Management	MIPR	PM FPS : Fort Belvoir, VA	3.388	0.700	Jan 2021	-		-		-		-	0.000	4.088	-
CVBIED JUONS 0540 Project Management	MIPR	PM FPS : Fort Belvoir, VA	0.051	-		-		-		-		-	0.000	0.051	-
MDAP Cost Overrun	TBD	OASA(FM&C) : Pentagon DC	0.001	-		-		-		-		-	0.000	0.001	-
		Subtotal	3.440	0.700		-		-		-		-	0.000	4.140	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBOSS-E Design Engineering	MIPR	NSWC Crane : Crane, IN	8.452	0.670	Jan 2021	-		-		-		-	0.000	9.122	-
GBOSS-E Software Development	TBD	TBD : TBD	0.492	-		-		-		-		-	0.000	0.492	-
GBOSS-E Integration Support	MIPR	NSWC Crane : Crane, IN	1.555	1.183	Jan 2021	-		-		-		-	0.000	2.738	-
Tech Data	MIPR	NSWC Crane : Crane, IN	1.100	-		-		-		-		-	0.000	1.100	-
CVBIED JUONS 0540 Wide Area Motion Imagery Sensor Development	MIPR	NAVAIR : Patuxent River, MD	7.208	-		-		-		-		-	0.000	7.208	-
CVBIED JUONS 0540 Wide Area Motion Imagery Sensor Development	MIPR	RDECOM : Fort Belvoir, VA	8.735	-		-		-		-		-	0.000	8.735	-
Hardware Procurement	MIPR	NSWC Crane : Crane Indiana	0.100	1.664		-		-		-		-	0.000	1.764	-
		Subtotal	27.642	3.517		-		-		-		-	0.000	31.159	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOS S-E)*	Project (Number/Name) EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
NVESD Design Support	MIPR	RDECOM CERDEC : Fort Belvoir, VA	0.866	0.165	Jan 2021	-		-		-		-	0.000	1.031	-
ARL Human Systems Integration Support	MIPR	US Army ARL : Adelphi, MD	0.105	0.035	Nov 2020	-		-		-		-	0.000	0.140	-
CECOM FSD - Safety	MIPR	CECOM : APG, MD	0.104	0.035	Nov 2020	-		-		-		-	0.000	0.139	-
CECOM ILSC	MIPR	CECOM : Various	0.087	0.225	Mar 2021	-		-		-		-	0.000	0.312	-
		Subtotal	1.162	0.460		-		-		-		-	0.000	1.622	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
GBOSS-E Test and Evaluation	MIPR	ATEC : Aberdeen Proving Ground, MD	0.701	1.081	Jan 2021	-		-		-		-	0.000	1.782	-
JUONS CC-0540 Test and Evaluation Support	MIPR	ATEC : Aberdeen Proving Ground, MD	1.178	-		-		-		-		-	0.000	1.178	-
		Subtotal	1.879	1.081		-		-		-		-	0.000	2.960	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	34.123	5.758		-		-		-		-	0.000	39.881	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)*	**Project (Number/Name)** EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*

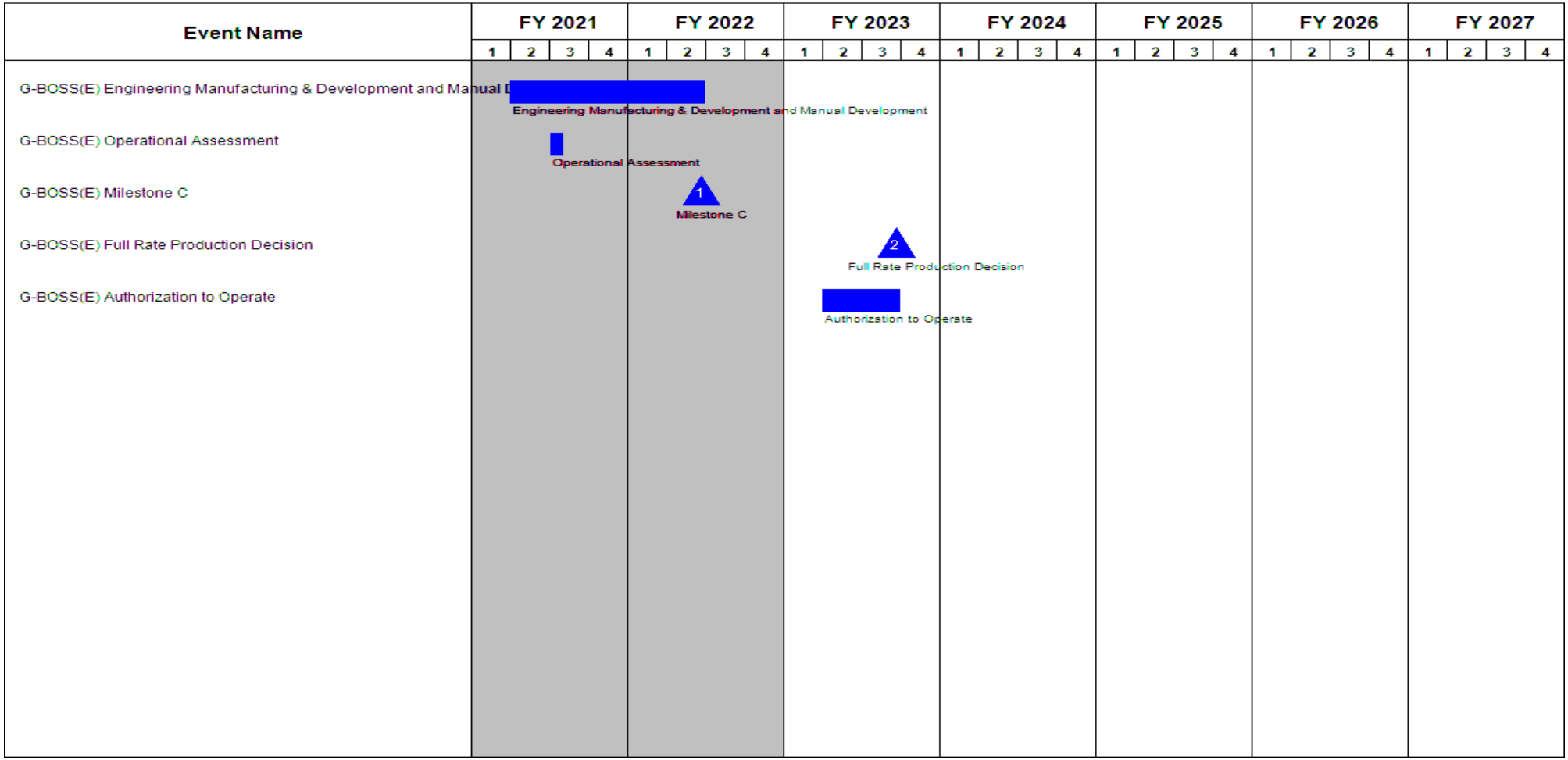


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605033A / *Ground-Based Operational Surveillance System - Expeditionary (GBOSS-E)*	**Project (Number/Name)** EQ3 / *Grnd-Based Opnl Surv Sys -Exped (GBOSS-E)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
G-BOSS(E) Engineering Manufacturing & Development and Manual Development	1	2019	2	2022
G-BOSS(E) Developmental Testing	3	2020	4	2020
G-BOSS(E) Operational Assessment	3	2021	3	2021
G-BOSS(E) Milestone C	2	2022	2	2022
G-BOSS(E) Full Rate Production Decision	3	2023	3	2023
G-BOSS(E) Authorization to Operate	2	2023	3	2023

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	29.770	16.630	11.523	-	11.523	5.236	5.792	30.695	30.993	0.000	130.639
EB4: *CIRCM*	-	29.770	16.630	11.523	-	11.523	5.236	5.792	30.695	30.993	0.000	130.639

A. Mission Description and Budget Item Justification

This funding line is a key enabler of the Army Modernization Priorities in support of the Aviation Survivability Equipment (ASE) program. The Common Infrared Countermeasure (CIRCM) budget line includes funding to support the development and integration of Aircraft Survivability Equipment (ASE) products onto CH-47F.

CIRCM (EB4)
CIRCM is the next generation lightweight, laser-based Infrared Countermeasure (IRCM) component that will interface with both the Army's Common Missile Warning System (CMWS) and future Missile Warning Systems (MWS) to defeat current and emerging missile threats that use multispectral technology for rotary-wing, tilt-rotor and small fixed-wing aircraft across the DoD. CIRCM receives an angular bearing hand-off from the MWS, employs a pointing and tracking system which acquires the handed-over threat and tracks the incoming missile during and after motor burnout. CIRCM jams the missile by using modulated laser energy in the missile seeker band, thus degrading the tracking capability of the missile and causing it to miss the aircraft. CIRCM is utilizing Open Systems Architecture which allows flexibility with software and hardware refreshes. Tech insertions, when coupled with future threat acquisition and integration, will ensure CIRCM performance to keep pace with future threats. CIRCM is part of the suite of ASE Mission Equipment for the FVL platform.

The CIRCM A-Kit includes mounting hardware, wiring harnesses, 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. The CIRCM B-Kit is the mission kit (laser, pointer tracker, and controller) required to achieve near spherical coverage for an aircraft.

JUONS SO-0010 and CIRCM QRC
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 ATW/CIRCM QRC and Limited Interim Missile Warning System (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.

Fiscal Year (FY) 2023 Base Research, Development, Test, and Evaluation (RDTE) funding in the amount of $11.523 million will fund A-Kit development, integration and test activities on multi-variant platforms.

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605035A *I Common Infrared Countermeasures (CIRCM)*

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	29.770	16.630	0.000	-	0.000
Current President's Budget	29.770	16.630	11.523	-	11.523
Total Adjustments	0.000	0.000	11.523	-	11.523
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	11.523	-	11.523

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2021	FY 2022
Project: EB4: *CIRCM*		
Congressional Add: *Program Increase - Aviation Artificial Intelligence Virtual Training Environment*	5.000	-
Congressional Add Subtotals for Project: EB4	5.000	-
Congressional Add Totals for all Projects	5.000	-

Change Summary Explanation

FY 2023 funding increase reflects the fact that the FY 2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EB4 / *CIRCM*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EB4: *CIRCM*	-	29.770	16.630	11.523	-	11.523	5.236	5.792	30.695	30.993	0.000	130.639
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 CIRCM budget line funding supports continuing A-Kit development, model based systems engineering, and integration activities for CH-47F.

CIRCM (EB4)
CIRCM is the next generation lightweight, laser-based IRCM component that will interface with both the Army's CMWS and future MWS to defeat current and emerging missile threats that use multispectral technology for rotary-wing, tilt-rotor and small fixed-wing aircraft across the DoD. CIRCM receives an angular bearing hand-off from the MWS, employs a pointing and tracking system which acquires the handed-over threat and tracks the incoming missile during and after motor burnout. CIRCM jams the missile by using modulated laser energy in the missile seeker band, thus degrading the tracking capability of the missile and causing it to miss the aircraft. CIRCM is utilizing Open Systems Architecture which allows flexibility with software and hardware refreshes. Tech insertions, when coupled with future threat acquisition and integration, will ensure CIRCM performance to keep pace with future threats. CIRCM is part of the suite of ASE Mission Equipment for the FVL platform.

The CIRCM A-Kit includes mounting hardware, wiring harnesses, 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. The CIRCM B-Kit is the mission kit (laser, pointer tracker, and controller) required to achieve near spherical coverage for an aircraft.

JUONS SO-0010 and CIRCM QRC
As a part of Phase 2a of the JUONS (SO-0010) program, the Army integrated the DoN LAIRCM system onto the Army and SOA platforms. Due to a number of challenges, circumstances, and variables, the Army updated the ATW/CIRCM QRC and Limited Interim Missile Warning System (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.

FY 2023 Base RDTE funding in the amount of $11.523 million will fund A-Kit development, integration and test activities on multi-variant platforms.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: CIRCM Product Development	16.913	9.295	8.380

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: CIRCM product development, support costs, & management services ***FY 2022 Plans:*** FY 2022 RDTE Base funding supports continuing A-Kit development, model based systems engineering, and integration activities for the AH-64E v6 platform. Supports preliminary analysis for FVL A-kit development. ***FY 2023 Plans:*** FY 2023 RDTE Base funding supports continuing A-Kit development, model based systems engineering, and integration activities forCH-47F. Additionally, funding supports preliminary analysis for integration of ASE systems on FVL FARA and FLRAA platforms. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The decrease in CIRCM Product Development is due to completion of UH-60V A-Kit development in FY 2022.			
Title: CIRCM Test & Evaluation (T&E) ***Description:*** CIRCM T&E activities ***FY 2022 Plans:*** FY 2022 RDTE Base funding supports A-Kit Integration testing for the UH-60V & the AH-64E v6 platforms. Supports continuing Threat & Vulnerability Analysis. ***FY 2023 Plans:*** FY 2023 RDTE Base funding supports A-Kit Integration testing for the continued work on CH-47F, as well as jamcode and software improvement testing. Supports continuing Threat & Vulnerability Analysis. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** The decrease in CIRCM Test & Evaluation is due to completion of UH-60V A-Kit integration and testing in FY 2022.	5.557	6.728	3.143
Title: Phase 3 CIRCM QRC OCO ***Description:*** Phase 3 CIRCM QRC SEPM, Software Modeling and Simulation	2.300	-	-
Title: Small Business Innovation Research (SBIR)/Small Business Technology Transfer (STTR) ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:***	-	0.607	-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	24.770	16.630	11.523

	FY 2021	FY 2022
Congressional Add: Program Increase - Aviation Artificial Intelligence Virtual Training Environment	5.000	-
FY 2021 Accomplishments: FY 2021 RDTE Base funding in the amount of $5.000 million will fund the development of an Aviation Artificial Intelligence Virtual Training Environment.		
Congressional Adds Subtotals	5.000	-

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• AZ3537: *Common Infrared Countermeasures (CIRCM)*	266.517	234.012	288.209	-	288.209	302.250	259.183	243.472	242.568	2,075.106	3,911.317

Remarks

D. Acquisition Strategy

The December 28, 2011, Defense Acquisition Executive (DAE) Acquisition Decision Memorandum (ADM) authorized entry into the Technology Maturation and Risk Reduction (TMRR) phase, designated the program a pre-Major Defense Acquisition Program (MDAP), and approved the updated exit criteria. The August 25, 2015, DAE ADM authorized entry into the Engineering and Manufacturing Development (EMD) phase and designated the program as a MDAP. The EMD contract was awarded to Northrop Grumman Systems Corporation (NGSC) on August 28, 2015. The EMD contract includes priced options for Other Platform A-Kit Development, A-Kit Engineering Support, Low Rate Initial Production (LRIP) 1 and 2 Prototypes (Hardware and Installs), LRIP 1 and 2 Engineering and Test Support, Software Technical Data Package (TDP), Navy funded requirements, and Defense Exportability Features (DEF). CIRCM MS C was approved September 14, 2018, the LRIP and Engineering Support options were exercised and the program entered the Production & Deployment phase with First Unit Equipped (FUE) achieved in the second quarter of FY 2020. During the Milestone C approval process, the Chief of Staff of the Army directed funding be increased beginning in FY 2020 to accelerate CIRCM production, Initial Operational Test (IOT) and to field one Combat Aviation Brigade (CAB) per year. A Full Rate Production (FRP) Decision was approved April 13, 2021 and a five year Indefinite Delivery Indefinite Quantity contract was awarded to NGSC on April 30, 2021 for up to 596 B-Kits with options for Engineering Services, Repairs, and Contractor Logistics Support services. The program plans to meet the Initial Operational Capability (IOC) threshold date of September 2022.

Due to the urgency of addressing the Size, Weight, Power, and Cooling (SWaP-C) issues related to the Phase 2a JUONS SO-0010 DoN LAIRCM initial materiel solution, the Army approved a Directed Requirement for the Phase 3 ATW/CIRCM QRC (requirement updated in November 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

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

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 will no longer 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.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
System Engineering Program Management	Various	Various : -	31.672	1.607	Nov 2020	1.700	Nov 2021	1.025	Nov 2022	-		1.025	Continuing	Continuing	Continuing
CIRCM QRC System Engineering & Program Management	Various	Various : -	3.223	1.200	Oct 2020	-		-		-		-	0.000	4.423	-
NDAA SEC 825 MDAP Cost Overrun	TBD	Various : -	0.020	-		-		-		-		-	0.000	0.020	-
SBIR/STTR	TBD	Various : Various	-	-		0.607		-		-		-	0.000	0.607	-
		Subtotal	34.915	2.807		2.307		1.025		-		1.025	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Non-recurring Engineering (NRE) - Multi Platform A-Kit Development & Integration	C/CPFF	Various : -	92.044	12.586	Jun 2021	6.403	Jun 2022	6.295	Jun 2023	-		6.295	Continuing	Continuing	Continuing
Prototyping (A-Kit)	C/FPIF	Various : -	35.853	-		-		-		-		-	0.000	35.853	-
Other - Threat Management	Various	Various : -	33.290	2.720		1.192		1.060		-		1.060	Continuing	Continuing	Continuing
Data - Logistics Support	Various	Various : -	1.295	-		-		-		-		-	0.000	1.295	-
CIRCM QRC NRE	C/CPFF	Various : -	6.511	-		-		-		-		-	0.000	6.511	-
CIRCM QRC Prototyping	C/CPFF	Various : -	2.120	-		-		-		-		-	0.000	2.120	-
CIRCM QRC A-Kit Development & Integration	Various	Various : -	27.775	-		-		-		-		-	0.000	27.775	-
CIRCM QRC Software Modeling & Simulation	Various	Various : Various	-	1.100		-		-		-		-	0.000	1.100	-
Aviation Artificial Intelligence Virtual Training Environment	TBD	To Be Determined : To Be Determined	-	5.000		-		-		-		-	0.000	5.000	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	Project (Number/Name) EB4 / *CIRCM*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	198.888	21.406		7.595		7.355		-		7.355	Continuing	Continuing	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Support Equipment	Various	Various : -	5.563	-		-		-		-		-	0.000	5.563	Continuing
		Subtotal	5.563	-		-		-		-		-	0.000	5.563	N/A

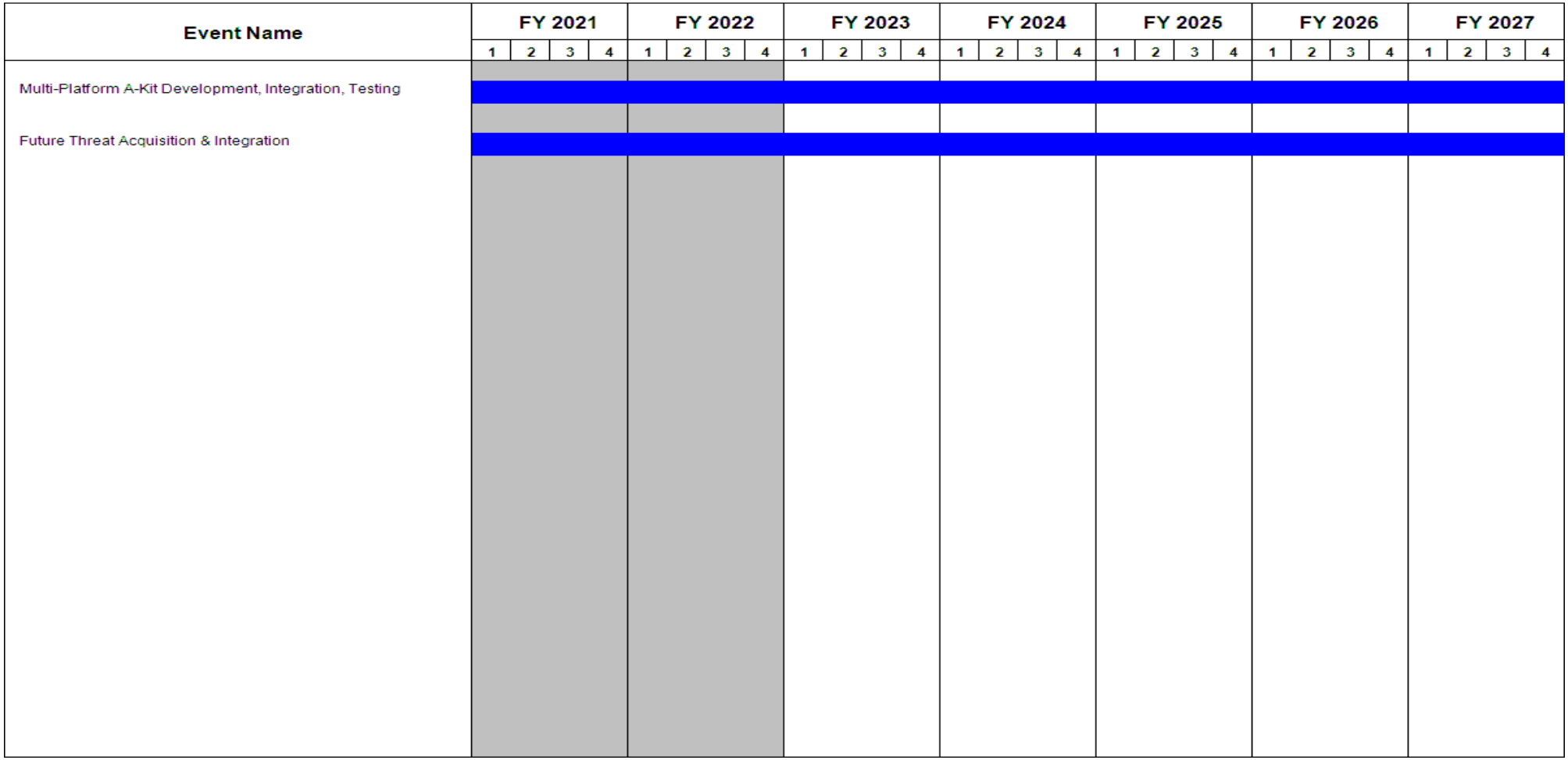
Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Government System Test and Evaluation	Various	Various : -	145.561	5.557	Apr 2021	5.453	Apr 2022	3.143	Apr 2023	-		3.143	Continuing	Continuing	Continuing
Other Testing - Test Support	Various	Various : -	38.082	-		1.275		-		-		-	Continuing	Continuing	Continuing
CIRCM QRC Government Integration, System Test & Evaluation	Various	Various : -	19.482	-		-		-		-		-	0.000	19.482	-
		Subtotal	203.125	5.557		6.728		3.143		-		3.143	Continuing	Continuing	N/A

	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	442.491	29.770		16.630		11.523		-		11.523	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*



Note

none

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605035A / *Common Infrared Countermeasures (CIRCM)*	**Project (Number/Name)** EB4 / *CIRCM*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Multi-Platform A-Kit Development, Integration, Testing	1	2015	4	2031
Engineering & Manufacturing Development (EMD) Phase	4	2015	4	2018
Developmental Test Activity	1	2016	4	2018
Prototyping	1	2016	1	2018
Reliability Demonstration Test (RDT)	2	2018	4	2018
Initial Operational Test and Evaluation (IOT&E)	3	2019	1	2020
Future Threat Acquisition & Integration	1	2020	4	2039

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605038A *I Nuclear Biological Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite*

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
Total Program Element	-	4.669	7.618	-	-	-	0.000	0.000	0.000	0.000	0.000	12.287
EQ7: *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*	-	4.669	7.618	-	-	-	-	-	-	-	0.000	12.287

A. Mission Description and Budget Item Justification

The Nuclear, Biological, and Chemical Reconnaissance Vehicles (NBCRV) Sensor Suite Upgrade (SSU) provides maneuver formations the ability to conduct mounted reconnaissance and surveillance missions of CBRN named areas of interest (NAIs). The NBCRV SSU will answer the commander's priority intelligence requirements (PIR), and facilitate proactive risk-based decisions to ensure freedom of action and survivability. A modern and capable NBCRV SSU is a critical component for Joint Force success when operating in the complex CBRN environment. Operating with combat vehicles fighting against increasingly capable and determined enemies requires like capability with regard to protection, mobility, and lethality. The NBCRV SSU will accomplish this by integrating the capability for command and control of unmanned systems with CBRN payload. The NBCRV SSU will provide a CBRN detection, tipping and queueing to accomplish desired standoff distances to keep the warfighter out of harm's way and reduce sustainment costs over the current system. A Chemical Surface Detector (CSD) will be developed to replace the Dual Wheel Sampling System to increase maneuver speed when conducting NBC missions and increase reliability.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	4.669	7.618	0.000	-	0.000
Current President's Budget	4.669	7.618	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	-	-			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	Project (Number/Name) EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EQ7: *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*	-	4.669	7.618	-	-	-	-	-	-	-	0.000	12.287
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The Nuclear, Biological, and Chemical Reconnaissance Vehicles (NBCRV) Sensor Suite Upgrade (SSU) provides maneuver formations the ability to conduct mounted reconnaissance and surveillance missions of CBRN named areas of interest (NAIs). The NBCRV SSU will answer the commander's priority intelligence requirements (PIR), and facilitate proactive risk-based decisions to ensure freedom of action and survivability. A modern and capable NBCRV SSU is a critical component for Joint Force success when operating in the complex CBRN environment. Operating with combat vehicles fighting against increasingly capable and determined enemies requires like capability with regard to protection, mobility, and lethality. The NBCRV SSU will accomplish this by integrating the capability for command and control of unmanned systems with CBRN payload. The NBCRV SSU will provide a CBRN detection, tipping and queueing to accomplish desired standoff distances to keep the warfighter out of harm's way and reduce sustainment costs over the current system. In FY 2020, NBCRV SSU program developed a prototype of integrated sensors for demonstration in Joint Warfighter Assessment 2020. In FY 2021, NBCRV SSU program developed hardened and integrated sensors for development test in FY 2022. In FY 2022, the program is conducting component and system level testing.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Product Development and Unmanned Platform Integration	4.341	6.780	-
Description: Development of CSD, radiological detectors, standoff chemical vapor detector, unmanned platform identification and integration, Government strategic planning, system engineering, logistics, training, and Integrated Product Team (IPT) support. ***FY 2022 Plans:*** Complete CBRN sensor and integrated sensor suite prototype development, maturation, and procurement. Continue government strategic planning, systems engineering, logistics, training, test and evaluation, technical support, integration, and the bulk of component and system level developmental testing. Will conduct Limited User Test. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program transitions to Procurement funding in FY22 and FY23			
Title: Program Management and Oversight	0.328	0.560	-
Description: Program Management and Oversight ***FY 2022 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	**Project (Number/Name)** EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Complete Government program management, system engineering, and Integrated Product Team (IPT) support. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Program transitions to Procurement funding in FY22 and FY23.			
Title: FY22 SBIR/STTR Transfer ***FY 2022 Plans:*** Funding transferred in accordance with Title 15 USC ?638 ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding transferred in accordance with Title 15 USC ?638	-	0.278	-
Accomplishments/Planned Programs Subtotals	4.669	7.618	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

Nuclear Biological Chemical Reconnaissance Vehicle Sensor Suite Upgrade (NBCRV SSU) is an upgrade for the Stryker NBCRV. The acquisition strategy for the Stryker NBCRV SSU is to integrate mature sensors into the Stryker NBCRV in FY 2019 for demonstration in Joint Warfighting Assessment (JWA) 19 and system level testing. Following the testing and demonstration, the hardware and software will be fixed and updated for demonstration in JWA 20 and test starting in FY 2021. An In Progress Review will be held starting in FY 2022 to execute a Modification Work Order for fielding in FY 2023. This schedule was accelerated from the previous schedule based on the maturity of the sensor and guidance from the Chief of Staff of the Army. The NBCRV SSU program will conduct system level testing in FY 2021 through early FY 2023 using Defense Wide funding to inform the Modification Work Order In Process Review to ensure system performance.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	Project (Number/Name) EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Management Personnel	MIPR	JPEO-CBRND : Edgewood, MD	2.786	0.328	Nov 2020	0.560	Nov 2021	-		-		-	Continuing	Continuing	Continuing
FY22 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.278	Apr 2022	-		-		-	0.000	0.278	-
		Subtotal	2.786	0.328		0.838		-		-		-	Continuing	Continuing	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Product Development and Sensor Integration	C/Various	Various : Various	17.099	4.341	Nov 2020	4.952	Nov 2021	-		-		-	Continuing	Continuing	Continuing
Product Development (CSD) AGENTASE, LLC (TMRR)	Option/ CPFF	AGENTASE, LLC : Elkridge, MD	2.945	-		-		-		-		-	0.000	2.945	-
Product Development (CSD) L3 (TMRR)	Option/ CPFF	L-3 Communications Sonoma EO, Inc : Santa Rosa,, CA	2.627	-		-		-		-		-	0.000	2.627	-
Product Development (CSD) UTC (TMRR)	Option/ CPFF	Hamilton Sundstand Space Systems : Pomona, CA	2.087	-		-		-		-		-	0.000	2.087	-
Product Development (CSD) Rad/Nuc (M2PRDS)	C/CPFF	Advanced Technologies International : Summerville, SC	1.942	-		-		-		-		-	0.000	1.942	-
Product Development (ECBC Matrix)	MIPR	CCDC CBC : Aberdeen Proving Ground	2.259	-		-		-		-		-	0.000	2.259	-
		Subtotal	28.959	4.341		4.952		-		-		-	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	Project (Number/Name) EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integrated Logistics Support	MIPR	ECBC : Edgewood, MD	1.301	-		-		-		-		-	Continuing	Continuing	Continuing
Requirements Development Support	Various	Various : Various	0.629	-		-		-		-		-	0.000	0.629	-
		Subtotal	1.930	-		-		-		-		-	Continuing	Continuing	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Test and Evaluation	MIPR	ECBC : Edgewood, MD	1.483	-		1.828	Nov 2021	-		-		-	Continuing	Continuing	Continuing
		Subtotal	1.483	-		1.828		-		-		-	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	35.158	4.669		7.618		-		-		-	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	**Project (Number/Name)** EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*

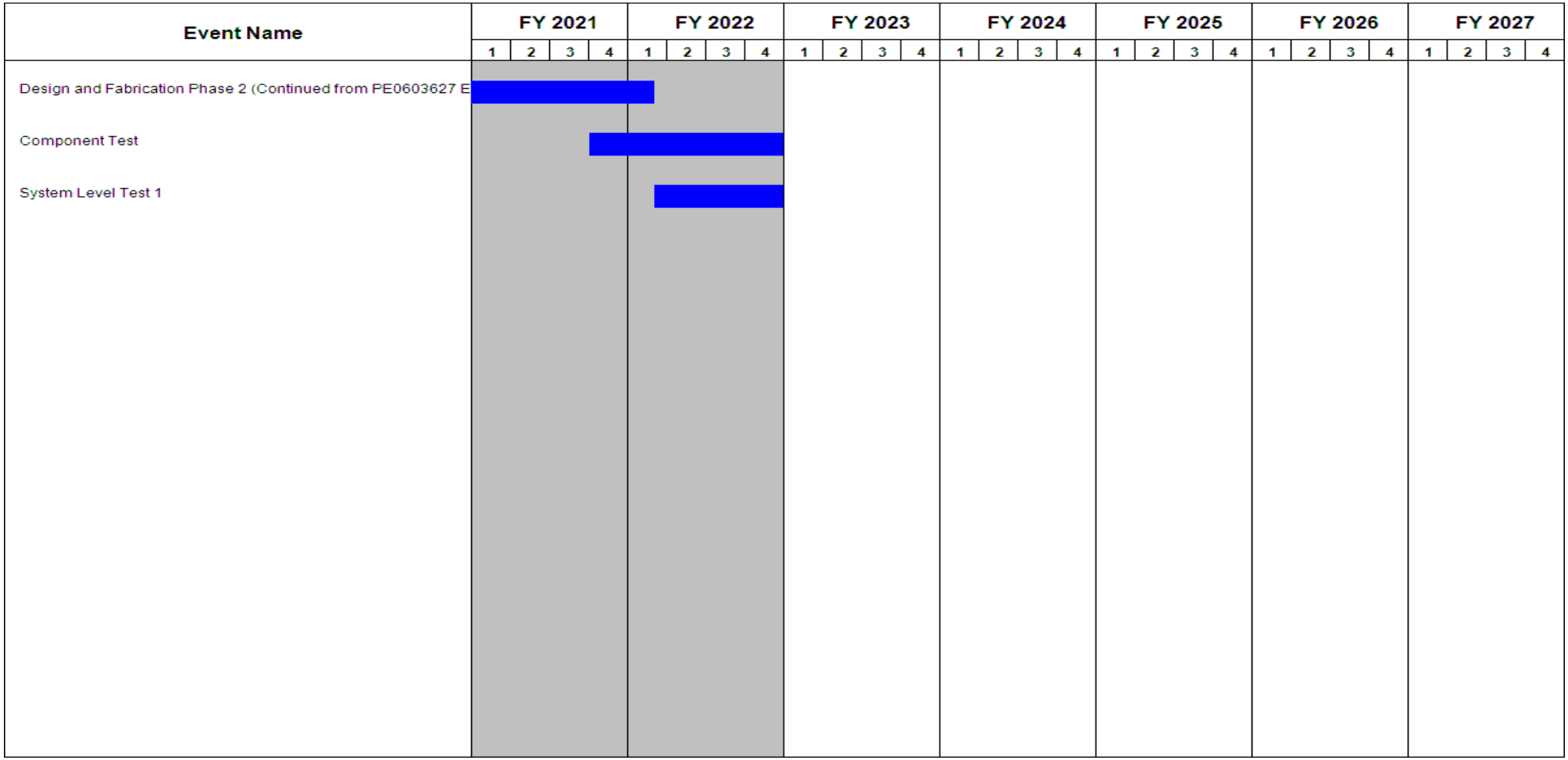


Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605038A / *Nuclear Biological Chemica l Reconnaissance Vehicle (NBCRV) Sensor Suite*	**Project (Number/Name)** EQ7 / *NBC Reconnaissance Vehicle (NBCRV) Sensor Suite*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Design and Fabrication (Continued from PE0603627 E79)	2	2017	3	2019
Joint Warfighter Assessment 2019	3	2019	3	2019
Design and Fabrication Phase 2 (Continued from PE0603627 E79)	2	2019	1	2022
Component Test	4	2021	4	2022
System Level Test 1	1	2022	4	2022
Joint Modernization Command Focused Assessment	2	2020	2	2020

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army											Date: April 2022	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*					R-1 Program Element (Number/Name) PE 0605041A *I Defensive CYBER Tool Development*							
COST ($ in Millions)	**Prior Years**	**FY 2021**	**FY 2022**	**FY 2023 Base**	**FY 2023 OCO**	**FY 2023 Total**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**Cost To Complete**	**Total Cost**
Total Program Element	-	28.544	18.811	33.029	-	33.029	17.664	10.662	10.698	10.631	0.000	130.039
CY5: *CYBER Situational Understanding*	-	23.892	18.811	21.125	-	21.125	5.908	0.540	0.431	0.432	0.000	71.139
EV5: *Defensive CYBER Operations*	-	4.652	-	5.477	-	5.477	5.624	5.754	5.814	5.870	0.000	33.191
XU3: *Tactical DCO-I*	-	-	-	6.427	-	6.427	6.132	4.368	4.453	4.329	0.000	25.709

Note

These funding lines are key enablers of the Army Modernization Priorities in support of efforts aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy. Cyber Situational Understanding (Cyber SU) funding line supports the Army Network Modernization Strategy Line of Effort (LOE), Common Operating Environment (COE). Defensive Cyber Operations (DCO) and Tactical DCO Infrastructure (TDI) funding line supports the Army Network Modernization Strategy LOE, Key Enabler for Unified Network.

TDI is not a new start program. Beginning in FY2023, TDI funding transitioned from 0608041A CD 1 Defensive Cyber- Software Prototype Development (BA-8 Software Pilot Program) to a new project code XU3 (Tactical DCO-I) within PE 0605041A Defensive CYBER Tool Development.

A. Mission Description and Budget Item Justification

A portion of this funding line is directly aligned to the Network Army Modernization Priority. FY2023 Defensive Cyber Tool Development budget line provides funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Cyber Situational Understanding (Cyber SU) and Tactical DCO Infrastructure (TDI) as well as Program Executive Office Enterprise Information Systems (PEO EIS) DCO Development Environment (formerly Forge).

655041CY5:
- Cyber Situational Understanding (Cyber SU) is a mission command application within the Command Post Computing Environment (CPCE) designed for use by maneuver commanders at the tactical level (Brigade to Army Service Component Command (ASCC)) to enable visualization, understanding and decision making to counter Cyber Electromagnetic Activity (CEMA) threats in multi-domain operations. This funding will be executed by PEO C3T.

655041EV5:
- Defensive Cyber Operations (DCO) consists of platform and software programs which are key elements of the DCO Maneuver Baseline infrastructure, platform, and tools. The employment of defensive capabilities creates specific effects in cyberspace through actions that allow commanders to achieve the following objectives: deter, destroy, and defeat enemy offensive cyberspace operations; gain time; economy of force; control key terrain; protect tasked critical assets and infrastructure; and develop intelligence. DCO supports the Army Cyber Command (ARCYBER), Information Warfare Operations Center (IWOC), (5) Regional Cyber Centers (RCCs), Cyber Warfare Battalion (CWB), Multi-Domain Task Force (MDTF), Cyber Protection Brigade (CPB), and (41) Cyber Protection Teams (CPTs) in COMPO 1/2/3. DCO

Exhibit R-2, RDT&E Budget Item Justification: PB 2023 Army	Date: April 2022
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0605041A *I Defensive CYBER Tool Development*

Development Environment (DCODE) is both physical and/or virtual assets that provide integration and assessment capabilities during the development and integration phases of operations. These assets are centrally managed in order to provide accountability, modernization, standardization, software updating and patching and security posture in order to maintain the Authority to Operate (ATO). This funding will be executed by PEO EIS.

655041XU3:
- TDI is a software only program that pre-configures applications from DCO's Tool Suite to allow local and remote Cyber defenders the ability to conduct cyberspace surveillance and maneuver against an adversary traversing within the tactical network. The TDI capability is hosted on the TSI and will reside within the Command Post at echelon Army Service Component Commands (ASCC) through Brigade. This funding will be executed by PEO C3T.

B. Program Change Summary ($ in Millions)	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total
Previous President's Budget	28.544	18.892	0.000	-	0.000
Current President's Budget	28.544	18.811	33.029	-	33.029
Total Adjustments	0.000	-0.081	33.029	-	33.029
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	33.029	-	33.029
• FFRDC Transfer	-	-0.081	-	-	-

Change Summary Explanation

Fiscal Year 2022 (FY2022) funding decrease reflects FFRDC reduction.
FY2023 funding increase reflects the fact that the FY2022 President's Budget request did not include out-year funding.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / *Defensive CYBER Tool Development*	Project (Number/Name) CY5 / *CYBER Situational Understanding*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
CY5: *CYBER Situational Understanding*	-	23.892	18.811	21.125	-	21.125	5.908	0.540	0.431	0.432	0.000	71.139
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This funding line is a key enabler of the Army Modernization Priorities in support of LOE 2, Common Operating Environment (COE). Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy. This funding will be executed by Program Executive Office Command Control and Communications - Tactical (PEO C3T).

A. Mission Description and Budget Item Justification

Cyber SU is a software-only, mission command application designed for use by maneuver commanders at the tactical level (Infantry, Armor, Stryker Brigade Combat Teams, Division, Corps, and Army Service Component Commands). Cyber SU is the first application of its kind designed for maneuver commanders focusing on tactical/ expeditionary combat operations to detect and mitigate cyber and electronic warfare threats and assist with decision making during combat operations.

Cyber SU produces a Cyber Electromagnetic Activity (CEMA) overlay on the commander's Common Operational Picture (COP) within the Command Post Computing Environment (CPCE) software, and is integrated on the Tactical Server Infrastructure (TSI) framework. Unlike Enterprise Cyber Mission Force(s) Tools, Cyber SU was designed using the CPCE Software Development Kit (SDK), to operate within the constraints of TSI hardware, a bandwidth constrained tactical environment, and support COE standards on the Army's Command Post. The underlying Cyber SU framework is also being leveraged by the Air Force to ensure alignment with the Army and Air Force Combined Joint All Domain Command and Control (CJADC2). The Army will ensure Cyber SU has an open systems architecture and will continue to explore options to integrate Cyber SU functionality and data ingests between other Services as well as explore insertion of third-party technology within the Cyber SU solution.

Cyber SU provides the maneuver commander the ability to visualize and understand any cyber related impacts/threats to physical (geographical), logical (at a specific network internet protocol), and cyber persona layers (bad actors, from individuals to nation states) of tactical cyberspace data. Supporting CEMA, Cyber SU ingests existing data sources from related programs (e.g, TDI, CPCE, EWPMT, UNO, DCGS-A, DDS), synchronizes and integrates blue (friendly), red (enemy), and grey (commercial/ private sector data), and enables collaboration therein at the tactical edge.

Cyber SU follows a five-year, Information Technology (IT) Box construct to deliver capability over time, based on approved requirements. In the current IT Box (FY2020 - FY2024), Cyber SU is being developed in three capability drops (CDs): See Yourself (Initial Capability), See Your Cyber Battlespace (CD 1), and Understand Your Cyber Battlespace (CD 2). Each capability drop builds upon the previous drop in order to deliver the full capability at the end of the five years. Cyber SU Initial Capability provides the Tactical Maneuver Commander and CEMA work group a user interface within the CPCE COP that shares friendly operations cyberspace activity including network and computer health/status. The CD 1 capability user interface expands to include visualization of enemy CEMA operations. The CD 2 capability incorporates advanced features and analytics to comprehend the meaning of cyber activity and facilitate response actions. This allows for proactive decision making in support multi-

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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domain operations. Capability will continue to evolve in alignment with warfighter needs with the renewal of the IT Box in FY2024 for the following five year term (FY2025 - FY2029).

Cyber SU FY2023 funding supports the completion of testing and post-test fix/ integration to allow for the delivery of the Cyber SU CD 1 capability planned in 4QFY2023. Funding also supports the development, engineering, training development and program management for Cyber SU CD 2.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Development Engineering and Integration	19.581	14.992	15.909
Description: Leverage industry developed prototype software, as well as ingest and synchronize cyber data from multiple Program of Record (PoRs) to develop and engineer the Cyber SU capability. ***FY 2022 Plans:*** FY2022 funding supports the completion of post-test fix and integration to allow for the delivery of the Cyber SU Initial capability in support of IOC, planned in 4QFY2022. Cyber SU Initial Capability provides the Tactical Maneuver Commander and CEMA work group a user interface within the CPCE COP that shares friendly operations cyberspace activity, including network and computer health/status. Funding also supports the development of systems engineering/architecture products, middleware and back-end services required to establish the Cyber SU CD 1 capability, in support of CD 1 delivery planned for FY2023. The CD 1 capability user interface expands to include visualization of enemy CEMA operations. In addition, funding supports the initial development planning of CD 2. CD 2 capability incorporates advanced features and analytics to comprehend the meaning of cyber activity and facilitate response actions. This allows for proactive decision making in support multi-domain operations. ***FY 2023 Plans:*** FY2023 funding supports the completion of CD 1 post- test fix and integration to allow for the delivery of the Cyber SU CD 1 capability planned in FY2023. The CD 1 capability user interface expands to allow the Tactical Maneuver Commander and CEMA work group the ability to visualize enemy CEMA operations. Funding also supports the development of systems engineering/ architecture products, middleware and back-end services required to establish the Cyber SU CD 2 capability. The CD 2 capability incorporates advanced features and analytics to comprehend the meaning of cyber activity and facilitate response actions. This allows for the Tactical Maneuver Commanders and CEMA staff to make proactive decisions in support of multi-domain operations. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Minimal funding adjustment to FY2023			
Title: Systems Test and Evaluation	1.731	1.375	2.653
Description: Efforts include the planning and execution of T&E events including Developmental Test, Interoperability Testing, Software Acceptance Testing, Integration Events, Risk Reduction Events, and User Tests/Evaluations. ***FY 2022 Plans:***			

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
FY 2022 funding supports the Cyber SU initial capability cybersecurity verification of fixes. Funding also supports the continued Developmental Operations (DevOps), and integration testing required for the Cyber SU CD 1 capability. ***FY 2023 Plans:*** FY 2023 funding will allow for the continued developmental operations (DevOps), developmental testing (DT), operational assessment (OA), interoperability testing and cybersecurity assessments of the Cyber SU CD 1 capability. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase in FY2023 to support a required operational assessment exclusively for the Cyber SU CD 1 capability.			
Title: Training Development ***Description:*** The development of training support products, including coordination with US Army Training and Doctrine Command (TRADOC) US Army Cyber Command, PORs, and related organizations to develop applicable program of instruction. ***FY 2022 Plans:*** FY 2022 funding supports the verification/validation of the initial Cyber SU capability. Funding also provides for the development of the New Equipment Training (NET) training support package and software user manuals for Cyber SU CD 1. ***FY 2023 Plans:*** FY 2023 funding provides for the development of the New Equipment Training (NET) support package, verification/validation, software user manuals/tech manuals and virtual training development for Cyber SU CD 2. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** Funding increase in FY2023 supports virtual training development.	0.765	0.659	0.776
Title: Systems Engineering/Management ***Description:*** Systems Engineering/Management includes business, technical and logistical staff support and overall management of program execution, major events and reporting. ***FY 2022 Plans:*** FY 2022 funding provides for program office staff (matrix and contractor) continued program execution support and to perform duties necessary to plan and execute activities and milestone events. ***FY 2023 Plans:*** FY 2023 funding provides for program office staff (matrix and contractor) continued program execution support and to perform duties necessary to plan and execute activities and milestone events to include the delivery of CD1 in FY2023. ***FY 2022 to FY 2023 Increase/Decrease Statement:***	1.815	1.785	1.787

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Minimal funding adjustment to FY2023			
Accomplishments/Planned Programs Subtotals	23.892	18.811	21.125

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

N/A

D. Acquisition Strategy

The Cyber SU Information System-Initial Capabilities Document was approved on 18 July 2018 by the Joint Requirements Oversight Council. The Requirements Definition Package (RDP) was approved on 19 March 2019 by the Army Requirements Oversight Council Requirements Board. The program is utilizing an evolutionary and tailored acquisition approach under which Cyber SU will develop a series of testable, integrated subsets of capability to meet the overall full functional values of the RDP through the use of Capability Drops (CDs). Subsequent CDs are to be approved by the U.S. Army Cyber Center of Excellence in collaboration with U.S. Army Forces Command. Under this Information Technology (IT) Box requirements construct, the Cyber SU program is currently executing the first five (5) year term FY2020-FY2024 (includes initial capability, CD1 and CD 2). The IT Box will be renewed in 3QFY2024 for the following five year term FY2025-FY2029 (includes CD3-CD7).

The Program Executive Office, Command, Control and Communications-Tactical, Milestone Decision Authority, approved the Materiel Development Decision in 20 June 2018, designating Cyber SU as an Acquisition Category (ACAT) III Automated Information System (AIS) program. Cyber SU entered the Engineering and Manufacturing Development phase of the Acquisition Lifecycle with MDA approval of Milestone B conducted March 2020, and codified in an Acquisition Decision Memorandum 08 April 2020. Full Deployment for IT Box FY2020-FY2024 is achieved with completion of CD2. Cyber SU Full Deployment is defined as when Cyber SU has completed the development and testing of the last capability drop within the IT Box (reaching full functional values of the RDP) and has transferred the capability to the CPCE/TSI program to commence fielding. Execution of the Cyber SU program will be a combination of government entities and commercial vendors.

The program awarded a competitive prototyping/development Other Transaction Authority (OTA) in 3QFY2020 in order to develop the initial Cyber SU capability. An OTA modification was awarded in June 2021, which extended the scope of the OTA to encompass CD1 and CD 2 through Full Deployment FY2024. Cyber SU plans to ingest data from related programs (e.g, TDI, CPCE, EWPMT, UNO, DCGS-A, DDS), Coordination and integration with complimentary programs and systems (sources of cyber data feeds) is an integral part of the program to ensure the data is made available to be consumed by the Cyber SU solution.

Cyber SU will be hosted on the Tactical Server Infrastructure (TSI) and will be fielded by the CPCE/TSI program in accordance with their fielding schedule.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Management	Various	CACI; DEVCOM; CECOM : APG, MD	1.067	1.815	Mar 2021	1.785	Mar 2022	1.787	Mar 2023	-		1.787	Continuing	Continuing	-
		Subtotal	1.067	1.815		1.785		1.787		-		1.787	Continuing	Continuing	N/A

Remarks

Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.
Systems Engineering/ Management includes Logistics and Program Management Staff and PEO and PM management/programmatic support.
Funding remains relatively constant from FY2022 to FY2023

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Cyber SU Software Development/Engineering/ Integration	Various	Research Innovation Inc. (RII); WSEC; Parsons; CACI; MITRE; CCDC : Alexandria, VA; Picatinny, NJ; APG, MD	18.504	19.581	Dec 2020	-		-		-		-	Continuing	Continuing	-
Software Development	C/FFP	Research Innovations Inc (RII) : Alexandria, VA	-	-		7.491	Jan 2022	10.250	Jan 2023	-		10.250	Continuing	Continuing	-
Software Engineering	Various	CACI; DEVCOM DAC : APG, MD; Picatinny, NJ	-	-		2.074	Jan 2022	2.117	Dec 2022	-		2.117	Continuing	Continuing	-
Software Integration	Various	Parsons; Various Matrix Orgs : APG, MD	-	-		2.416	Feb 2022	3.077	Dec 2022	-		3.077	Continuing	Continuing	-
Developmental Hardware and Software	C/Various	CHS; CHESS; DITCO : APG, MD; Ft. Belvoir, VA; Scott APB, IL	-	-		3.011	May 2022	0.465	Jan 2023	-		0.465	Continuing	Continuing	-
		Subtotal	18.504	19.581		14.992		15.909		-		15.909	Continuing	Continuing	N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.
Software development increase in FY2023 is required to finalize CD 1 test-fix-test, and also conduct CD 2 development in order to incorporate complex and advanced features/ analytics for proactive decision making during multi-domain operations.
Software Integration costs includes CPCE Program of Record (PoR) Integration Engineering and PoR Data Integration.
Software Integration cost increase required for data fabric experimentation.
Software Engineering costs includes Software Engineering Support and Human factors support.
Developmental Hardware(HW) and Software (SW) includes Developmental HW, Developmental SW and Developmental lab equipment.
New Developmental HW and associated SW is required every 4-5 years to ensure development on upgraded platforms. In the interim years, only SW renewals and developmental lab equipment will be required.
Developmental HW and SW decrease in FY2023 is due to only needing developmental SW renewals for that year instead of a new purchase.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training Development	Various	DLA; Parsons : Philadelphia, PA; APG, MD	-	0.765	Mar 2021	0.659	Jun 2022	0.776	Jun 2023	-		0.776	Continuing	Continuing	-
		Subtotal	-	0.765		0.659		0.776		-		0.776	Continuing	Continuing	N/A

Remarks

Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.
Training Development includes Training Development, Software User Manuals, Training Validation/Verification and Remote training development..
Funding increase in FY2023 supports virtual training development.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Integration/Interoperability/ Operational Assessment	Various	Parsons; ATEC; CTSF : APG, MD; Ft. Hood, TX	0.420	0.559	Jan 2021	0.353	Mar 2022	1.527	Dec 2022	-		1.527	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
IA/Test Support	C/FFP	CACI : APG, MD	0.133	0.903	Mar 2021	0.728	Mar 2022	0.823	Dec 2022	-		0.823	Continuing	Continuing	-
Cybersecurity Assessments	Various	DEVCOM DAC; TSMO : APG, MD; Redstone Arsenal, AL	0.059	0.269	Feb 2021	0.294	Feb 2022	0.303	Nov 2022	-		0.303	Continuing	Continuing	-
		Subtotal	0.612	1.731		1.375		2.653		-		2.653	Continuing	Continuing	N/A

Remarks

Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.
Integration/Interoperability Test includes Army Evaluation Center (AEC) Support and Program of Record (PoR) Integration Testing.
Interoperability Testing and Operational Assessments were not required in FY2022.
Operational Assessment in FY2021 was combined with other PoR testing resulting in minimal cost.
Funding increase in FY2023 to support a required operational assessment exclusively for the Cyber SU CD 1 capability.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	20.183	23.892		18.811		21.125		-		21.125	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** CY5 / *CYBER Situational Understanding*

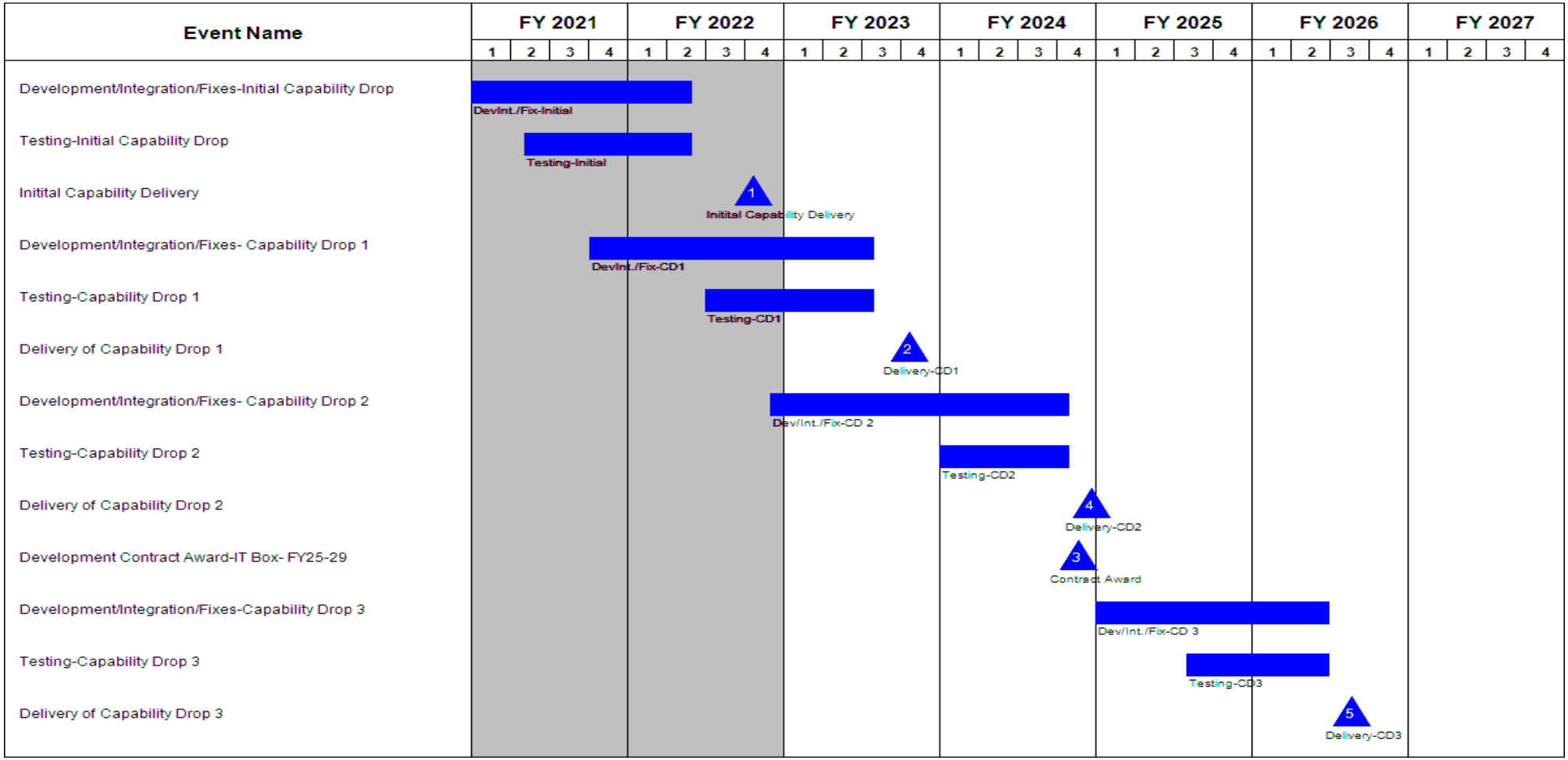
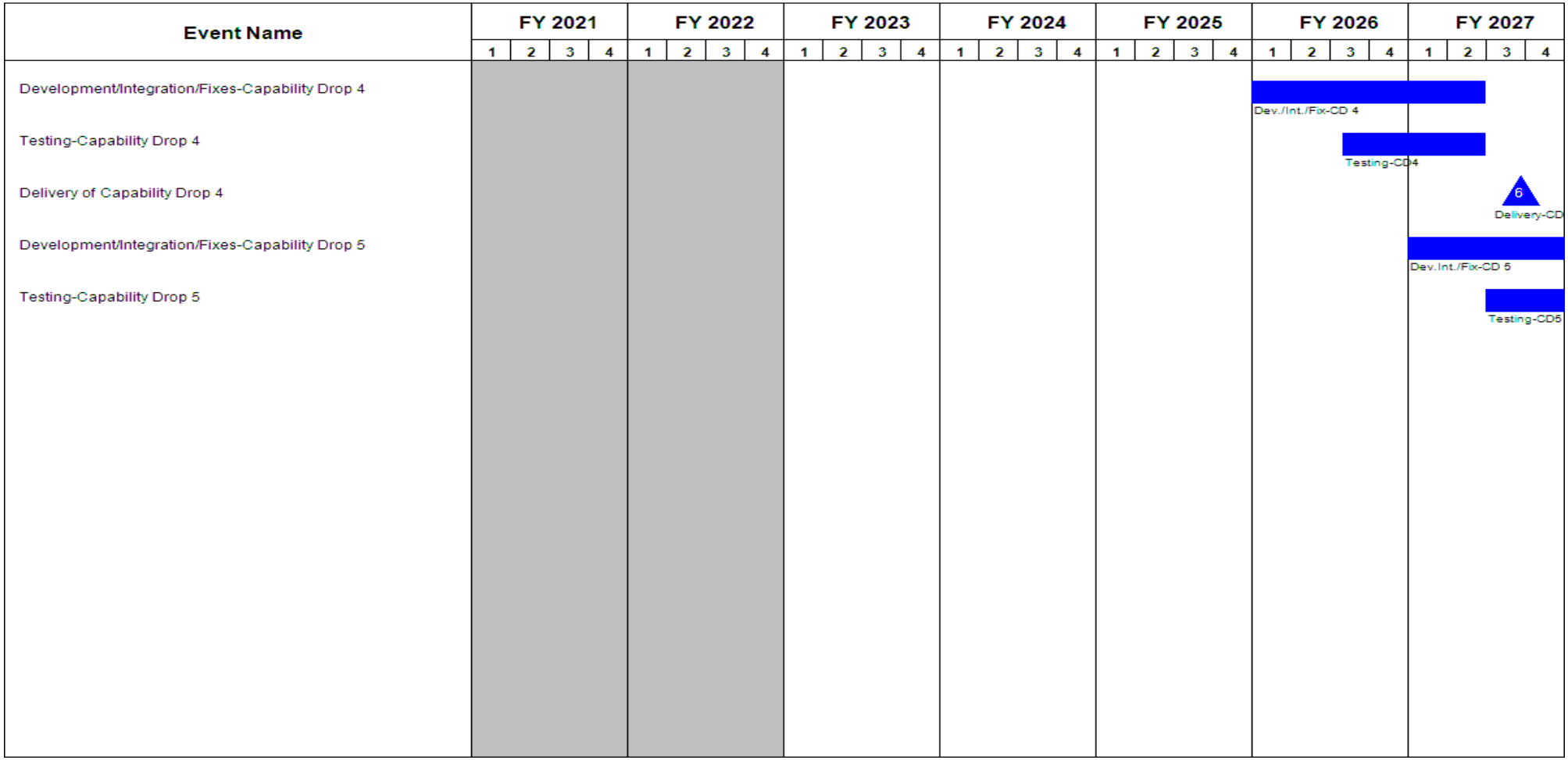


Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** CY5 / *CYBER Situational Understanding*



Note

Cyber SU delivery is defined as when Cyber SU provides the capability to CPCE/TSI to begin fielding.

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
RDP Approval	2	2019	2	2019
Milestone B Approval	3	2020	3	2020
Development/Integration/Fixes-Initial Capability Drop	3	2020	2	2022
Testing-Initial Capability Drop	2	2021	2	2022
Initital Capability Delivery	4	2022	4	2022
Development/Integration/Fixes- Capability Drop 1	4	2021	3	2023
Testing-Capability Drop 1	3	2022	3	2023
Delivery of Capability Drop 1	4	2023	4	2023
Development/Integration/Fixes- Capability Drop 2	4	2022	4	2024
Testing-Capability Drop 2	1	2024	4	2024
Delivery of Capability Drop 2	4	2024	4	2024
Development Contract Award-IT Box- FY25-29	4	2024	4	2024
Development/Integration/Fixes-Capability Drop 3	1	2025	2	2026
Testing-Capability Drop 3	3	2025	2	2026
Delivery of Capability Drop 3	3	2026	3	2026
Development/Integration/Fixes-Capability Drop 4	1	2026	2	2027
Testing-Capability Drop 4	3	2026	2	2027
Delivery of Capability Drop 4	3	2027	3	2027
Development/Integration/Fixes-Capability Drop 5	1	2027	2	2028
Testing-Capability Drop 5	3	2027	2	2028

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
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COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
EV5: *Defensive CYBER Operations*	-	4.652	-	5.477	-	5.477	5.624	5.754	5.814	5.870	0.000	33.191
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Defensive Cyber Operations (DCO) supports the Army Network Modernization Strategy Line of Effort (LOE) Key Enabler for the Unified Network. These efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

Platforms/Levels:
* DCO - Tactical DCO Infrastructure (TDI) // (FY2021-2022 funds captured in the Pilot program 0608041A CD1 and FY2023 funds captured in 0605041A XU3) // (PEO C3T)
* DCO - Cyberspace Analytics // (FY2023 funds captured in the Pilot program) // (PEO EIS)

Defensive Cyber Tools and Analytics:
* DCO - Mission Planning // (FY2023 funds captured in the Pilot program) // (PEO EIS)
* DCO - User Activity Monitoring // (FY2023 funds captured in the Pilot program) // (PEO EIS)
* DCO - DCO Development Environment (DCODE Forge) // (PEO EIS)
* DCO - Army Cyber Command (ARCYBER) Rapid Cyber Prototyping // (ARCYBER)

655041EV5:

- Defensive Cyber Operations (DCO) consists of platform and software programs which are key elements of the DCO Maneuver Baseline infrastructure, platform, and tools. The employment of defensive capabilities creates specific effects in cyberspace through actions that allow commanders to achieve the following objectives: deter, destroy, and defeat enemy offensive cyberspace operations; gain time; economy of force; control key terrain; protect tasked critical assets and infrastructure; and develop intelligence. DCO supports the Army Cyber Command (ARCYBER), Information Warfare Operations Center (IWOC), (5) Regional Cyber Centers (RCCs), Cyber Warfare Battalion (CWB), Multi-Domain Task Force (MDTF), Cyber Protection Brigade (CPB), and (41) Cyber Protection Teams (CPTs) in COMPO 1/2/3.

- (Legacy) ARCYBER Rapid Cyber Prototyping provides software based capabilities that can quickly respond to emerging cyber threats and keep up with threat technology; while supporting Multi-Domain operations. ARCYBER identifies potential development and prototyping efforts via Cyber Needs Forms (CNFs) based on operational feedback, changes in the operational information environment and/or trends of adversarial activity; which drive CONOP and Tactics Techniques and Procedures (TTP) modifications. These are separate and distinct from DCO programmed efforts already funded or budgeted for by PM DCO and are used to rapidly address a network threat/vulnerability.

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: DCO - Development Environment (formerly Forge) (PEO EIS)	3.653	-	5.477
Description: DCO Development Environment (DCODE) (formerly Forge) is both physical and virtual assets that provides continual integration, upgrade, assessment, optimization in support of the warfighter?s operational environment. Its purpose is to provide centralized lifecycle management and consist of the following capabilities: (1) Forge - physical and/or virtual assets that provide integration and assessment capabilities during the development and integration phases of operations. These assets are centrally managed in order to provide accountability, modernization, standardization, software updating and patching and security posture in order to maintain the Authority to Operate (ATO); (2) Development Network - provides the capability for Cyber Protection Teams (CPTs) to remotely access multiple networks, simultaneously, thru a safe and secure infrastructure framework. ***FY 2023 Plans:*** FY2023 funding continues to provide physical and/or virtual assets that provide integration and assessment capabilities during the development and integration phases of operations. These assets are centrally managed in order to provide accountability, modernization, standardization, software updating and patching, and security posture in order to maintain the Authority to Operate (ATO) ***FY 2022 to FY 2023 Increase/Decrease Statement:*** FY2023 will continue to provide additional engineering support to perform innovative assessments, solves complex technical issues, provides product solutions, and delivers various DCO capabilities to fulfill Cyber Defender's missions.			
Title: DCO - Rapid Cyber Prototyping (ARCYBER)	0.999	-	-
Description: ARCYBER Rapid Cyber Prototyping provides software based capabilities that can quickly respond to emerging cyber threats and keep up with threat technology; while supporting Multi-Domain operations. ARCYBER identifies potential development and prototyping efforts via Cyber Needs Forms (CNFs) based on operational feedback, changes in the operational information environment and/or trends of adversarial activity; which drive CONOP and Tactics Techniques and Procedures (TTP) modifications. These are separate and distinct from DCO programmed efforts already funded or budgeted for by PM DCO and are used to rapidly address a network threat/vulnerability.			
Accomplishments/Planned Programs Subtotals	4.652	-	5.477

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B63103: *Advanced Cyber Tool Development*	41.153	27.389	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** EV5 / *Defensive CYBER Operations*

C. Other Program Funding Summary ($ in Millions)

Line Item	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
• B66350: *ARCYBER DEFENSIVE CYBER OPERATIONS*	-	-	18.239	-	18.239	-	-	-	-	0.000	18.239
• B89001: *Insider Threat Program - Unit Activity Monitoring*	1.760	-	1.796	-	1.796	1.647	1.787	1.792	1.792	0.000	10.574
• 0608041A: *Defensive CYBER - Software Prototype Development*	56.706	108.841	94.888	-	94.888	11.809	6.921	3.949	4.682	0.000	287.796

Remarks

OPA PE B63103 - DCO hardware procurement, fielding, and new equipment training for Garrison DCO Platform (GDP), Deployable Defensive Systems (DDS), and DCODE Armory.
OPA PE B66350 (New OPA line starting in FY2023) - DCO hardware procurement, fielding, and new equipment training for GDP, DDS, and DCODE Armory.
OPA PE B89001 - DCO Insider Threat Program - Unit Activity Monitoring for UAM operations conducted in support of the Army's insider threat program.
RDTE PE 0608041A - DCO Software Pilot Program starting in FY2021.

D. Acquisition Strategy

The DCO Information System Initial Capabilities Document was approved on 19 December 2017 by the Army Requirements Oversight Council (AROC). DCO programs are under an IT Box construct with five year term (FY2018-FY2022) which aligns with current Requirements Definition Packages (RDPs). IT Box establishes funding thresholds, by appropriation, for a program over a capability's projected lifecycle of five (5) years. Current IT Box will expire in 4QFY2022 and planned to be renewed in 3QFY2022.

The ARB approved Cyber Analytics RDP on 18 May 2018; DCO Mission Planning on 8 November 2018; and User Activity Monitoring on 18 March 2019. The MDA designated these as ACAT IV programs. Under subsequent reviews, the MDA approved agile acquisition approach to develop and deliver preconfigured software in a series of releases and capability drops in order to deliver full functional values of the RDP that align with DCO priorities. DCO programs utilize standard and FY2018 National Defense Authorization Act (NDAA) 874 agile pilot evolutionary acquisition processes (30-90 rapid acquisition approach). DCO continually delivers new technologies and capabilities as a prototype and fields updated capabilities. DCO contract strategy utilizes multiple existing contracts vehicles to include Other Transactional Authority (OTA), Federal Acquisition Regulation (FAR)-based, Blanket Purchase Agreement (BPA), and Basic Ordering Agreement (BOA).

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(Legacy) DCO - Tactical DCO Infrastructure (TDI) (PEO C3T)	C/FFP	CACI : Aberdeen Proving Ground (APG), MD	8.746	-		-		-		-		-	0.000	8.746	-
DCO - Cyberspace Analytics (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.552	-		-		-		-		-	0.000	0.552	-
DCO - Tools Suite (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.189	-		-		-		-		-	0.000	0.189	-
DCO - Garrison Defensive Platform (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.913	-		-		-		-		-	0.000	0.913	-
DCO - Mission Planning (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.542	-		-		-		-		-	0.000	0.542	-
DCO - Deployable DCO System (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	0.189	-		-		-		-		-	0.000	0.189	-
DCO - Management Services (PEO EIS)	Various	PEO EIS : Ft Belvoir, VA	3.947	-		-		-		-		-	0.000	3.947	-
		Subtotal	15.078	-		-		-		-		-	0.000	15.078	N/A

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(Legacy)DCO - TDI (PEO C3T)	C/CPFF	Parsons and CACI : Aberdeen Proving Ground (APG), MD	14.953	-		-		-		-		-	0.000	14.953	-
DCO - Cyberspace Analytics (PEO EIS)	C/FFP	ACC-RI : IL	50.424	-		-		-		-		-	0.000	50.424	-
DCO - Garrison Defensive Platform (PEO EIS)	C/FFP	ACC-RI : IL	2.060	-		-		-		-		-	0.000	2.060	-
DCO- Garrison Defensive Platforms (PEO EIS)	C/Various	ACC-PI : NJ	9.690	-		-		-		-		-	0.000	9.690	-
DCO - Mission Planning (PEO EIS)	C/CPFF	ACC-RI : IL	10.317	-		-		-		-		-	0.000	10.317	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCO - User Activity Monitoring (PEO EIS)	C/T&M	ACC-RI : IL	1.588	-		-		-		-		-	0.000	1.588	-
DCO- Threat Emulation (PEO EIS)	C/FFP	ACC-RI : IL	0.761	-		-		-		-		-	0.000	0.761	-
DCO - Rapid Cyber Prototyping (ARCYBER)	C/TBD	ACC-RI : IL	1.000	0.999	Jun 2021	-		-		-		-	0.000	1.999	-
DCO- Mission Planning (PEO EIS)	MIPR	USAF, AFMC AIR FORCE RESEARCH LAB : NY	14.520	-		-		-		-		-	0.000	14.520	-
		Subtotal	105.313	0.999		-		-		-		-	0.000	106.312	N/A

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(Legacy)DCO - TDI (PEO C3T)	MIPR	DLA : Philadelphia, PA	0.330	-		-		-		-		-	0.000	0.330	-
		Subtotal	0.330	-		-		-		-		-	0.000	0.330	N/A

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
(Legacy)DCO - TDI (PEO C3T)	MIPR	ATEC : Aberdeen Proving Ground (APG), MD	2.450	-		-		-		-		-	0.000	2.450	-
DCO - Cyberspace Analytics (PEO EIS)	IA	ATEC & SEC : MD	4.923	-		-		-		-		-	0.000	4.923	-
DCO - Tools Suite (PEO EIS)	IA	ATEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-
DCO - Garrison Defensive Platform (PEO EIS)	IA	ATEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2023 Army			Date: April 2022
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
DCO - Deployable DCO System (PEO EIS)	IA	ATEC & SEC : MD	0.500	-		-		-		-		-	0.000	0.500	-
DCO - Mission Planning (PEO EIS)	MIPR	ATEC : MD	1.865	-		-		-		-		-	0.000	1.865	-
DCO - DCO Development Environment (DCODE, formerly Forge (PEO EIS)	IA	ATEC & SEC & TOBYHANNA : Various	6.792	3.653	Jan 2021	-		5.477	Jan 2023	-		5.477	Continuing	Continuing	Continuing
		Subtotal	17.530	3.653		-		5.477		-		5.477	Continuing	Continuing	N/A

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	138.251	4.652		-		5.477		-		5.477	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** EV5 / *Defensive CYBER Operations*

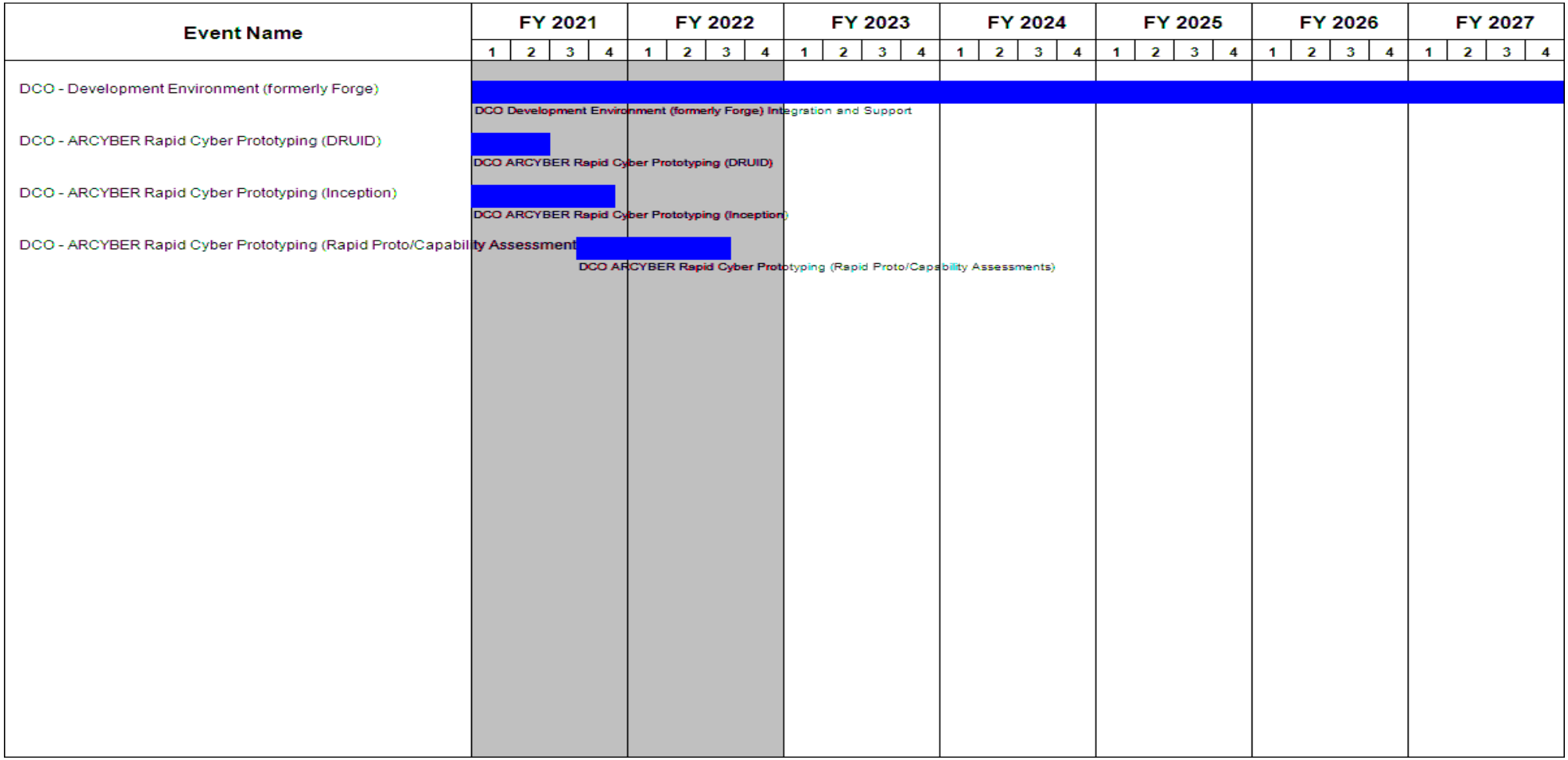

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** EV5 / *Defensive CYBER Operations*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DCO - Tactical DCO-Infrastructure (TDI) - RDP Approval	3	2018	3	2018
DCO - TDI Development/Integration/Testing-Initial	1	2019	4	2019
DCO - TDI- Initial Capability Delivery	1	2020	1	2020
DCO - TDI Development/Integration/Testing-CD 1	4	2019	4	2020
DCO- Cyberspace Analytics RDP Approval	3	2018	3	2018
DCO - Cyberspace Analytics POR Award	1	2019	1	2019
DCO - Cyberspace Analytics POR Contract	2	2019	4	2020
DCO - Cyberspace Analytics Capability Drop #1	1	2019	1	2019
DCO - Cyberspace Analytics Capability Drop #2	2	2019	2	2019
DCO - Cyberpace Analytics Capability Drop #3	3	2019	3	2019
DCO - Mission Planning RDP Approved	3	2018	3	2018
DCO - Mission Planning POR Award	1	2019	1	2019
DCO - Mission Planning POR Contract	2	2019	4	2020
DCO - Mission Planning Capability Drop #1	4	2019	4	2019
DCO - Mission Planning Capability Drop #2	1	2020	1	2020
DCO - Mission Planning Capability Drop #3	2	2020	2	2020
DCO - User Activity Monitoring Prototype Award	1	2019	4	2019
DCO - User Activity Monitoring RDP Approval	1	2019	1	2019
DCO - User Activity Monitoring POR Award	1	2020	1	2020
DCO - User Activity Monitoring POR Contract	1	2020	4	2020
DCO - User Activity Monitoring Employ on CASE Network	1	2020	2	2020
DCO - User Activity Monitoring Integrate with BDP	2	2020	3	2020

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DCO - User Activity Monitoring Behavioral Analytics	3	2020	4	2020
DCO - Threat Emulation RDP Approval	1	2020	1	2020
DCO - Threat Emulation Program of Record	1	2020	4	2020
DCO - Development Environment (formerly Forge)	1	2019	4	2027
DCO - Management Services	1	2019	4	2020
DCO - ARCYBER Rapid Cyber Prototyping (DRUID)	3	2020	2	2021
DCO - ARCYBER Rapid Cyber Prototyping (Inception)	4	2020	4	2021
DCO - ARCYBER Rapid Cyber Prototyping (Rapid Proto/Capability Assessments)	3	2021	3	2022

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army			Date: April 2022
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / *Defensive CYBER Tool Development*	Project (Number/Name) XU3 / *Tactical DCO-I*	

COST ($ in Millions)	Prior Years	FY 2021	FY 2022	FY 2023 Base	FY 2023 OCO	FY 2023 Total	FY 2024	FY 2025	FY 2026	FY 2027	Cost To Complete	Total Cost
XU3: *Tactical DCO-I*	-	-	-	6.427	-	6.427	6.132	4.368	4.453	4.329	0.000	25.709
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This funding line is a key enabler of the Army Modernization Priorities in support Line of Effort (LOE) 1, Key Enabler for Unified Network. Efforts are aligned to support the Network-Cross Functional Team capability set approach to achieve the network modernization strategy.

TDI is not a new start program. Beginning in FY2023, TDI funding transitioned from 0608041A CD 1 Defensive Cyber- Software Prototype Development (BA-8 Software Pilot Program) to a new project code XU3 (Tactical DCO-I) within PE 0605041A Defensive CYBER Tool Development. TDI is solely funded with RDT&E for development, engineering, testing, training development, and program management. TDI, an RDT&E only program, did not provide an opportunity for the BA-8 Software Pilot Program to assess the alignment of multiple appropriations into a single appropriation.
TDI FY2021-2022 funding is within PE 0608041A, Project code CD1 (BA8 Software Pilot)
TDI FY2023 and beyond funding is within PE 0605041, Project code XU3 (Tactical DCO-I)

A. Mission Description and Budget Item Justification

FY2023 Tactical DCO- I budget line provides funding for Program Executive Office Command Control and Communications - Tactical (PEO C3T) Tactical Defensive Cyber Operations (DCO) Infrastructure (TDI)

TDI is a software only program that pre-configures applications from DCO's Tool Suite to allow local and remote Cyber defenders the ability to conduct cyberspace surveillance and maneuver against an adversary traversing within the tactical network. The TDI capability is hosted on the Tactical Server Infrastructure (TSI) and will reside within the Command Post at echelon Army Service Component Commands (ASCC) through Brigade.

The TDI capability includes: 1) Mission Protection: Ability to automate deployment of DCO tools to protect the virtual server environment of the Command Post Computing Environment (CPCE). 2) Discovery/Counter- Infiltration: Ability to auto detect multiple virtual cyber threats and facilitate the mitigation/denial of adversarial actions. 3) Cyberspace Support/Readiness: Allow global and regional cyberspace defenders to assist units with countering advanced persistent threats.

TDI follows a five-year, Information Technology (IT) Box construct to deliver capability over time, based on approved requirements. In IT Box (FY2023-2027), TDI is being developed in four capability drops (CDs). CD 4 will integrate Security Orchestration, Automation, and Response (SOAR) and Big Data Platform (BDP) Lower Echelon Analytics Platform (LEAP) - tactical (LTAC) to synchronize with PM DCO's portfolio. CD5 will execute distributed queries from various data sources and facilitate remote operations defensive maneuvers to the tactical enclaves. CD 6 will support and incorporate emerging Security Orchestration, Automation, and Response (SOAR) and LTAC capabilities and applications. CD7 will support capabilities and technologies to address emerging cyber threat and techniques, tactics, and procedures (TTPs).

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** XU3 / *Tactical DCO-I*

TDI FY2023 funding supports the development, engineering, testing, training development and program management required to establish the first capability (Capability Drop (CD) 4) of the follow on IT Box FY2023-2027 in support of CD 4 delivery, planned for FY2024. CD 4 will integrate Security Orchestration, Automation, and Response (SOAR) and Big Data Platform (BDP) Lower Echelon Analytics Platform (LEAP) - tactical (LTAC) to synchronize with PM DCO's portfolio.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Title: Development Engineering ***Description:*** Efforts include development engineering and integration required for DCO tools to be utilized on the Tactical Network. ***FY 2023 Plans:*** FY2023 funding supports the development engineering and integration of Capability Drop 4 (CD 4) in support of FY2024 delivery. CD 4 will integrate Security Orchestration, Automation, and Response (SOAR) and Big Data Platform (BDP) Lower Echelon Analytics Platform (LEAP) - tactical (LTAC) to synchronize with PM DCO?s portfolio. Funding will also support the initial development engineering of CD 5. CD5 will execute distributed queries from various data sources and facilitate remote operations defensive maneuvers to the tactical enclaves. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** These efforts are a continuation of and transfer from RDTE PE 0608041 CD1. Funding increase in Development Engineering from FY2022 ($4.176M, 0608041CD1) to FY2023 ($4.575M, 0605041XU3) due to an increase in engineering support needed for the new IT Box (FY2023-FY2027).	-	-	4.575
Title: Systems Test and Evaluation ***Description:*** Efforts include the planning and execution of T&E events including Developmental Test, Interoperability Testing, Software Acceptance Testing, Integration Events, Risk Reduction Events, Operational Assessments, Information Assurance and User Tests/Evaluations. ***FY 2023 Plans:*** FY 2023 funding will allow for the user testing of the TDI CD 3 capability. Funding will also support developmental testing and interoperability testing of the TDI CD 4 capability, in order to gain data and feedback to inform development (test fix test) and support the delivery of CD 4 in FY2024. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** These efforts are a continuation of and transfer from RDTE PE 0608041 CD1. Funding increase in Test and Evaluation from FY2022 ($0.574M, 0608041CD1) to FY2023 ($1.013M, 0605041XU3) due to additional ATEC testing and support required for the updated set of IT Box requirements (FY2023-FY2027). In addition, Army Interoperability Certification testing is needed in FY2023.	-	-	1.013
Title: Training Development	-	-	0.240

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2021	FY 2022	FY 2023
Description: The development of training support products, including coordination with US Army Training and Doctrine Command (TRADOC) US Army Cyber Command, PORs, and related organizations to develop applicable program of instruction. ***FY 2023 Plans:*** FY 2023 funding provides for the development of the New Equipment Training (NET) support package to include verification/ validation, software user manuals/technical manuals and virtual training in support of TDI CD 4 delivery in FY2024. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** These efforts are a continuation of and transfer from RDTE PE 0608041 CD1. Funding increase in Training Development from FY2022 ($0.213M, 0608041CD1) to FY2023 ($0.240M, 0605041XU3) due to additional cost required for virtual training development.			
Title: Systens Engineering/Manaagement ***Description:*** Systems Engineering/Management includes business, technical and logistical staff support and overall management of program execution, major events and reporting. ***FY 2023 Plans:*** FY 2023 funding provides for program office staff (matrix and contractor) continued program execution support and to perform duties necessary to plan and execute activities and milestone events associated with completion of the current TDI IT Box FY2018- FY2022. ***FY 2022 to FY 2023 Increase/Decrease Statement:*** These efforts are a continuation of and transfer from RDTE PE 0608041 CD1. Funding remains relatively constant in Systems Engineering/Management from FY2022 ($0.582M, 0608041CD1) to FY2023 ($0.599M, 0605041XU3).	-	-	0.599
Accomplishments/Planned Programs Subtotals	-	-	6.427

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

The Milestone Decision Authority (MDA), approved the Materiel Development Decision (MDD) on 13 April 2018, designating Tactical DCO Infrastructure (TDI) as an ACAT III program. The MDA approved a tailored defense unique software intensive acquisition approach for TDI. Under further consideration, the MDA assessed the TDI program and determined that TDI meets the criteria for an ACAT IV program and MDA delegation. The program is considered low risk due to program maturity

Exhibit R-2A, RDT&E Project Justification: PB 2023 Army		Date: April 2022
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and continued use of Commercial Off the Shelf (COTS) tools within the TDI baseline. On 23 November 2021, the MDA approved delegation of the TDI program to the Program Manager (PM) and re-designation of the program to ACAT IV.

The TDI program is under an Information Technology (IT) Box construct with a five (5) year term (FY2018-FY2022) which aligns with the current requirements (includes initial capability drop through CD 3). The TDI Initial Capability drop integrated the initial DCO tool suite on the TSI hardware platform and enabled remote connection. CD 1 will integrate the enhanced DCO tool suite that will expand the sensor architecture to more command post applications. CD 2 will integrate the enhanced DCO tool suite that will leverage machine learning and expand the data collection beyond the command post to the extended tactical network. This will finalize integration of current DCO remote operations capability to facilitate timely escalation of remote incident response. CD 3 will integrate the enhanced DCO tool suite that will enable broader data collection and data aggregation (including existing logs from other Programs of Record (PoR), and the ability for WiFi and 4G connection.

The TDI program achieved initial capability delivery 1QFY2020. Full Deployment for the current IT Box (FY2018-FY2022) is planned for 3QFY2023 with the completion of CD3. TDI Full Deployment is defined as when TDI has completed the development and testing of the last capability drop within the IT Box (reaching full functional values of the RDP) and has transferred the capability to the CPCE/TSI program to commence fielding.

The TDI IT Box will be renewed in FY2022 for the following five (5) year term (FY2023-FY2027), which includes CD 4 through CD 7. CD 4 will integrate Security Orchestration, Automation, and Response (SOAR) and Big Data Platform (BDP) Lower Echelon Analytics Platform (LEAP) - tactical (LTAC) to synchronize with PM DCO's portfolio. CD5 will execute distributed queries from various data sources and facilitate remote operations defensive maneuvers to the tactical enclaves. CD 6 will support and incorporate emerging Security Orchestration, Automation, and Response (SOAR) and LTAC capabilities and applications. CD7 will support capabilities and technologies to address emerging cyber threat and techniques, tactics, and procedures (TTPs).

Execution of the TDI program will be a combination of government entities and commercial vendors.

TDI will be hosted on the Tactical Server Infrastructure (TSI) and will be fielded by the CPCE/TSI program in accordance with their fielding schedule.

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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Engineering/ Management	Various	CACI; CECOM : APG, MD	-	-		-		0.599	Dec 2022	-		0.599	Continuing	Continuing	-
		Subtotal	-	-		-		0.599		-		0.599	Continuing	Continuing	N/A

Remarks

Funding remains relatively constant in Systems Engineering/Management from FY22 ($0.582M, 0608041CD1) to FY23 ($0.599M, 0605041XU3)
Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Development	C/TBD	TBD- Contract will be re-competed : TBD	-	-		-		2.748	Dec 2022	-		2.748	Continuing	Continuing	-
Software Engineering	Various	CECOM; CACI; PEO C3T : APG, MD	-	-		-		1.472	Nov 2022	-		1.472	Continuing	Continuing	-
Developmental Hardware/ Software	Various	CHS;CHESS : Ft. Belvoir, VA	-	-		-		0.355	Jan 2023	-		0.355	Continuing	Continuing	-
		Subtotal	-	-		-		4.575		-		4.575	Continuing	Continuing	N/A

Remarks

Funding increase in Product Development from FY2022 ($4.176M, 0608041CD1) to FY2023 ($4.575M, 0605041XU3) due to an increase in engineering support needed for the new IT Box (FY2023-FY2027).
Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Training Development	TBD	TBD : TBD	-	-		-		0.240	Jun 2023	-		0.240	Continuing	Continuing	-
		Subtotal	-	-		-		0.240		-		0.240	Continuing	Continuing	N/A

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605041A / *Defensive CYBER Tool Development*	Project (Number/Name) XU3 / *Tactical DCO-I*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract

Remarks

Funding increase in Training Development from FY22 ($0.213M, 0608041CD1) to FY23 ($0.240M, 0605041XU3) due to additional cost required for virtual training development.
Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2021 Cost	FY 2021 Award Date	FY 2022 Cost	FY 2022 Award Date	FY 2023 Base Cost	FY 2023 Base Award Date	FY 2023 OCO Cost	FY 2023 OCO Award Date	FY 2023 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Systems Test and Evaluation	Various	CACI; ATEC; CTSF : APG, MD; Ft. Hood TX	-	-		-		1.013	Dec 2022	-		1.013	Continuing	Continuing	-
		Subtotal	-	-		-		1.013		-		1.013	Continuing	Continuing	N/A

Remarks

Funding increase in Test and Evaluation from FY2022 ($0.574M, 0608041CD1) to FY2023 ($1.013M, 0605041XU3) due to additional ATEC testing and support required for the updated set of IT Box requirements (FY2023-FY2027). In addition, Army Interoperability Certification testing is needed in FY2023.
Contract award date reflects when the first incremental funding is expected to be obligated in the Fiscal Year.

	Prior Years	FY 2021		FY 2022		FY 2023 Base		FY 2023 OCO		FY 2023 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	-	-		-		6.427		-		6.427	Continuing	Continuing	N/A

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** XU3 / *Tactical DCO-I*

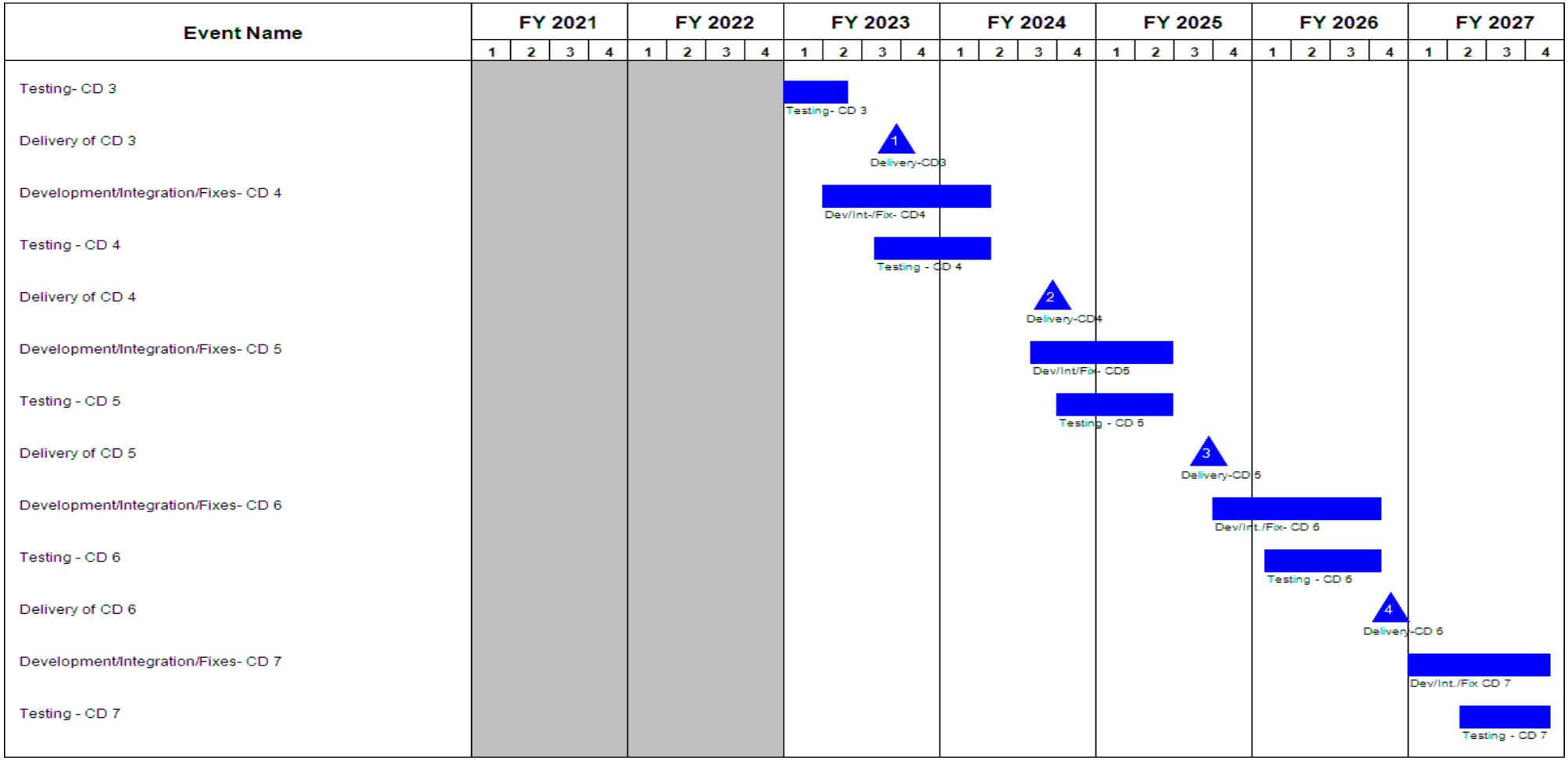

Exhibit R-4, RDT&E Schedule Profile: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** XU3 / *Tactical DCO-I*

Event Name	FY 2021				FY 2022				FY 2023				FY 2024				FY 2025				FY 2026				FY 2027			
	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
Delivery of CD 7																												5 Deliv

Exhibit R-4A, RDT&E Schedule Details: PB 2023 Army		Date: April 2022
Appropriation/Budget Activity 2040 / 5	**R-1 Program Element (Number/Name)** PE 0605041A / *Defensive CYBER Tool Development*	**Project (Number/Name)** XU3 / *Tactical DCO-I*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
Testing- CD 3	1	2023	2	2023
Delivery of CD 3	3	2023	3	2023
Development/Integration/Fixes- CD 4	2	2023	2	2024
Testing - CD 4	3	2023	2	2024
Delivery of CD 4	3	2024	3	2024
Development/Integration/Fixes- CD 5	3	2024	2	2025
Testing - CD 5	4	2024	2	2025
Delivery of CD 5	3	2025	3	2025
Development/Integration/Fixes- CD 6	4	2025	4	2026
Testing - CD 6	1	2026	4	2026
Delivery of CD 6	4	2026	4	2026
Development/Integration/Fixes- CD 7	1	2027	4	2027
Testing - CD 7	2	2027	4	2027
Delivery of CD 7	4	2027	4	2027

Note

TDI is not a new start program. Beginning in FY2023, TDI funding transitioned from 0608041A CD 1 Defensive Cyber- Software Prototype Development (BA-8 Software Pilot Program) to a new project code XU3 (Tactical DCO-I) within PE 0605041A Defensive CYBER Tool Development. TDI is solely funded with RDT&E for development, engineering, testing, training development, and program management. TDI, an RDT&E only program, did not provide an opportunity for the BA-8 Software Pilot Program to assess the alignment of multiple appropriations into a single appropriation.

TDI delivery is defined as when TDI provides the capability to CPCE/TSI to begin fielding.