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Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
Total Program Element	-	48.030	38.303	19.268	-	19.268	19.271	19.380	18.632	18.742	0.000	181.626
DY3: <i>NIE Test & Evaluation</i>	-	13.907	16.851	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.758
DY5: <i>Production/Field Coordination for Capability Sets</i>	-	2.351	2.157	1.045	-	1.045	0.975	0.897	1.147	1.146	0.000	9.718
DY7: <i>Army Systems Engineering, Architecture & Analysis</i>	-	12.980	13.476	18.223	-	18.223	18.296	18.483	17.485	17.596	0.000	116.539
DZ6: <i>Army Integration Management & Coordination</i>	-	18.792	5.819	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.611

Note
 Project FG7 Emerging Technology Initiatives was created in support of the Army Rapid Capabilities Office (RCO). This project was realigned to PE 0605054A (PROJECT FI3) Emerging Technologies Initiatives in FY 2019 for greater transparency of the Army RCO efforts.

System of Systems Engineering and Integration (SoSE&I) Directorate will be changing names to the Office of the Chief Systems Engineer in FY19.

Network Integration Exercise (NIE) activity will be referred to as Enduring Assessments starting in FY20 (to include events like the Joint Warfighter Assessments (JWAs)).

A. Mission Description and Budget Item Justification

This program element is comprised of five projects: Enduring Assessments (Joint Warfighter Assessment (JWA)); Production/Field Coordination for Capability Sets; Army Systems Engineering, Architecture & Analysis; Army Integration Management & Coordination; and Emerging Technology Initiatives. The specific evaluation requirements will support Mission Command Network (MCN) 2020, the Force 2025 objectives, and emerging technology insertion.

Project DY3: Enduring Assessments Test & Evaluation, synchronizes, integrates, and manages system and System of Systems (SoS) network capability evaluations in laboratory and operational environments in order to inform Army force modernization decisions that impact network improvements, interoperability compliance, operational readiness, and exploitable technology opportunities.

Project DY5: Production/Fielding Coordination for Capability Sets, provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of Network Integration Evaluation (NIE), Army Interoperability Certification (AIC) and Army CS fielding decision.

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2021 Army	Date: February 2020
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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)</i>	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>
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Project DY7: Army System Engineering, Architecture & Analysis, provides the Army's leadership and materiel developers with the necessary modernization planning, System of Systems (SoS) engineering, technical analysis, architectural products, critical path analysis, and risk analysis and mitigation planning to influence the Army's materiel portfolio. This project also explicitly funds Cyber Security engineering, architecture and development tasks necessary to create effective, affordable and secure network capabilities that address critical gaps, meet Mission Command Network (MCN) 2020 objectives and/or Force 2025 and Beyond (F2025B) initiatives. Integration of Army defensive/offensive cyber and Position, Navigation, and Timing (PNT) capabilities into the overall CS design, Multinational/Mission Partner Environments architecture development at both the tactical and enterprise levels, network modernization risks/gaps for Corps level units and below, and Army spectrum strategy.

Project DZ6: Army Integration Management & Coordination funds resources that support the technical and management (i.e. headquarters, resource management, acquisition, human resources, and operations) aspects of the Army Rapid Capabilities Office (RCO).

Project FG7: Emerging Technology Initiatives, will fund prototyping and demonstration of selected technology enabled capabilities to defeat emerging threats against ground, aviation, command, control, communications & reconnaissance systems and equipment, precision weapons, and Soldier equipment. Funding facilitates maturation and demonstration of emerging technologies and systems in relevant varied environments and tactical/operational scenarios. The focus is to mature technologies with a goal of initial production, limited fielding, and transition to a Program of Record in an Army or DoD Program Management Office.

B. Program Change Summary (\$ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	49.250	42.634	42.990	-	42.990
Current President's Budget	48.030	38.303	19.268	-	19.268
Total Adjustments	-1.220	-4.331	-23.722	-	-23.722
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-4.331			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.220	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-23.722	-	-23.722

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>
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COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
DY3: <i>NIE Test & Evaluation</i>	-	13.907	16.851	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	30.758
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-	-	-

Note

During FY19, the Department of the Army instructed OCSE to manage and execute remaining unobligated DY3 funding at the direction of the Army Future Command's (AFC) Joint Modernization Command's (JMC) requirements related to the Joint Warfighter Assessment (JWA 19). Per JMC's direction, OCSE funded travel, equipment (hardware and software), and facilities costs related to the continued functioning of the Joint Warfighter assessment.

A. Mission Description and Budget Item Justification

Project DY3:

Enduring Assessments Test & Evaluation funding enables the Assistant Secretary of the Army (Acquisition Logistics and Technology) to support Army Futures Command concept and capability assessments with materiel system support and integration for Joint Warfighter Assessments (JWA). This effort synchronizes, integrates, and manages system and System of Systems (SoS) capability assessments in unit training exercise environments in order to inform Army force modernization decisions that impact system requirements, interoperability compliance, operational readiness, and exploitable technology opportunities aligned with Army modernization priorities and Army/Coalition interoperability.

Mission Engineering Assessments Directorate (MEAD), acting as lead agency for Assistant Secretary of the Army (Acquisition, Logistics and Technology) (ASA (ALT)), Office of Chief Systems Engineer (OCSE), leads and coordinates ASA (ALT)'s participation in Warfighter Assessment events to enable informal and formal evaluation of new material solutions and concepts within an integrated multi-domain and multi-national environment. With support from appropriate Program Offices, provides the design, engineering, systems integration, program management functions and expertise required to integrate networked and stand-alone systems into the event architecture; and conduct technical system of system architecture assessments.

Note:

During FY 2019, the Department of the Army instructed OCSE to manage and execute remaining unobligated DY3 funding at the direction of the Army Future Command's (AFC) Joint Modernization Command's (JMC) requirements related to the Joint Warfighter Assessment (JWA 19). Per JMC's direction, OCSE funded travel, equipment (hardware and software), and facilities costs related to the continued functioning of the Joint Warfighter assessment.

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

	FY 2019	FY 2020	FY 2021
Title: Integrated Evaluations	12.772	15.809	-

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Description: These funds enable assessments of capabilities in laboratory and operational environments across the Army battlespace to assess the systems, SoS, and inform system development and fielding decisions. These funds support event planning, preparation, execution, and close-out.</p> <p>FY 2020 Plans: JWA 20; and initial planning for JWA 21: These funds provide for execution, close-out and assessment for JWA 20; and initial planning for JWA 21. Execution of JWA 20 is expected at Grafenwoehr, Germany with JWA 21 planning expected to occur at Ft Bliss, TX and to be determined location supporting Pacific area. As the Army Future Command matures, Mission Engineering and Assessment Directorate also expects to support planning, preparation, execution, close-out, and assessment of other exercises within the JMC portfolio.</p> <p>Planning: These funds support the development and implementation of horse blanket architecture; conducting design activities for integration of capability onto unit platforms; development, engineering, and documentation of network; and exercise planning and coordination, to include: developing a Validation Exercise (VALEX) plan that configures and checks out the system of systems prior to the exercise; assigning unit locations within the VALEX location; identifying and resolving security issues associated with running classified and/ or coalition network operations; validating all Information Assurance Accreditations for networked C4ISR systems and developing of technical mission threads used to validate the capabilities.</p> <p>These funds also support defining the network system configurations and routing schemes for each event.</p> <p>These funds support efforts to provide technical input on candidate systems at the Concepts and Capabilities Review Board and Strategic Planning Reviews for future events.</p> <p>Preparation: These funds support efforts leading up to the execution of the assessment exercise, to include lab based risk reduction (LBRR), platform integration design and build, safety release, and conducting of VALEX. The LBRR risk reduction efforts are conducted in controlled laboratory environments to identify and resolve integration, configuration and interoperability issues prior to assessments. Reports delivered by the LBRR document the results of network functional testing, routing, and thread testing.</p> <p>These funds provide for integration efforts such as design of installation kits on tactical platforms; fabrication of specialized cables, metal plates, racks, and brackets to enable platform installation/integration; and safety release testing. The scope of the integration effort also includes planning for Field Service Representatives (FSRs) and other technical support personnel, coordination and movement of the Fleet vehicles, and inventory management of systems.</p>				

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p>Following completion of platform integration efforts, these funds support a structured network VALEX consisting of four subordinate efforts; Load Exercise (LOADEX), ESTABLISH, INTEGRATE, and VALIDATE:</p> <ul style="list-style-type: none"> - LOADEX; Support unit installation of new network capabilities into existing network, to include setting Internet Protocol (IP) addresses and configure network systems changes; modify radio mission plans, system configuration files and system parameters; and perform test/fix/test processes at the system and component levels. - ESTABLISH; Verification of new hardware and software performance at the platform level. Troubleshoot issues associated with network system configurations and verify that each integrated platform can perform its mission while operating on the network. - INTEGRATE; Verification of networked related hardware/software performance and networked communications at each echelon. Troubleshoot issues found with new capabilities and ensure tactical unit information exchange will enable units to support their intended missions. - VALIDATE; Support unit conduct of mission threads to verify the correct routing of messages and information transfer among critical nodes in the network. <p>Execution: Funding supports all management and synchronization of field operations and support personnel during the events and coordination with the supported command. It also includes monitoring of network operations in the field, trouble ticket management, continued LBRR support to troubleshoot technical issues, deployment of mobile facilities, and replacement parts/ components required to effectively support concepts and capabilities under assessment.</p> <p>Closeout: These funds support all activities associated with the de-installation and recovery of systems, components, A-kits, cabling installed on platforms, and restoration of platforms to baseline configurations. Removal, inspection, repair/replacement, shipping, and storing of all materiel and infrastructure used to enable the unit to execute the event. Conduct AARs for process improvements.</p> <p>Assessment: These funds support activities associated with providing documentation and technical assessment of the system of systems architecture to include interfaces between systems, compare and contrast between architecture characteristics, and compliance with published network standards.</p> <p>In FY 2020 the Joint Warfighter Assessment (JWA), a key component of the Army's Force 2025 Maneuvers, will occur in Europe in support of US Army Europe and US European Command. The JWA is used to assess interim solutions to Army Warfighting Challenges. The JWA concept maximizes collective resources to advance joint and multinational interoperability, future force development, and unit training readiness priorities. Concepts and capabilities are embedded in a live, virtual, and constructive Multinational Division (MND) exercise that is representative of current and future operational environments. The JWA provides a unique opportunity to increase innovation, improve interoperability, and enhance unit readiness. JWA offers the triple pay-off</p>			

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>with future force development, training readiness, and Joint / Multinational interoperability assessment opportunities. These funds support the following major efforts associated with an assessment:</p> <ul style="list-style-type: none"> - Planning: Coordination with multiple stakeholders on the participation and resourcing of personnel, services, equipment and prototypes, and other deliverables needed for risk reduction events, capability and platform integration, training, field support and logistics, event battle rhythm/schedule, and developing network data products. - Preparation: Conduct risk reduction, complete system integrated designs and builds, build prototype vehicles for safety release, conduct system installation and checkout, validate the network, and obtain Information Assurance certifications. A key preparation task is the full scale live network validation event, which includes Cyber Vulnerability and Penetration Assessment of the network. This ensures the technical architecture and security procedures are place to support an exercise of this scale and complexity. Additionally, preparation efforts will supports new system user training. - Execution: Technical and logistics support during soldier-led assessments, trouble ticket management and closeout, and field support management. - Close-out: Inventorying platforms/systems, de-installing equipment, returning platforms to their original configurations. All unit equipment will be returned to original configuration following the exercise to ensure unit is fully prepared to execute wartime mission. The final close out task is conduct of After Action Review (AAR) and capture of lessons learned both for systems and architecture, as well as process and procedures for support exercises. <p>These funds may also be used for procuring limited equipment and materials (to include prototypes, when required), event infrastructure, field services, personnel support (government and contractor), and travel. These funds may also support similar activities for smaller assessment events leading up to the Joint Warfighter Assessment. Additionally, these funds will support initial planning for the Joint Warfighter 21, scheduled to support US Pacific Command and US Army Pacific. Planning events may occur at home station or require travel to support unit locations. Planning activities will include things such as concept and capability solicitation, initial architecture considerations, and logistics planning.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease in program funding due to JWA requirements being transferred to Army Futures Command starting in FY 2020.</p> <p>Remaining 12 OCSE Core FTEs on this project line will be re-aligned to OCSE?s DY7 project line in POM 22-26.</p>				
<p>Title: Infrastructure and other support</p> <p>Description: Title: Infrastructure and other support Description: Provides for setup, utilities, furniture, equipment and maintenance (of all equipment and facilities) used by OCSE core personnel.</p>		1.135	0.371	-

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p><i>FY 2020 Plans:</i> Overview: These funds provide packing, shipping, and setup for setup of operations at locations outside of Fort Bliss TX in support of JWA or other required exercises. It also provides for utilities, furniture, equipment and maintenance of equipment and facilities used by Mission Engineering and Assessment Directorate while at Fort Bliss in support of exercise planning, preparation, closeout, and events at Fort Bliss. It includes lease and support maintenance contracts for IT equipment/ support and facilities.</p> <p><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> FY 2020 to FY 2021 Increase/Decrease Statement: Decrease in program funding due to JWA requirements being transferred to Army Futures Command starting in FY 2020.</p>			
<p><i>Title:</i> FY 2020 SBIR/STTR Transfer</p> <p><i>Description:</i> Funding transferred in accordance with Title 15 USC ?638</p> <p><i>FY 2020 Plans:</i> Funding transferred in accordance with Title 15 USC ?638</p> <p><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i> Funding transferred in accordance with Title 15 USC ?638</p>	-	0.671	-
Accomplishments/Planned Programs Subtotals	13.907	16.851	-

C. Other Program Funding Summary (\$ in Millions)											
<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• DY5: <i>Production/Field Coordination for Capability Sets</i>	2.351	2.157	1.045	-	1.045	0.975	0.897	1.147	1.146	Continuing	Continuing
• DY7: <i>Army Systems Engineering, Architecture & Analysis</i>	12.980	13.476	18.223	-	18.223	18.296	18.483	17.485	17.596	Continuing	Continuing
• DZ6: <i>Army Integration Management & Coordination</i>	18.792	5.819	0.000	-	0.000	-	-	-	-	Continuing	Continuing

Remarks

D. Acquisition Strategy
This project includes competitive contracts for test support services.

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

This project does not have any requirement for direct procurement of hardware or software.

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>
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Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Core Government Labor	Allot	SoSE&I : Various	4.056	4.578	Nov 2018	3.144	Nov 2019	-		-		-	Continuing	Continuing	-
Matrix Government Labor	MIPR	SoSE&I : Various	3.131	1.665	Nov 2018	1.186	Nov 2019	-		-		-	Continuing	Continuing	-
MITRE Labor	FFRDC	MITRE : Various	1.820	0.910	Nov 2018	0.621	Nov 2019	-		-		-	Continuing	Continuing	-
Contractor SETA Labor	C/CPFF	TBD : Various	4.020	2.467	Nov 2018	2.162	Nov 2019	-		-		-	Continuing	Continuing	-
Temporary Duty (TDY)	Allot	SoSE&I : Various	1.000	0.827	Nov 2018	0.578	Nov 2018	-		-		-	Continuing	Continuing	-
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.671		-		-		-	0.000	0.671	-
Subtotal			14.027	10.447		8.362		-		-		-	Continuing	Continuing	N/A

Remarks
 - Program Activities performed at Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station.
 - Other NIE/JWA subject matter expertise support provided using existing Army contracts managed by PEO C3T, ATEC, and CERDEC.

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Integrated Evaluations	Various	Various : TBD	39.000	-		-		-		-		-	0.000	39.000	-
FY 2019 SBIR / STTR Transfer	TBD	Various : None	-	0.703		-		-		-		-	0.000	0.703	-
Subtotal			39.000	0.703		-		-		-		-	0.000	39.703	N/A

Remarks
 - Program Activities performed, Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station.
 - Vehicle Integration performed under contract W56HZV-15-D-ER03 by BRTRC and other NIE/JWA support provided using existing Army contracts managed by PEO C3T, ATEC, and CERDEC.
 - Includes support services from DISA (for satellite time) and other governments agencies

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>
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Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Vehicle Integration	C/CPFF	BRTRC : Various	7.825	-		4.584	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Network Integration and Baseline Systems	MIPR	PEO C3T : Various	7.000	0.647	Mar 2019	2.058	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Infrastructure and other support	TBD	TBD : Various	7.885	1.135	Mar 2019	0.645	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Subtotal			22.710	1.782		7.287		-		-		-	Continuing	Continuing	N/A

Remarks

- Program Activities performed at Aberdeen Proving Grounds (MD), FT Bliss (TX), White Sands Missile Range (NM) and the selected NIE/JWA unit's home station.
- Vehicle Integration performed under contract W56HZV-15-D-ER03 by BRTRC.
- Network Integration and Baseline Systems subject matter expertise support provided using existing Army contracts managed by PEO C3T and its subordinate Program Managers (PMs).

Test and Evaluation (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
ATEC Test and Evaluation Support	MIPR	ATEC : Various	21.617	0.700	Mar 2019	0.672	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Lab Based Risk Reduction (LBRR)	MIPR	CERDEC : APG, MD	5.300	-		0.346	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Satellite Region Hub Node (RHN) Technical Support	MIPR	Cyber Battle Lab : Ft. Gordon, GA	2.139	-		-		-		-		-	Continuing	Continuing	Continuing
Satellite Transponder Bandwidth	MIPR	DISA : Various	2.500	-		-		-		-		-	Continuing	Continuing	Continuing
Cyber Vulnerability/Risk Assessments	MIPR	Army Research Laboratory : Various	0.700	0.275	Mar 2019	0.184	Mar 2019	-		-		-	Continuing	Continuing	Continuing
Systems Under Evaluation (SUEs)	C/Various	TBD : Various	1.229	-		-		-		-		-	Continuing	Continuing	Continuing
Subtotal			33.485	0.975		1.202		-		-		-	Continuing	Continuing	N/A

Remarks

- Program Test support through ATEC, Lab Based Risk Reduction through CERDEC, and Cyber Vulnerability/Risk Assessments through Army Research Laboratory (ARL).

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
JWA 20 Planning - Execution																												
JWA 20 DP 2b					▲ 2																							
JWA 20 Lab Integration/Testing					■																							
JWA 20 Candidate Solution Integration					■																							
JWA 20 ValEx					■																							
JWA 20 Garrison CommEx					■																							
JWA 20 Field CommEx					■																							
JWA 20 Event					■																							
JWA 20 Event Analysis & Summary					■																							
JWA 21 Planning - Execution																												
JWA 21 DP 1	▲ 1																											
JWA 21 DP 2a					▲ 3																							
JWA 21 DP 2b									▲ 5																			

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025							
	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				
JWA 21 Lab Integration/Testing									■																							
JWA 21 Candidate Solution Integration									■																							
JWA 21 ValEx									■																							
JWA 21 Garrison CommEx									■																							
JWA 21 Field CommEx									■																							
JWA 21 Event									■																							
JWA 21 Event Analysis & Summary																																
JWA 22 Planning - Execution					■				■				■																			
JWA 22 DP 1					▲ 4																											
JWA 22 DP 2a					▲ 6																											
JWA 22 DP 2b									▲ 7																							
JWA 22 Lab Integration/Testing													■																			
JWA 22 Candidate Solution Integration													■																			

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
JWA 22 ValEx													■															
JWA 22 Garrison CommEx													■															
JWA 22 Field CommEx													■															
JWA 22 Event													■															
JWA 22 Event Analysis & Summary													■															

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
JWA 20 Planning - Execution	3	2018	4	2020
JWA 20 DP 1	3	2018	3	2018
JWA 20 DP 2a	4	2018	4	2018
JWA 20 DP 2b	4	2019	4	2019
JWA 20 Lab Integration/Testing	1	2020	3	2020
JWA 20 Candidate Solution Integration	2	2020	2	2020
JWA 20 ValEx	2	2020	3	2020
JWA 20 Garrison CommEx	3	2020	3	2020
JWA 20 Field CommEx	3	2020	3	2020
JWA 20 Event	3	2020	3	2020
JWA 20 Event Analysis & Summary	3	2020	4	2020
JWA 21 Planning - Execution	2	2019	4	2021
JWA 21 DP 1	2	2019	2	2019
JWA 21 DP 2a	4	2019	4	2019
JWA 21 DP 2b	4	2020	4	2020
JWA 21 Lab Integration/Testing	1	2021	3	2021
JWA 21 Candidate Solution Integration	2	2021	2	2021
JWA 21 ValEx	2	2021	3	2021
JWA 21 Garrison CommEx	3	2021	3	2021
JWA 21 Field CommEx	3	2021	3	2021
JWA 21 Event	3	2021	3	2021
JWA 21 Event Analysis & Summary	3	2021	4	2021

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY3 / <i>NIE Test & Evaluation</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
JWA 22 Planning - Execution	2	2020	4	2022
JWA 22 DP 1	2	2020	2	2020
JWA 22 DP 2a	4	2020	4	2020
JWA 22 DP 2b	3	2021	3	2021
JWA 22 Lab Integration/Testing	1	2022	3	2022
JWA 22 Candidate Solution Integration	2	2022	2	2022
JWA 22 ValEx	2	2022	3	2022
JWA 22 Garrison CommEx	3	2022	3	2022
JWA 22 Field CommEx	3	2022	3	2022
JWA 22 Event	3	2022	3	2022
JWA 22 Event Analysis & Summary	3	2022	4	2022

Note

-With the loss of a dedicated unit (2/1 Armored Division) after AWA 17.1, NIE/JWA event planning and a unit requirements determination has to be made earlier than in previous FYs to allow Forces Command (FORSCOM) time to select the unit participating in the test events.
 -NIEs eliminated after NIE 18.2

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>					Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>		
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
DY5: <i>Production/Field Coordination for Capability Sets</i>	-	2.351	2.157	1.045	-	1.045	0.975	0.897	1.147	1.146	0.000	9.718
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of design, Type Classification and Material Release, Army Interoperability Certification (AIC) and Army CS fielding decision. It provides for the synchronized plan for production equipment delivery and fielding for the Integrated Tactical Network and the Security Force Advisory Brigades.

This project includes the following efforts: Synchronization and direct coordination between participating Program Executive Offices (PEOs), Program Managers (PMs), Research, Development and Engineering Commands (RDECOMs) and the Army's Brigade Combat Teams (BCT) throughout the CS Vehicle Integration and Synchronized Fielding process to ensure that a CS package is received, integrated, trained, and handed-off to the unit in a synchronized and efficient manner. Identification and assessment of available capabilities for inclusion into a CS, ITN and SFAB network modernization package. Alignment of the CS, ITN and SFAB requirement with the appropriate Programs of Record (PoR) and the recipient unit to define the unit's Network Basis of Issue (NBOI)/ Architecture by type of BCT. Coordination with PEOs, PMs, Army G-staff to ensure CS products are Materiel Released/Type Classified, fully resourced and synchronized by a single Integrated Master Schedule for design integration, testing, production, kitting, platform integration, training and fielding. Direct support during each of the unit's "New Equipment Training" and "New Equipment Fielding", along with the preparation for the BCT's rotation through one of the Army's Combat Training Centers, (Joint Readiness Training Center (JRTC) or National Training Center (NTC)). Ensuring that all training assets are reset and moved to the follow-on BCT. Manage all After Action activities.

This project does not fund the actual production, integration, nor fielding costs associated with the CS, ITN nor SFAB.

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

	FY 2019	FY 2020	FY 2021
Title: Production/Fielding Coordination for Capability Sets (CS)	2.351	2.138	1.045
<p>Description: This project provides for the development of a synchronized Brigade/Division level plan for the Production equipment delivery and Fielding (hand-off logistics and new equipment training) of Capability Set (CS) components (both hardware/software in A and/or B Kits) upon completion of design, Type Classification and Material Release, Army Interoperability Certification (AIC) and Army CS fielding decision. It provides for the synchronized plan for production equipment delivery and fielding for the Integrated Tactical Network and the Security Force Advisory Brigades.</p> <p>This project includes the following efforts: Synchronization and direct coordination between participating Program Executive Offices (PEOs), Program Managers (PMs), Research, Development and Engineering Commands (RDECOMs) and the Army's Brigade Combat Teams (BCT) throughout the CS Vehicle Integration and Synchronized Fielding process to ensure that a</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p>CS package is received, integrated, trained, and handed-off to the unit in a synchronized and efficient manner. Identification and assessment of available capabilities for inclusion into a CS, ITN and SFAB network modernization package. Alignment of the CS, ITN and SFAB requirement with the appropriate Programs of Record (PoR) and the recipient unit to define the unit's Network Basis of Issue (NBOI)/ Architecture by type of BCT. Coordination with PEOs, PMs, Army G-staff to ensure CS products are Materiel Released/Type Classified, fully resourced and synchronized by a single Integrated Master Schedule for design integration, testing, production, kitting, platform integration, training and fielding. Direct support during each of the unit's "New Equipment Training" and "New Equipment Fielding", along with the preparation for the BCT's rotation through one of the Army's Combat Training Centers, (Joint Readiness Training Center (JRTC) or National Training Center (NTC)). Ensuring that all training assets are reset and moved to the follow-on BCT. Manage all After Action activities.</p> <p>This project does not fund the actual production, integration, nor fielding costs associated with the CS, ITN nor SFAB.</p> <p>FY 2020 Plans: These funds provide for the following:</p> <ul style="list-style-type: none"> - Production/Fielding Coordination for Network Modernization CS: Development, coordination, and execution management of the CS Fielding plan needed to produce, integrate, and field tested Brigade improvements to the BCTs. Synchronize the integration and coordinate CS Fielding including CS19 closeout, CS20 execution, and detail plan for CS21 along with high level planning for CS21/22. This effort funds government and contractor personnel and travel to unit location and fielding sites for planning and coordination of resources, integrated schedule, training and fielding across CS Programs of Record (PoR). It does not fund the production, physical integration, or fielding of the CS. - Production/Fielding Coordination for CS19 Products and Services: Complete training, integration and fielding of CS 19 units. Final close out of Materiel Fielding documentation and After Action Reports (AARs) for this includes synchronization, integration, and coordination of CS Fielding for the following CS19 Units (three (3) total): field network modernization (WIN-T Inc 2, Mission Command Systems) to three OCONUS IBCTs. Coordinate and execute the PM Mission Network (WIN-T Inc 2) TCN Lite fielding and the cascading/disposition of the TCN Heavy variants and multiple BCT NCR reduction efforts. Provide support to the fielding efforts for three (3) Security Force Assistance Brigades (SFABs). - Production/Fielding Coordination for CS20 Products and Services: Synchronize the integration of the CS package into the Brigade Combat Team (BCT) consisting of multiple network systems, on various configurations of Stryker, Mine Resistant Ambush Protected (MRAP) and High Mobility Multipurpose Wheeled Vehicle (HMMWV) platforms, at multiple locations. Complete synchronization, integration, and coordination of CS Fielding for the following CS20 Units (two (2) total): two (2) SBCT (OCONUS) and modernizing and conducting NCR reduction on one (1) SBCT. Synchronize the schedule for the execution of up to five Brigade Combat Team NCR SNE Reduction efforts and six Brigade 			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>

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

	FY 2019	FY 2020	FY 2021
<p>Combat Team TCN Lite fieldings and corresponding TCN Heavy cascade/disposition. Coordinate the integrated designs by platform, role, echelon, and BCT for CS20 including LTI. Finalize CS20 fielding requirements. Develop and manage the Integrated Master Schedule (IMS) for CS20. Coordinate A-Kit design, development and production and B-Kit's Integration Kit (IK) design, between system and platform Program Executive Offices (PEOs) and Program Managers (PMs) for CS20. Coordinate the delivery of prototype and production builds for CS20. Support Configuration Management (CM) of platform configuration implementations, designs, A-Kits, and B-Kits. Support fielding integration of Program of Record (PoR) assets in accordance with the defined BCT network architecture. Coordinate planning and execution of unit meetings, site inventories, A/B kit deliveries, chalk vehicle block schedules, assessment of Fully Mission Capable condition and integration of vehicle schedules (both component and complete vehicle installations). Coordinate and publish a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS20 gaining units.</p> <p>- Production/Fielding Coordination for CS21 Products and Services: Conduct planning, synchronization and coordination of CS Fielding for the following CS21 Units (two (2) total): two (2) TAA IBCT with LTI. Coordinate for the execution of FY 2021 TCN Lite fielding and the cascading/disposition of the TCN Heavy variants. Execute a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for fielding of CS21 to all gaining units. Begin CS21 NET/NEF requirements definition finalization and development of the NET/NEF integrated master schedule. This includes scheduling Program of Record unique NET, System of Systems NET (Capability Set holistic classes), and property accountability handoffs as an integrated process to enhance efficiency of the brigade modernization events.</p> <p>- Engineering and Integration coordination/planning efforts to develop and maintain CS unit-specific Network Basis of Issue (NBOI) architecture and Integrated Master Schedule (IMS): Developed and maintained unit-specific NBOI and IMS for the Army's Capability Set ? Synchronized Fielding (CSSF) efforts. Prepared ?as-built? NBOI and final IMS for units fielded during FY 2019, maintained unit-specific NBOI and IMS for units designated to undergo CS integration in FY 2020-2021, and developed initial (draft-level) NBOI and IMS for planned units in FY 2021 thru FY 2023. Organized, prepared, and conducted incremental technical reviews to examine and assess key/crucial planning activities and associated data product development supporting CS integration at specific fielded locations. Collected and analyzed sub-schedule performance against the baseline IMS to identify schedule risks for the Army's CS SF efforts. Validated that established incremental integration points were achievable and, if not, identified the risk to schedule. Analyzed schedule and cost performance against schedule established baselines, identified variances and their causes, and identified risks and/or impacts to critical path. Performed ?what if? schedule and cost analyses of alternative program courses of action to determine impact on schedule critical path and mission requirements. Updated and posted schedules on SharePoint for visibility and increased collaboration across the entire CS community to include ASA (ALT). Led or participated in other key technical reviews to include: After Action Reviews, Lessons Learned, Synchronized Fielding Technical Exchange Meetings (TEMs) and mini-TEMs.</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Provided reports and briefings to key CS stakeholders to support mutual programmatic goals and objectives and to help resolve issues and concerns affecting the CS community at-large. Identified key program risks as well as specific risk mitigation plans. Coordinated, prepared, and published a synchronized New Equipment Training / New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS fielding to all gaining units.</p> <p>FY 2021 Plans: Conduct initial planning for Fielding and Integration Coordination CS21, FY 2021 ITN Support and FY 2021 SFAB Vehicle Integration/CS21 Event Fielding Support: Synchronize and coordinate the execution of CS fieldings for the following CS 20 Units: Two (2) SBCTs with CS equipment. This effort includes conducting Synchronization Conference, NMIBs, IPRs and developing a consolidating schedule of all NET/ NEF and Integration events for the supported BCTs.</p> <p>Synchronize and coordinate the execution of integration of automotive upgrades, mission command and tactical radios into tactical vehicles for one (1) Security Force Advisory Brigades during FY21. This effort includes developing a consolidated integration schedule, inventorying tactical vehicles, developing integration trackers, conducting IPRs through the execution of the integration, providing on-site management and providing integration status and feedback from the integration sites.</p> <p>Synchronize and coordinate the execution of four (4) Integrated Tactical Network (ITN) Experimental IBCT during FY 2021. This effort includes developing a consolidated integration schedule, inventorying tactical vehicles, developing integration trackers, conducting IPRs through the execution of the integration, providing on-site status and feedback and managing operations at the integration site.</p> <p>Conduct planning and scheduling of CS Fielding for the following CS22 Units: two (2) SBCTs with CS equipment. Conduct Synchronization Conference, NMIBs and IPRs for each SBCT leading up to the execution of the CS NET/NEF effort. Develop a synchronized New Equipment Training /New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for fielding of CS22 to all gaining units. Begin CS22 NET/NEF requirements definition finalization and development of the NET/NEF integrated master schedule.</p> <p>Conduct planning and scheduling of automotive upgrades, mission command and tactical radios into tactical vehicles for full MTOE FY 2022 Security Force Advisory Brigades. This effort includes planning and developing an initial consolidated integration schedule, conducting Synchronization Conference and follow-on IPRs.</p> <p>Conduct planning and scheduling of automotive upgrades, mission command and tactical radios into tactical vehicles for of five (5) Integrated Tactical Network (ITN) Experimental IBCTs. This effort includes developing a consolidated integration schedule, conducting IPRs through the execution of the integration, providing on-site status and feedback and managing operations at the integration site.</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>This includes scheduling Program of Record unique NET, System of Systems NET (Capability Set holistic classes), and property accountability handoffs as an integrated process to enhance efficiency of the brigade modernization events.</p> <p>Engineering and Integration coordination/planning efforts to develop and maintain CS unit-specific Network Basis of Issue (NBOI) architecture and Integrated Master Schedule (IMS):</p> <p>Develop and maintain unit-specific NBOI and IMS for the FY 2021 Capability Set, SFAB and ITN units. Post integration, update the unit-specific NBOI to an "as-built" NBOI. This effort includes four (4) ITN and one (1) SFAB units. Update the final IMS for units fielded during FY 2020, maintained unit-specific NBOI and IMS for units designated to undergo CS integration in FY 2021, and develop initial (draft-level) NBOI and IMS for planned units in FY 2022 thru FY 2023. There are currently five (5) ITN BCTs planned for FY 2022. Organize, prepare, and conduct incremental technical reviews to examine and assess key/crucial planning activities and associated data product development supporting CS, ITN and SFAB integration at specific fielded locations.</p> <p>Collect and analyzed sub-schedule performance against the baseline IMS to identify schedule risks for the CS, ITN and SFAB integration efforts. Validate that established incremental integration points were achievable and, if not, identified the risk to schedule. Analyze schedule and cost performance against schedule established baselines, identify variances and their causes, and identify risks and/or impacts to critical path. Perform "what if" schedule and cost analyses of alternative program courses of action to determine impact on schedule critical path and mission requirements. Update and poste schedules on SharePoint for visibility and increased collaboration across the CS, LTI and SFAB communities. Lead or participate in other key technical reviews to include: After Action Reviews, Lessons Learned, Network Modernization and Fielding Synchronization Meetings (formerly known as Synchronized Fielding Technical Exchange Meetings (TEMs) and mini-TEMs). Provide reports and briefings to key stakeholders to support mutual programmatic goals and objectives and to help resolve issues and concerns affecting the affected communities. Identify key program risks as well as specific risk mitigation plans. Coordinate, prepare, and publish a synchronized New Equipment Training / New Equipment Fielding (NET/NEF) Integrated Master Schedule (IMS) for CS, ITN and SFAB units.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Decrease in program funding due to reduction to 4 core FTEs (funded by OCSE through FY 2021, FTE?s will be aligned to PEO C3T in POM 22-26.</p>				
<p>Title: FY 2020 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 Plans:</p>		-	0.019	-

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army	Date: February 2020
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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Funding transferred in accordance with Title 15 USC ?638			
<i>FY 2020 to FY 2021 Increase/Decrease Statement:</i>			
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	2.351	2.157	1.045

C. Other Program Funding Summary (\$ in Millions)												
<u>Line Item</u>	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021</u> <u>Base</u>	<u>FY 2021</u> <u>OCO</u>	<u>FY 2021</u> <u>Total</u>	<u>FY 2022</u>	<u>FY 2023</u>	<u>FY 2024</u>	<u>FY 2025</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>	
• DY3: <i>NIE Test & Evaluation</i>	13.907	16.851	0.000	-	0.000	-	-	-	-	-	Continuing	Continuing
• DY7: <i>Army Systems Engineering, Architecture & Analysis</i>	12.980	13.476	18.223	-	18.223	18.296	18.483	17.485	17.596	Continuing	Continuing	
• DZ6: <i>Army Integration Management & Coordination</i>	18.792	5.819	0.000	-	0.000	-	-	-	-	Continuing	Continuing	

Remarks

D. Acquisition Strategy
This project does not have any requirement for direct procurement of hardware or software.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>
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Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.019		-		-		-	0.000	0.019	-
Subtotal			-	-		0.019		-		-		-	0.000	0.019	N/A

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Production/Fielding Coordination for Capability Sets	TBD	Various Note: 1 : TBD	18.474	2.351	Nov 2018	2.138	Nov 2019	1.045	Nov 2019	-		1.045	Continuing	Continuing	Continuing
Subtotal			18.474	2.351		2.138		1.045		-		1.045	Continuing	Continuing	N/A

Remarks
 Note: 1
 - Program Activities performed at TACOM (Warren MI) and CS units location receiving fielding.
 - Program Integration support through various PMs, PEOs, RDECOM.

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Facilities and IT Support	TBD	Various Note:1 : TBD	0.694	-		-		-		-		-	0.000	0.694	-
Subtotal			0.694	-		-		-		-		-	0.000	0.694	N/A

Remarks
 Note: 1
 - Program Activities performed at TACOM (Warren MI) and CS units location receiving fielding.

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals		19.168	2.351	2.157	1.045	-	1.045	Continuing	Continuing	N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army							Date: February 2020			
Appropriation/Budget Activity 2040 / 5			R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>			Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>				
	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army			Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>	

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
FY20 Synchronized Fielding																												
FY20 Build & Integration																												
FY20 NEW Equipment Training (NET)																												
FY20 NEW Equipment Fielding (NEF)																												
FY21 Synchronized Fielding																												
FY21 Architecture Design																												
FY21 Build & Integration																												
FY21 NEW Equipment Training (NET)																												
FY21 NEW Equipment Fielding (NEF)																												
FY22 Synchronized Fielding																												
FY22 Architecture Design																												
FY22 Build & Integration																												
FY22 NEW Equipment Training (NET)																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army			Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>	

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
FY22 NEW Equipment Fielding (NEF)																												
FY23 Synchronized Fielding																												
FY23 Architecture Design																												
FY23 Build & Integration																												
FY23 NEW Equipment Training (NET)																												
FY23 NEW Equipment Fielding (NEF)																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY5 / <i>Production/Field Coordination for Capability Sets</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
FY20 Synchronized Fielding	1	2018	2	2021
FY20 Build & Integration	3	2018	4	2020
FY20 NEW Equipment Training (NET)	1	2020	2	2021
FY20 NEW Equipment Fielding (NEF)	1	2020	2	2021
FY21 Synchronized Fielding	1	2019	2	2022
FY21 Architecture Design	1	2019	2	2020
FY21 Build & Integration	3	2019	4	2021
FY21 NEW Equipment Training (NET)	1	2021	2	2022
FY21 NEW Equipment Fielding (NEF)	1	2021	2	2022
FY22 Synchronized Fielding	1	2020	2	2023
FY22 Architecture Design	1	2020	2	2021
FY22 Build & Integration	3	2020	4	2022
FY22 NEW Equipment Training (NET)	1	2022	2	2023
FY22 NEW Equipment Fielding (NEF)	1	2022	2	2023
FY23 Synchronized Fielding	1	2021	2	2024
FY23 Architecture Design	1	2021	2	2022
FY23 Build & Integration	3	2021	4	2023
FY23 NEW Equipment Training (NET)	1	2023	2	2024
FY23 NEW Equipment Fielding (NEF)	1	2023	2	2024

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>				Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
DY7: <i>Army Systems Engineering, Architecture & Analysis</i>	-	12.980	13.476	18.223	-	18.223	18.296	18.483	17.485	17.596	0.000	116.539
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Remaining OCSE Core Labor funding in DY3 will be realigned to DY7 in FY20. The balance of DY3 funding requirements will be realigned to the Army Future Command (AFC) in FY20 to support continued Joint Warfighter Assessments (JWA).

A. Mission Description and Budget Item Justification

This project provides the Army's leadership and materiel developers with the necessary modernization planning, System of Systems (SoS) engineering and analysis, technical risk analysis, architectural products, critical path analysis, cybersecurity and interoperability risk analysis and the associated mitigation planning for the Army's materiel portfolio. This project develops process, products, and policies that ensure a solid Army Systems Engineering construct across Army Program Executive and Management Offices.

This includes efforts in support of Common Operating Environment (COE) governance, the Army Futures Command's emerging development of concepts, requirements generation, resource allocation, experimentation, acquisition, logistics, and technology components of the Army Future Force Modernization Enterprise (FFME). Focus areas include the integration of key elements of a system into one overall system engineering construct and managing it through major system engineering activities to ensure the fielding of integrated capabilities meet the mission needs of the force against any potential adversaries. Key system engineering functions include, engineering and technical analysis, integrated System of Systems (SoS) architecture products, SoS risk analysis and mitigation planning to influence the Army's materiel portfolio. This project also includes the establishment of Army systems engineering policy and implementation standards, requirements decomposition and alignment, and resource and acquisition synchronization to address cross-portfolio issues. Key tasks are the development of integrated Architecture products; Engineering Analysis and Design; Portfolio Analysis; Systems Security Engineering process, interoperability assessments, Cybersecurity requirements analysis, compliance, and Cyber policy assessments.

The effort includes costs for labor (Government and contractor), support services, travel, training, supplies, facilities, and Information Technology (IT) support for Office of Chief Systems Engineer (OCSE). This effort funds Government labor for the Rapid Capabilities and Critical Technologies Office (RCCTO). This project also includes support to other Department of Defense (DOD) and international agencies for joint programs and collaboration effort.

Under this Project we have four efforts: Army System of Systems Engineering and Analysis, Cyber, Facilities/IT and Rapid Capabilities and Critical Technologies Office (RCCTO) Core Labor. The RCCTO core labor line is funded for RCCTO core labor for FY 2020 only. It supports the newly established FY 2020 RCCTO PROGRAM ELEMENT (PE) 0605054A PROJECT FI3 line which will fund the RCCTO projects.

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Title: Army System of Systems Engineering and Analysis</p> <p>Description: Provided coordinated SoS engineering, architectures, and analysis products for integrating new technologies with existing capabilities to stakeholders (e.g. materiel developers, TRADOC Capability Manager (TCM), Army Capabilities Integration Center (ARCIC), etc.) to deliver integrated solutions to Army formations.</p> <p>FY 2020 Plans: Army Formation Reference Architecture products: Develop and maintain all Army Combat Formations (Corps & below) System of Systems architecture and integration products. These products are used to design Objective, Base, and Modified Table of Organization & Equipment (TOE) for demonstration/test environments (e.g. Integration Exercise, Operational Test, and Army Interoperability Certification), as a reference for analysis conducted by either OCSE or other Army organizations, and for determining fielding quantities and configurations. Army formations include Corps, Infantry/Cavalry/Armored Divisions, Infantry/Stryker/Armored Brigade Combat Teams and Regiments, Combat Aviation Brigades, Field Artillery Brigades, Engineer Brigades, and other formations that may be deployed temporarily or permanently, such as the Air Defense Artillery Brigade, to support specific warfighting functions.</p> <p>Four core recurring products are: - Basis of Issue (BOI) (Networked and Non-networked): detailed database and spreadsheets describing the objective, basic, and modified TOE, TRADOC required BOI system placements, network and subnet assignment data, etc. - SoS View Diagram: Visual reference document diagramming all Soldier and platform roles, and their network connectivity and waveform assignments to each other as dictated by the NBOI. - Vehicle Interconnectivity Diagram (VID): Visual reference document diagramming software (operating systems, applications, etc), hardware (radios, computers, antennae?s, routers/switches, etc.), internal/external networks (protocols, ports, gateways, etc.), and waveforms (frequency bands) are connected for individual platforms. - SoS Thread: Visual reference diagram documenting technical use cases of the SoS architecture and the data/message flows throughout Brigade and below based on Army universal task lists, Army Interoperability Certification, and Joint Common System Function List.</p> <p>Document and maintain the Army?s tactical-to-enterprise end-to-end system of systems architecture. These products provide a holistic view of the entire Army network for each of the geographic combatant commands (Africa Command (AFRICOM), Central Command (CENTCOM), European Command (EUCOM), Pacific Command (PACOM), Northern Command (NORTHCOM), and Southern Command (SOUTHCOM)) and are used to support deployment decisions of enterprise resources and analysis of the comprehensive network.</p>		8.260	10.249	14.283

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Provide subject matter expertise (SME) on the Army's enterprise and tactical SoS architecture to all Program Executive Offices (PEO) and in support of the Army's Modernization program. SME support includes providing reference blueprints for the Army's SoS architectures, assessment/test/deployment architecture development, and analysis planning for various Army activities ranging in scope from small training venues to full theatre events such as the Joint Warfighter Assessment.</p> <p>Engineering Design & Analysis: Analytic support will provide early insight into the technical health of key programs and to ensure leadership has the right data to make informed program decisions. Initial efforts will involve building the necessary MSBE infrastructure to allow end-to-end system evaluation against alternate courses of action through identification of critical interfaces and dependencies within programs against which key tasks are measured. The objective is an infrastructure, analytics, data, and processes that support continuous modernization of the Army to maintain overmatch. This vision will be achieved through four thrusts.</p> <p>Develop Model Based Systems Engineering (MBSE) that follows industry-standardized practices to develop SoS designs that fulfill key warfighter requirements. Funds will be used for development of the SoS model, maintenance/operation/training of the tools used to conduct modeling, and the production of output products. Perform cross-PEO System of system engineering, integration and performance analysis. Develop strategic plans for providing key technologies in support of Army critical gaps or shortfalls. Conduct analyses of technical and performance requirements to support technology insertion for Warfighter capability (i.e. Intel-related operations, spectral assignment risk mitigation, and PNT (Positioning, Navigation and Timing) architecture placement).</p> <p>Strategic Planning and Schedule Synchronization: These funds provide for strategic planning to achieve Army Modernization Objectives. Provides the ability to identify and track key milestones and interdependencies related to critical capabilities within the ASA(ALT) portfolio and Army Futures Command. Conduct schedule analysis to identify integration and fielding challenges and opportunities as well as track key capability readiness to meet Chief of Staff of the Army (CSA)/Army Modernization Objectives. These funds provide a reliable Integrated Master Schedule (IMS) that synchronizes key cross portfolio capabilities under development within a PoR and/or a Cross Functional Team. Efforts include implementation of IMS tools, analyses of Platform schedules, and key modernization components' schedules to identify issues and opportunities. These funds also provide for limited analysis of cross-cutting capabilities within the Program Executive Office (PEO) and Cross Functional Team portfolios to identify opportunities and challenges associated with implementation and fielding.</p> <p>Requirements Analysis:</p>				

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B. Accomplishments/Planned Programs (\$ in Millions)				FY 2019
<p>These funds provide for systems engineering analysis, synchronization, and tracking of PEO and Army S&T system development progress to ensure that Army Futures Command concepts, capabilities and requirements development is accurately reflected in program of records to successfully accelerate program acquisition. Synchronization of Army threats, concepts, capability gaps and documented requirements with modernization planning will enable early feasibility assessments, support trade studies, and execution of early systems engineering to inform decisions related to feasibility, affordability and sustainability of requirements.</p> <p>These funds provide for the development of cross Army Materiel Enterprise capabilities to synchronize threats, capabilities, gaps, requirements, programs, and interdependencies and ensure that acquisition programs support Army warfighting concepts and doctrine. These funds provide strategic planning to align Army modernization with requirements development. It provides analysis of objectives, identifies potential risks and mitigation plans to ensure capability delivery.</p> <p>Standards and Interoperability: This organization is charged with providing a wide range of technical coordination and oversight functions in support of the Army Modernization Strategy including, but not limited to the following primary mission areas:</p> <ol style="list-style-type: none"> 1) Early program lifecycle technical standards coordination and oversight 2) Establish and maintain the ASA(ALT) unified standards baseline in support of all material development efforts 3) Coordination with CIO/G-6 for analysis of requested standards waivers and tailored alignment of Title 40 interoperability certification with agile acquisition strategies 4) provide engineering and technical support to program office level Model Based Systems Engineering (MBSE) activities to establish a "single source of truth" that traces operational capabilities to mission architecture and into actionable system level standards implementation and tailored Capability Drop (CD) requirements all the way through Test, Evaluation, and Certification 5) Horizontal synchronization of Cross Functional Team (CFT) architecture and requirements development. <p>These funds support staffing needed for effective engagement, fulfillment of staff coordination and oversight responsibilities on behalf of the Army Acquisition Executive such as Architecture and Standards Integrated Product Team (IPT) leadership, and information management of a broad range of widely used work products that support acquisition planning and execution such as the following: studies & analysis, program technical reviews, joint and coalition liaison, Integrated Master Schedule (IMS), architecture system and service views, systems engineering documentation, and software and standards baseline configuration management.</p> <p>Systems Engineering Policy Support: Serves as the Army level concurrence authority on System Engineering Plans (SEP) and Program Protection Plans (PPP) for all Army Major Defense Acquisition Programs. Teams of subject matter experts conduct reviews of products to ensure compliancy to OSD and Army requirements. Army Representative for the FY 2014 NDAA Section 937 Congressional requirement to stand</p>				FY 2020
				FY 2021

UNCLASSIFIED

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>up a Joint Federated Assurance Center (JFAC) to develop work plans, manage funding, track progress and report regular status to Army Leadership and OSD Leadership. In addition also maintains direct collaboration and communication with Army Research Developing Engineering Centers (RDECs), Army Research Labs, and specifically the Software, Hardware and Cyber Subject Matter Experts and Communities of Practice, to define, federate, maintain and evolve, Army Cyber, System Security Engineering, and allow access to available Assurance capabilities to meet today's threats and emerging threats. Conduct oversight, review, and development assistance for PPPs to determine/review risks/ vulnerabilities associated with Security Engineering Best Practices and assist with the development of sound mitigation strategies. Ensure program protection strategies use good systems engineering discipline and are referenced in the Systems Engineering Plan (SEP) and the Cyber Security Strategy (CSS). Provide advice and experience to influence system design in support of developing effective program protection strategies. Participate in the staffing of the PPP with applicable agencies across the Department of the Army (DA) staff. Conduct client advocacy and education forums (Road Show presentations) amongst Army PEOs, DASD(SE), other agencies and joint service stakeholders to inform and promulgate Critical Program Information (CPI) development best practices throughout the acquisition community. Interface as an executive agent on matters of Anti-Tamper and Supply Chain Risk Management with program personnel, systems security engineers and service providers. Act on behalf of the office of primary responsibility for Anti-Tamper and the Acquisition Security Database. Allows the Army to make informed tradeoffs that support system design and/or modification decisions upfront and early. Army systems require protection from proliferation and exploitation, for as long as possible, so they can effectively perform their missions in various operational environments. With OSD and Army laboratories ensure future access to state of the art microelectronics to reduce sole source dependence on microelectronics designs. Provide alternate assurance options for critical DoD unique parts as part of the US Microelectronic Strategy. Advance the Army's capability to perform hardware analysis of critical components transition to new microelectronics trust model that leverages commercial state of the art practices. Provide systems engineering advice on Critical Intelligence Parameter Breech recommendations through emerging Acquisition, Intelligence, Requirements (AIR) policy directives. Responsible for the conduct of Post-Preliminary and Critical Design Review (PDR/CDR) and Independent Technical Risk Assessments (ITRA) for all Army ACAT I and II programs where the Army Acquisition Executive serves as the Milestone Decision Authority. FY 2017 NDAA Sec 807 directs a change in Title 10 USC 2448b that the MDA will ensure an ITRA is conducted on all programs reaching MS A after 1 October 2016. The reviews will provide recommendations on Technical Risk and PDR/CDR sufficiency will be included in the Milestone Decision Authority (MDA) package for the Milestone Review, approval, and certification. Coordinate and prioritize requests for threat analysis of suppliers of critical components, assure the identification of mission critical functions and critical components as well as Trusted Systems and Networks (TSN) planning and implementation activities in Program Protection Plans. Assist in the conduct of criticality analysis to identify mission critical functions and critical components thus reducing the vulnerability of such functions and components through secure system design.</p> <p>Support the certification of Modular Open Systems Approach (MOSA) as defined in Title 10 USC, section 2446b (e). Confirm that Army programs proceeding to Milestone B have incorporated clearly defined major subsystem interfaces between the major</p>				

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>

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

	FY 2019	FY 2020	FY 2021
<p>system platform and major system components, between major system components, and between major system platforms. That these major system interfaces are consistent with the widely supported and consensus-based standards that exist at the time of the milestone decision. Assess if Army programs have arranged to obtain specific, appropriate and necessary intellectual property rights with respect to such major system interfaces upon completion of the development of the major system platform Lead the assessment of Reliability, Availability, and Maintainability (RAM) efforts of Army programs of record. Assist programs in the research for root causes of reliability issues and provide detailed assessment along with recommendation to senior leadership.</p> <p>Synchronize the Army's Modeling and Simulation Strategy with OSD's Digital Engineering Strategy to focus current and emerging efforts on the efficient development and use of M&S and Model Based Systems Engineering capabilities in order to advance the Army's system development efforts.</p> <p>Provide engineering support to OSD and the Army to oversee the growth of civilian talent to support Assistant Secretary of the Army (Acquisition, Logistics and Technology) Systems Engineering requirements. This includes recommending improvements in Training, Education, Rotational Assignments, and Mentoring a Systems Engineering (SE) work force across the Army. SEPS will support ASA(ALT) in the development of the Human Capital Strategic Plan (HCSP) and refinement of the System Engineering Functions with OSD.</p> <p>Common Operating Environment (COE): Provide Army representation at a wide spectrum of DoD and Industry professional forums for systems engineering, standards, and open design communities of practice.</p> <p>Provide formal staffing review and analysis of Service and DoD policy and strategy documents for impacts to Army modernization priorities, digital engineering, technical standards, and COE equities.</p> <p>Provide review and analysis of change requests and updates to the DoD Information Technology Standards Repository (DISR) baseline for impacts to Army inter and intra service interoperability with Joint and Coalition partners.</p> <p>Provide configuration management and knowledge management of approved Army baselines for architecture and technical standards in support of Common Operating Environment (COE) capability deliveries and Service level implementation of DoD Digital Engineering guidance and principles.</p> <p>Continue hosting systems engineering forums to promote convergence of legacy combat systems towards a common software and hardware infrastructure, effective migration of Army sensing capabilities towards common data sharing interface standards, and alignment of enterprise capabilities with tactical level services.</p>			

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020
<p>Maintain enterprise wide Fielded Software Tracker Database via data curation, user requested functionality enhancements, systems administration, and user help desk support.</p> <p>Continue hosting bi-weekly and monthly systems engineering forums to optimize risk reduction and preparatory actions prior to execution of Army Interoperability Certification (AIC) test events.</p> <p>Host bi-weekly and monthly systems engineering forums to optimize risk reduction and preparatory actions prior to execution of Army Interoperability Certification (AIC) test events.</p> <p>FY 2021 Plans: Army System of Systems Engineering and Analysis:</p> <p>Develop reference architecture products to support CS21 Integrated Tactical Network fielding, the CS23 Integrated Tactical Network engineering design and integration planning, and the 2028 and 2035 baselines. Capability Set fielding activities occur every two years and provide network modernization upgrades to entire brigades in a single fielding event. These supporting architecture products enabled the ASA(ALT) community to determine integrated Basis of Issue planning, subnet design, spectrum allocation, network initialization, logistics planning for fielding activity, and non-recurring engineering planning and design as part of the overall ASA(ALT) engineering, integration and fielding of the Army Capability Sets.</p> <p>Continued development of the end-to-end Multi Domain Operations (MDO) architecture to support the Army Modernization Eco-System (AME). The MDO architecture is an end to end architecture describing of all the Army systems and their connections across the AME. Additionally, it can be used to identify touch point for Joint and Partner interconnectivity. Its primary purpose is the identification of gaps and issues in the AME, identification of solution options to solve those gaps and issues, and understanding how those solutions can</p> <p>Support the development and implementation of a governance process and structure to achieve unity-of-command and unity-of-effort across all AME stakeholder?s architecture development activities. Architecture, including all the underlying data that supports it, must be integrated through a repeatable process. A standards-based approach will be required to ensure the integration of data, processes, and tools across the AME. It is critical to synchronize the efforts of ASA(ALT), Army Futures Command (AFC), and CIO/G-6, applying a formal architecture methodology that utilizes common data.</p> <p>Using a Model Based Systems Engineering (MBSE) data-driven approach, capture system data in the system of systems integrated architecture to include systems? unique requirements, capabilities, performance, interfaces, standards, dependences,</p>			

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>and data flows, within the context of their operational employment and provide visual representation of key system from an operational, functional and network perspective allowing for requirements traceability, reporting, analysis and visualization.</p> <p>Analyze Joint All Domain Command and Control (JADC2) impact on Army modernization strategy and the Army's role in MDO in the years 2028 and 2035. The JADC2 will change how the Army communicates within the Joint community. Through understanding of JADC2 is critical to ensuring that the Army will be able to function inside the Joint environment. Analysis will identify gaps and challenges that the Army faces operating in the JADC2 environment.</p> <p>Develop a reference architecture to support Sensor to Shooter (S2S) across Army and Joint forces. Connecting sensors digitally (i.e. machine to machine) to shooters is a challenge in the Army. This reference architecture will lay out a plan, through standards, protocols, and new and existing systems, for how the Army achieves this.</p> <p>Continue to provide the ASA(ALT) community with quick-turn, independent, first-order engineering analysis to support leadership decision making to enable the Army Modernization Eco-system.</p> <p>Lead for Army Systems Engineering Policy and Program Support:</p> <p>Leads the Army's development of policy and best practices to ensure systems engineering rigor in Army Acquisition. Primary advisor to the Army Acquisition Executive regarding the sufficiency of systems engineering rigor in programs. Collaborates with the Army's systems engineering community to identify systemic systems engineering challenges and issues and their solutions, as well as identifying and sharing best practices.</p> <p>As the National Defense Strategy and Army Senior Leadership have emphasized increased speed of delivery of capabilities to the Warfighter, OCSE will work with PEOs/PMs, along with the Combat Capabilities Development Command and other elements of Army Futures Command (AFC) on enabling processes and tools in order to accelerate the Army's acquisition process, from requirements development through delivery of capability to the field. Elements will include identifying and prioritizing key system attributes that provide the greatest operational effects on the battlefield, and support the fielding of an MDO-capable force by 2028 and an MDO-ready force by 2035. These efforts will encompass the development planning process to rapidly identify and refine requirements and speed development from concept to solution. OCSE will also work to assist the Army in assessing what emerging capabilities should be transitioned into programs of record, and facilitate the rapid integration of the technology.</p> <p>A key element of this will be advancing the state of practice of Digital Engineering (DE) across the Army Modernization Enterprise. This work will also seek to streamline communications between Government and Industry.</p>				

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
<p>OCSE leads the immediate Army response to NDAA statutory requirements that involve systems engineering, as well as identifying and facilitating the best means to institutionalize those requirements.</p> <p>OCSE leads Army interaction with OSD for systems engineering issues, and identifies and advocates for Army equities during the establishment of DoD policy involving systems engineering. In order to promote program success, the office assists programs in identification and mitigation of risk; or leads this effort when delegated by USD(R&E).</p> <p>Provides guidance and support to programs for development of systems engineering documentation required for milestone decisions and certification. Serves as the Army level concurrence authority on System Engineering Plans (SEPs) and provides systems engineering expertise for Program Protection Plans (PPPs) for all Army Major Defense Acquisition Programs.</p> <p>Army focal point for matters of hardware and software assurance , planning and countermeasures, and systems engineering focal point for program protection, including supply chain risk management, anti-tamper, and program protection plans. Army Representative for the FY 2014 NDAA Section 937 Congressional requirement to stand up a Joint Federated Assurance Center (JFAC) to develop work plans, manage funding, track progress and report regular status to Army Leadership and OSD Leadership. In addition, also maintains direct collaboration and communication with Combat Capabilities Development Commands (CCDCs), Army Research Labs, and specifically the Software, Hardware and Cyber Subject Matter Experts and Communities of Practice, to define, federate, maintain and evolve, Army Cyber, System Security Engineering, and allow access to available Hardware/Software Assurance capabilities to meet today's threats and emerging threats. Provide systems engineering expertise, oversight, review, and development assistance for PPPs to determine/review risks/identify vulnerabilities associated with Security. Provide advice and experience to influence system design considerations in support of developing effective and resilient program protection strategies. Conduct client advocacy and education forums (Road Show presentations/Army Systems Engineering Forums) amongst Army PEOs/CSEs,s, DASD(SE), other agencies and joint service stakeholders, to promulgate best practices to the acquisition community. Interface as an executive agent on matters of Anti-Tamper with program personnel, systems security engineers and service providers. Act on behalf of the office of primary responsibility for Software Assurance and Anti-Tamper. Provide alternate assurance options for critical DoD unique parts as part of the US Microelectronic Strategy. Advance the Army's capability to perform hardware analysis of critical components and transition to a new microelectronics trust model that leverages commercial state of the art practices. Provide systems engineering advice on Critical Intelligence Parameter Breach recommendations through emerging Acquisition, Intelligence, Requirements (AIR) policy directives. IAW FY 2017 NDAA Sec 807 Responsible for the conduct and execution of Post-Preliminary and Critical Design Review (PDR/CDR) and Independent Technical Risk Assessments (ITRA) for all Army ACAT I and II programs where the Army Acquisition Executive serves as the Milestone Decision Authority. The reviews will provide recommendations on Technical Risk and PDR/CDR sufficiency will be included in the Milestone Decision Authority (MDA) package for the Milestone Review, approval, and certification.</p>			

UNCLASSIFIED

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<p>OCSE develops Modular Open Systems Approach (MOSA) policy and implementation guidance, iaw NDAA FY 2017 2466a/b/c/, that leads to the certification of MOSA in MDAPS. Other responsibilities include confirming that Army programs proceeding to Milestone B have incorporated clearly defined major subsystem interfaces between the major system platform and major system components, between major system components, and between major system platforms, and that these major system interfaces are consistent with the widely supported and consensus-based standards.</p> <p>Leads the assessment of Reliability, Availability, and Maintainability (RAM) efforts of Army programs of record. Assist programs in the research for root causes of reliability issues and provide detailed assessment along with recommendation to senior leadership.</p> <p>Synchronizes the Army's Modeling and Simulation Strategy with OSD's Digital Engineering Strategy to focus current and emerging efforts on the efficient development and use of M&S and Model Based Systems Engineering capabilities in order to advance the Army's system development efforts.</p> <p>Promotes workforce development efforts to improve the level of systems engineering competency. Provide engineering support to OSD and the Army to oversee the growth of civilian talent to support Assistant Secretary of the Army (Acquisition, Logistics and Technology) Systems Engineering requirements. This includes recommending improvements in Training, Education, Rotational Assignments, and Mentoring for a Systems Engineering (SE) work force across the Army. SEPS will support ASA(ALT) in the development of the Human Capital Strategic Plan (HCSP) and refinement of the System Engineering Functions with OSD.</p> <p>Standards & Interoperability:</p> <p>Common Operating Environment Systems Engineering Governance: Continue hosting ASA(ALT) monthly governance forums to promote convergence of legacy combat systems towards a common software and hardware infrastructure, effective migration of Army sensing capabilities towards common data sharing interface standards, and alignment of enterprise capabilities with tactical level services.</p> <p>Continue hosting bi-weekly ASA(ALT) Configuration Control Board to optimize risk reduction and preparatory actions prior to execution of CIO/G-6 Title 40 Army Interoperability Certification (AIC) test events.</p> <p>ASA(ALT) Systems Engineering Artifacts: Continue configuration and knowledge management of the Army technical data baseline in support of achieving Full Operational Capability (FOC) of the Common Operating Environment (COE) in 2025.</p>				

UNCLASSIFIED

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B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Continue maintenance of the enterprise level Fielded Software Tracker Database via data curation, user requested functionality enhancements, systems administration, and user help desk support.</p> <p>Joint All Domain Command & Control (JADC2) / Multi Partner Environment (MPE) Technical Standards: Continue ASA(ALT) technical representation on the Army Joint All-Doman Command & Control (JADC2) liaison team to the Air Force Executive Agent Office.</p> <p>Continue ASA(ALT) technical representation on the Information Technology Standards Steering Group (ITSSG) and Interoperability Standards Technical Packages (ITSP) in support of pre-coordination, review, and staffing of Communities of Practice (CoP) and Change Requests (CRs) to the DoD Information Technology Standards Repository (DISR) baseline IAW DoDI 8310.01.</p> <p>Continue ASA(ALT) technical representation for Army pre-ratification review and staffing of American, British, Canadian, Australian, and New Zealand (ABACANZ) Technical Statement of Requirements (TSOR) in support of the Army Interoperability Campaign Plan and Mission Partner Environment (MPE) Concept of Operations (CONOPS).</p> <p>Mission Engineering and Integration, Requirements and Feasibility Analysis:</p> <p>Continue prioritization of FFME modernization efforts and ensure that appropriate metrics are developed and used to confirm that materiel developed meets warfighter needs. Perform pre-MDD feasibility and requirements analysis and, with AFC, develop and execute a process to ensure that appropriate systems of systems integrations, design for supportability, cyber resilience, and other important design characteristics are addressed in new system designs. Lead development of a coordinated, comprehensive Army Mission Engineering approach across the FFME and ensure that products are used to inform Army modernization prioritization and resourcing decisions.</p> <p>Planning of ASA(ALT) Integration Into the Army Data Strategy:</p> <p>ASA(ALT) Acquisition Data Domain (ADD) supports Army readiness and modernization through the establishment of the Acquisition Data Working Group and Product Engineering Working Group (PEWG) with representatives from across ASA(ALT), Army Futures Command (AFC), and other stakeholders. Efforts within the ADD support the development and demonstration of capabilities within previously established data platforms through minimal viable products (MVP) of use case that are implemented and scaled to support the Army Modernization Enterprise (AME). ADD efforts provides a path for ASA(ALT) to provide common enterprise data in a manner that integrates the product life cycle and includes all the processes that are needed to design, develop, test, produce, and support a product. Coordinate and implement standards and process for technical data in order</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>to gain efficiencies across the acquisition and modernization initiatives. Ensure that technical data is available for successful integration and support of product and program life-cycle support, additive and advanced manufacturing, digital engineering, intellectual property management, modular open systems approach and other Army Modernization Enterprise initiatives. Connecting these processes using standardized digital tools and data accelerates the product development cycle and lowers costs for support and new capability integration. This will advance data analytics, standards and visualization capabilities while adding common platform services in a big data environment that is consistent with private industry. Pilot and MVP efforts will establish and mature data standards, governance, and security of common enterprise data in support of Army readiness and modernization priorities.</p> <p>Tasks:</p> <ul style="list-style-type: none"> - Establish Acquisition Data Domain (ADD) governance, standards, and policies in order to facilitate rapid and relevant acquisition decisions. - Provide common enterprise data in accordance with NDAA 2018 across the ASA(ALT) enterprise. - Establish and coordinate implementation of technical data standards and governance throughout the Army Modernization Enterprise. - Demonstrate data decision platform capabilities throughout the product lifecycle. - Demonstrate used case implementation through Minimal Viable Products (MVP) with the potential to scale across ASA(ALT) portfolios. <p>FY 2020 to FY 2021 Increase/Decrease Statement: Increase in funding due to realigning remaining OCSE Core Personnel dollars formerly residing in Projects DZ6 and DY3.</p>				
<p>Title: COE</p> <p>Description: Provide governance and implementation oversight and for the Army SoS Common Operating Environment (COE) and synchronized programmatic planning for COE crossing multiple PEOs and Computing Environments (CEs) in coordination with the Army Staff, Training and Doctrine Command, Research and Development Command, Army Materiel Command, Army Testing and Evaluation Command, the Joint Staff and OSD Staff. This includes providing integrated, cross-portfolio system engineering technical products and configuration management cost benefit analysis, support for TRADOC requirements development and G-8 staffing through AROC approval. Lead COE standards development in support of Army and DoD Standards bodies and integrated architecture development. Provide COE related Verification & Validation (V&V) planning and assessment including management of the Federated Integration Environment, Cross-CE risk reduction and Army Interoperability Certification. Serve as the DA Staff advocate for COE and Cross-Cutting Capabilities (CCCs) development and Application Migration. Provides funding for supervision of Subject Matter Expert Staff used to support execution the tasks following.</p>		1.198	-	-
Title: Cyber		3.310	2.821	3.700

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Description: This project funds cyber support to PEOs/PMs to include cybersecurity support to risk management framework, cyber engineering and architecture development, industry cybersecurity engagement, and cyber program oversight and governance, which ensures the secure, affordable, and effective delivery of Army materiel solutions that address critical Army modernization objectives, as well as the delivery of agile and advanced cyber solutions to equip the Army's offensive and defensive forces in the cyberspace domain. These funds support synchronization, analysis and integration of Cyber functions and products.</p> <p>FY 2020 Plans: Strategic: Lead a coordinated, comprehensive acquisition approach to enhance cyber resiliency and survivability across ASA(ALT) communities and the materiel enterprise. Optimize cybersecurity as a critical enabler of capability delivery. Facilitate and ensure execution of cyber-related tasks and efforts by appropriate ASA(ALT) organizations. Represent and advocate for ASA(ALT) cyberspace equities in external governance bodies, senior leader forums, and partner engagements. Shape cyberspace policy, directives and orders that may impact acquisition. Deliver systemic and crosscutting value to PMs executing cyber-related missions.</p> <p>Cybersecurity: Lead the cybersecurity program for ASA(ALT). Fulfill cybersecurity functions mandated by public law, federal directives, and DoD/Army policy, and ensure PEOs and organizations meet all requirements. Perform delegated Authorizing Official functions for ASA(ALT), ensuring HQ Business systems maintain an acceptable level of risk and continue authorization throughout the system lifecycle. Provide oversight and management standards for the ASA(ALT) cybersecurity workforce. Support PEOs in implementing the Risk Management Framework, communications security (COMSEC) management, Federal Information Security Management Act (FISMA) compliance, and Command Cyber Readiness Inspections (CCRI). Provide technical support to facilitate compliance with ARCYBER orders and directives addressing software updates, patching, reporting, and named cyber operations.</p> <p>Support the secure operation of ASA(ALT) activities. Lead coordination across PEOs in preparing for both planned and unannounced Command Cyber Readiness Inspections (CCRI). Assist local Network Enterprise Centers as needed to support ASA(ALT) equities. Engage 7th Signal Command as the PEO liaison. Report to HQDA CIO/G-6 and ARCYBER for cybersecurity related requirements and issues. Monitor and coordinate response to the various cybersecurity inspection programs and audit findings related to Department of Defense Inspector General (DoDIG), APPA, and Army Audit Agency (AAA) audits.</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>Co-lead RMF process improvement initiatives for the Army, lead for ASA(ALT). In connection with (ICW) HQDA CIO/G-6 and NETCOM, ensure resources are available to conduct further pilot efforts. Develop policies, procedures, and lessons learned to ensure RMF optimization for the Army.</p> <p>Co-lead the ASA(ALT) Chief Information Officer (CIO)/Chief Information Security Officer (CISO) Council. Ensure PEO involvement and coordination to meet the objectives and requirements identified in the council charter.</p> <p>Support critical modernization of unsupported software for secure operations. Monitor and facilitate PEO/PM migration plans and execution away from unsupported client/server operating systems and applications (e.g. Windows 10, Server 2003). Assist and respond with data call requests, synchronization efforts, and IPRs with DoD CIO, HQDA CIO/G-6, ARCYBER, and the Vice Chief of Staff of the Army (VCSA). Provide required data to support DoD Cybersecurity Scorecard.</p> <p>Coordinate DoD and Army requirements for public key infrastructure (PKI) and Multi-Factor Authentication across PEOs and PMs. Coordinate and review all program briefings, and input to the PKE Exemption SharePoint site.</p> <p>Coordinate priorities and tasks for ASA(ALT) from senior leadership forums such as the CIO Executive Board (CIO-EB).</p> <p>Provide holistic expertise and support for Cross-Domain Solutions (CDS). Establish and facilitate Army Tactical CDS WG to provide collaboration among tactical program stakeholders. Identify requirements and interoperability issues affecting multiple systems in the tactical space. Evaluate emerging CDS technologies for the tactical environment and provide feedback to industry to shape investments.</p> <p>Mission Assurance/Resilience & Engineering: Facilitate technical exchange across ASA(ALT) community by maintaining Cyber Focal SharePoint site to collect and main PoR data as needed. Offload legacy data to authoritative sources/repositories as feasible. Facilitate internal coordination across Cyber Focal.</p> <p>Support Cyber Operational Resiliency Assessment-Platform (CORAP) program. Facilitate identification, prioritization, and approval of vulnerability mitigations and advanced cyber hardening efforts for critical systems. Leverage lessons learned and analyses opportunities to further cyber resiliency goals.</p> <p>Enhance cyber assessments within acquisition process. Coordinate with testing community, PMs/PEOs, OSD/Joint Staff, to implement improvements to cyber assessment process across all ASA(ALT) lifecycles. This process will build on the community-established needs to better integrate testing (Red/Blue/Cyber Ranges), supply chain risk management (beyond Trusted</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020
<p>Systems & Networks process), cyber teams (certification/standards), threat capabilities/intent, and risk-to-mission perspective. Institutionalize lessons learned and guidance via Army Acquisition Executive (AAE) directive for PM training and implementation.</p> <p>Enhance cyberspace acquisition governance. Operationalize the Cyber Acquisition Task Force (CATF) to synchronize and prioritize cyberspace capabilities in coordination with other critical governance forums. Army requires whole-of-service governance approach to accelerate and provide flexible delivery of cyberspace capabilities. Establish clear battle-rhythm with TCM Cyber, ARCYBER, and DAMO-CY G-3/5/7 working and assessment group. Integrate with CCIDS Configuration Control Board (CCB) and Cyberspace Requirements Evaluation Board (CREB). Ensure communications across the community.</p> <p>Provide ASA(ALT) technical representation and expertise at Unified Platform (UP) and Joint Cyberspace Command & Control (JCC2) decision forums. Ensure technical compatibility of joint efforts with current/planned Army systems across PEOs and advocate for Army programmatic equities in cyberspace. Specifically, Army will maximize coordination of Army capability and materiel development, to ensure both align to and support UP/JCC2 objectives. Improve communication and information sharing across all stakeholders to support PEO interests.</p> <p>Improve ASA(ALT) System Security Engineering (SSE). Set conditions for the formal appointment of the SSE workforce within each PEO. Establish duties with prescribed training, experience, and certification requirements IAW DoD 8570. Facilitate collaboration across ASA(ALT), and with the cybersecurity community.</p> <p>Improve cyberspace supply chain risk management (CySCRM). Support OCSE efforts with Army CySCRM WG to maintain readiness of Army forces, capabilities, and systems by identifying, scoping, and mitigating risks to the supply chain. The WG will provide a forum for stakeholders to review intelligence reports and assessments related to SCRM; review current SCRM policies, roles, and responsibilities; identify potential gaps; recommend mitigations; in accordance with AR 70-77, maximize the integration of SCRM across system lifecycles; and interface with joint and interagency SCRM activities to ensure whole-of-government execution.</p> <p>As needed, conduct engineering assessments of crosscutting cyber focused architectures, solutions, and capabilities proposed by PORs, CFTs, and RCO.</p> <p>FY 2021 Plans: Summary:</p> <p>Perform the functions of the Principal Cyber Adviser (PCA) to the AAE, ASA(ALT) Chief Information Security Officer (CISO), ASA(ALT) Engineering Governance for Cyberspace, and ASA(ALT) lead for Cyber Resilience. Lead a coordinated,</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>

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

	FY 2019	FY 2020	FY 2021
<p>comprehensive acquisition approach to enhance cyber resiliency and survivability across ASA(ALT) communities and the materiel enterprise. Optimize cybersecurity as a critical enabler of capability delivery. Facilitate and ensure execution of cyber-related tasks and efforts by appropriate ASA(ALT) organizations. Represent and advocate for ASA(ALT) cyberspace equities in external governance bodies, senior leader forums, and partner engagements. Shape cyberspace policy, directives and orders that may impact acquisition. Deliver systemic and crosscutting value to PMs executing cyber-related missions. Army Futures Command (AFC). Engage AFC to institutionalize support for ASA(ALT) Cyber Discipline in order to begin system survivability and cyber resilience efforts early in the acquisition lifecycle.</p> <p>Principal Cyber Adviser (PCA) to the AAE:</p> <p>Provide the AAE with subject matter expertise on acquisition interests related to cyberspace. Topics include the development of decisive cyberspace systems, the survivability/resilience of cyber-dependent systems, the evolution of pre-acquisition cyberspace requirements / capability development, and the continued use of systems throughout Operations & Support. Advise emerging developments and policies in cyberspace from joint, interagency, and coalition partners. Monitor and advise relevant threats to Army systems, and develop mitigation roadmaps as required. Principal ASA(ALT) cyber representative for coordination across government agencies, industry, and academia.</p> <p>ASA(ALT) Chief Information Security Officer (CISO). Lead, plan, integrate and synchronize cybersecurity efforts across ASA(ALT) including PEOs and headquarters. Lead the ASA(ALT) CIO/CISO Council in order to identify crosscutting issues and opportunities from across the PEOs requiring ASA(ALT) senior leader attention. Represent ASA(ALT) cybersecurity equities in external stakeholder forums (e.g. Army Cyberspace Council, Army Enterprise Network Council, CIO Executive Board). Review and shape all cyberspace related strategies, policies, and orders affecting ASA(ALT) from OSD, HQDA, and ARCYBER; and elevate issues to the ASA/PDEP/MDEP as needed. Synchronize architectures between enterprise and acquisition systems. Support critical modernization of unsupported software for secure operations. Assist and respond with data call requests, synchronization efforts, and IPRs with DoD CIO, HQDA CIO/G-6, Army Cyber Command (ARCYBER), and the Vice Chief of Staff of the Army (VCSA). Examples: Federal Information Security Modernization Act (FISMA), DoD Cybersecurity Scorecard, Windows / unsupported software migrations, HQDA Execution Orders (EXORD), Army Cyber Command (ARCYBER) Operations Orders (OPORD). Leverage cybersecurity policy as a technology enabler. Fulfill cybersecurity functions mandated by public law, federal directives, and DoD/Army policy. Coordinate, optimize, and monitor RMF execution among PEOs, assist with common issues requiring senior leader attention, and liaise with HQDA CIO/G-6. Ensure appropriate transfer of Enterprise Mission Assurance Support Service (eMASS) records for systems that transitioned to sustainment. Review and approve requirements for Communications Security (COMSEC) materiel. Serve as approval authority for ASA(ALT) HQ eMASS accounts and Army Training & Certification Tracking System (ATCTS) records, as well as for reviewing and approving system transfers to sustainment in the Army Program Management System (APMS).</p>			

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>ASA(ALT) Engineering Governance for Cyberspace. Provide engineering governance for emerging cyberspace-related capabilities and advances to include artificial intelligence, cloud-computing governance, DevSecOps, supply chain risk management, etc. Ensure ASA(ALT)'s cyber-related roadmaps align with Army/DoD CIO regarding data, cloud migration, data centers, etc. Analyze requirements and opportunities, and publish ASA(ALT) internal Technical Bulletins and other information papers to inform PMs. Drive definition and implementation of Information Security Architectures from a system-of-systems perspective. As needed, conduct engineering assessments of crosscutting cyber focused architectures, solutions, and capabilities proposed by PORs, CFTs, and RCCTO.</p> <p>ASA(ALT) lead for Cyber Resilience:</p> <p>Coordinate updates to the ASA(ALT) Cyber Discipline Policy and Implementation Guidebook and transition to Army policy. Synchronize ASA(ALT) cyber resilience strategy with DoD CIO, OUSD(A&S), and HQDA CIO/G-6. Coordinate with Army Futures Command to accelerate the delivery of survivable systems by integrating resilience requirements early in capability development. Review Cyber Discipline related artifacts before submission to the MDA in support of milestone decision reviews. Coordinate support with stakeholders from across Army to implement effectively across system lifecycles. Coordinate revisions and adapt to regulation as needed. The ASA(ALT) Cyber Discipline positions the Army to fight and win with agility in a congested and contested cyberspace domain by maximizing survivability and resiliency of Army systems. This policy mandates the need for PMs to integrate threat-driven systems security engineering, to include cyber assessments and mitigations, both early and continuously across system lifecycles. This policy builds upon of the Risk Management Framework (RMF) and can inform compliance decisions. This implementation guide describes the roles and responsibilities for Milestone Decision Authorities (MDA), PEOs, and PMs. This discipline empowers the PM to expend resources and consider cyber resiliency within trade space decisions along with cost, schedule, and performance.</p> <p>Cyber Vulnerability Assessments & Mitigations ? ASA(ALT) Enduring Program:</p> <p>Lead ASA(ALT) effort to institutionalize cyber vulnerability assessments and mitigations over system lifecycles. Plan funding over the Future Year Defense Program and manage distributed execution by the supporting organizations. Coordinate with system owners to integrate funding as part of organic acquisition strategies. Define Terms of Reference with stakeholders across Army. Coordinate all assessment/mitigation reporting to Army, joint and DoD forums. Support prioritization of weapon systems for assessments based on COCOM prioritization. Establish repository of Army lessons learned for mitigations. Synchronize legacy-focused efforts with current efforts to expand cyber assessment and mitigation planning / implementation earlier in the development lifecycle for all acquisition systems, i.e. ASA(ALT) Cyber Discipline. In parallel, lead Cyberspace Operational Resiliency Assessment - Platform (CORA-P) as the Army-supported organization and oversee planning, execution and reporting of overall CORA-P activities. This effort will support weapon system prioritization and assessment by understanding which</p>				

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
<p>weapon systems are critical to combatant commanders, and then assessing those systems in an operational environment. Integrate into planning cycle for a currently-schedule COCOM exercise. Conduct multiple CTTX throughout event planning cycle, with iterative feedback to event planners and system owners. Deliver final vulnerability assessment report (VAR) to COCOM and system owners. Integrate CORA-P / CTTX lessons learned into program planning and execution. After baselining this process, conduct multiple assessments throughout the fiscal year. This effort will 1. identify weapon systems (including relevant networks) that are critical to combatant commanders in an operational environment; 2. identify cyberspace vulnerabilities within prioritized weapon systems; 3. identify system-based risk to mission for combatant commanders; and 4. coordinate the mitigation of vulnerabilities with system and network owners. Ultimately, this effort will accelerate the delivery of critical mitigations to the weapon systems designated as critical assets / key terrain in cyberspace by Combatant Commanders.</p> <p>ASA(ALT) lead for System Security Engineering (SSE):</p> <p>Army requires a professional and effective systems security engineering (SSE) workforce, which is separate from information system security management (ISSM) or network defense functions. SSE contributes to a broad-based, holistic security perspective and focus within the systems engineering (SE) discipline. SSE ensures stakeholder protection needs and security concerns are properly identified and addressed in all engineering stages of the system life cycle. Coordinate with OUSD to define the DoD body of knowledge for SSE. Ensure duties align with prescribed training, experience, and certification. Coordinate appointment and implementation, and facilitate collaboration across PEOs through meetings and publications.</p> <p>ASA(ALT) Enterprise Systems:</p> <p>Support the CSE as Authorizing Official (AO) for ASA(ALT) headquarters. Perform the duties of Program Information System Security Management (P-ISSM) to include guiding HQ system owners in achieving Authorizations To Operate (ATO) and then continuously monitoring systems throughout operations.</p> <p>Major Incident Response (as needed):</p> <p>As needed, coordinate ASA(ALT) strategic response for major malware / computer incidents and Command Cyber Operational Readiness Inspections (CCORI). Engage 7th Signal Command as the PEO liaison. Report to HQDA CIO/G-6 and ARCYBER for cybersecurity related requirements and issues. Monitor and coordinate response to the various cybersecurity inspection programs and audit findings related to DoD Inspector General and Army Audit Agency.</p> <p><i>FY 2020 to FY 2021 Increase/Decrease Statement:</i></p>				

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Increase in funding due to realigning remaining OCSE Core Personnel dollars formerly residing in Projects DZ6 and DY3.			
Title: Facilities and IT Support	0.212	0.076	0.240
Description: Provides funding for infrastructure/facilities and IT support.			
FY 2020 Plans: Provides funding for infrastructure/facilities. It includes the costs for purchasing/leasing hardware, software, computers, communications equipment and services.			
FY 2021 Plans: Provide funding for infrastructure/facilities. It includes the costs for purchasing/leasing hardware, software, computers, communications equipment and services.			
FY 2020 to FY 2021 Increase/Decrease Statement: Increase in funding due expected computer purchases.			
Title: FY 2020 SBIR/STTR Transfer	-	0.330	-
Description: Funding transferred in accordance with Title 15 USC ?638			
FY 2020 Plans: Funding transferred in accordance with Title 15 USC ?638			
FY 2020 to FY 2021 Increase/Decrease Statement: Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	12.980	13.476	18.223

C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2019	FY 2020	FY 2021	FY 2021	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Cost To	Total Cost
			Base	OCO	Total					Complete	
• DY3: <i>NIE Test & Evaluation</i>	13.907	16.851	0.000	-	0.000	-	-	-	-	-	Continuing
• DY5: <i>Production/Field</i>	2.351	2.157	1.045	-	1.045	0.975	0.897	1.147	1.146	-	Continuing
<i>Coordination for Capability Sets</i>											
• DZ6: <i>Army Integration Management & Coordination</i>	18.792	5.819	0.000	-	0.000	-	-	-	-	-	Continuing
Remarks											

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>

D. Acquisition Strategy

This project does not have any requirement for direct procurement of hardware or software.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>
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Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.330		-		-		-	0.000	0.330	-
Subtotal			-	-		0.330		-		-		-	0.000	0.330	N/A

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Army System of Systems Engineering and Analysis	TBD	TBD : Various	44.603	-		-		-		-		-	0.000	44.603	-
Common Operating Environment (COE)	TBD	TBD : Various	12.969	-		-		-		-		-	0.000	12.969	-
Cyber	TBD	TBD : Various	4.764	-		-		-		-		-	0.000	4.764	-
Army System of System Engineering and Analysis Core Labor	Allot	SoSE&I : Various	6.479	4.522	Nov 2018	4.746	Nov 2019	7.537	Nov 2019	-		7.537	Continuing	Continuing	-
Army System of System Engineering and Analysis Matrix Labor	MIPR	CERDEC : Various	1.482	0.913	Nov 2018	0.851	Nov 2019	1.742	Nov 2019	-		1.742	Continuing	Continuing	-
Army System of System Engineering and Analysis SETA Labor	C/CPFF	TBD : Various	3.091	1.025	Nov 2018	0.949	Nov 2019	3.825	Nov 2019	-		3.825	Continuing	Continuing	-
Army System of System Engineering and Analysis FFRDC Labor	FFRDC	MITRE : Various	3.956	3.742	Nov 2018	3.530	Nov 2019	1.246	Nov 2019	-		1.246	Continuing	Continuing	-
Common Operating Environment (COE) Core Labor	Allot	SoSE&I : Various	1.161	0.150	Nov 2018	0.117	Nov 2019	0.175	Nov 2019	-		0.175	Continuing	Continuing	-
Cyber Core Labor	Allot	SoSE&I : Various	2.076	0.977	Nov 2018	1.836	Nov 2019	2.218	Nov 2019	-		2.218	Continuing	Continuing	-
Cyber Matrix Labor	MIPR	CERDEC : Various	0.300	0.391	Nov 2018	0.236	Nov 2019	0.418	Nov 2019	-		0.418	Continuing	Continuing	-
Cyber SETA Labor	C/CPFF	TBD : Various	0.248	0.206	Nov 2018	0.191	Nov 2019	0.358	Nov 2019	-		0.358	Continuing	Continuing	-
Cyber FFRDC Labor	FFRDC	MITRE : Various	0.633	0.503	Nov 2018	0.537	Nov 2019	0.704	Nov 2019	-		0.704	Continuing	Continuing	-

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>
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Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
RCO Core Labor	C/BA	TBD : VA	-	-		-		0.000	Nov 2019	-		0.000	-	-	-
FY 2019 SBIR / STTR Transfer	TBD	Various : None	-	0.339		-		-		-		-	0.000	0.339	-
Subtotal			81.762	12.768		12.993		18.223		-		18.223	Continuing	Continuing	N/A

Remarks
 Note: 1
 - Program Activities performed at Aberdeen Proving Ground (MD), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), TACOM (Warren, MI)

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Facilities and IT Support	TBD	Various: Note: 1 : TBD	4.177	0.212	Nov 2018	0.153	Nov 2019	-		-		-	0.000	4.542	-
Subtotal			4.177	0.212		0.153		-		-		-	0.000	4.542	N/A

Remarks
 Note:1
 - Program Activities performed at Aberdeen Proving Ground (MD), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), TACOM (Warren, MI)

	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	85.939	12.980	13.476	18.223	-	18.223	Continuing	Continuing	N/A

Remarks

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025			
	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
CS19 LTI Integration	█																											
CS19 Receive Kits (Production)	█	█																										
Capability Set (CS) Design:																												
CS20 Architecture Design	█	█	█																									
CS21 Architecture Design	█	█	█	█	█	█	█	█																				
CS22 Architecture Design					█	█	█	█	█	█	█	█																
CS23 Architecture Design									█	█	█	█	█	█	█	█												
CS24 Architecture Design													█	█	█	█	█	█	█	█								
Common Operating Environment (COE):																												
COE V3.0 AIC	█	█																										

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
CS19 CS TDP (A/B Kit Design)	1	2018	2	2018
CS21 Golden Vehicle / NRE List [ABCT/SBCT]	4	2017	4	2018
CS21 Preliminary Reference IBOI [IBCT]	4	2017	2	2018
CS20 Unit NBOI (NRE Baseline) IBCT	1	2018	3	2018
CS20 Golden Vehicle / NRE List	1	2018	4	2018
CS19 Procurement	3	2018	4	2018
CS19 LTI Integration	4	2018	1	2019
CS19 Receive Kits (Production)	4	2018	2	2019
Capability Set (CS) Design:	1	2018	4	2019
CS19 Architecture Design	1	2017	2	2018
CS20 Architecture Design	1	2018	2	2019
CS21 Architecture Design	1	2019	2	2020
CS22 Architecture Design	1	2020	2	2021
CS23 Architecture Design	1	2021	2	2022
CS24 Architecture Design	1	2022	2	2023
Common Operating Environment (COE):	1	2018	4	2019
COE V3.0 CPCE/MCE CDR	1	2018	1	2018
COE V3.0 CPCE/MCE OT at NIE 18.2	4	2018	4	2018
COE V3.0 AIC	1	2019	1	2019

Note

Capability Set (CS)

Common Operating Environment (COE):

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DY7 / <i>Army Systems Engineering, Architecture & Analysis</i>
Army Interoperability Certification (AIC), Command Post Computing Environment (CPCE), Critical Design Review (CDR), Mounted Computing Environment (MCE), Network Integration Evaluation (NIE), Operational Test (OT)		

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>				Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>			
COST (\$ in Millions)	Prior Years	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total	FY 2022	FY 2023	FY 2024	FY 2025	Cost To Complete	Total Cost
DZ6: <i>Army Integration Management & Coordination</i>	-	18.792	5.819	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.611
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds resources that support the technical and management (i.e. headquarters, resource management, acquisition, human resources, and operations) aspects of the Army Rapid Capabilities and Critical Technologies Office (RCCTO). Effectively utilizing these resources reduces overall cost to the program. All core RCCTO personnel costs will be funded out of this project.

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

	FY 2019	FY 2020	FY 2021
<p>Title: Program Management and Integration</p> <p>Description: This effort funds resources that support the Army Rapid Capabilities and Critical Technologies Office (RCCTO).</p> <p>FY 2020 Plans: This project funds Government Labor, specifically resources that provide program management, resource management, acquisition, human resources, and operations aspects of the Army Rapid Capabilities and Critical Technologies Office (RCCTO).</p> <p>Funding for RCCTO Government technical resources aligned under project DY7.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: Funds reduced due to army priorities.</p>	18.014	5.790	-
<p>Title: Facilities and IT Support</p> <p>Description: Provides funding for the Army Rapid Capabilities and Critical Technologies Office (RCCTO) - Core Labor</p>	0.778	-	-
<p>Title: FY 2020 SBIR/STTR Transfer</p> <p>Description: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 Plans: Funding transferred in accordance with Title 15 USC ?638</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p>	-	0.029	-

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
Funding transferred in accordance with Title 15 USC ?638			
Accomplishments/Planned Programs Subtotals	18.792	5.819	-

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

Line Item	FY 2019	FY 2020	FY 2021	FY 2021	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Cost To	
			Base	OCO	Total					Complete	Total Cost
• DY3: <i>NIE Test & Evaluation</i>	13.907	16.851	0.000	-	0.000	-	-	-	-	Continuing	Continuing
• DY5: <i>Production/Field Coordination for Capability Sets</i>	2.351	2.157	1.045	-	1.045	0.975	0.897	1.147	1.146	Continuing	Continuing
• DY7: <i>Army Systems Engineering, Architecture & Analysis</i>	12.980	13.476	18.223	-	18.223	18.296	18.483	17.485	17.596	Continuing	Continuing

Remarks

D. Acquisition Strategy

This project does not have any requirement for direct procurement of hardware or software.

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2021 Army **Date:** February 2020

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>
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Management Services (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
FY 2020 SBIR/STTR Transfer	TBD	Various : Various	-	-		0.029		-		-		-	0.000	0.029	-
Subtotal			-	-		0.029		-		-		-	0.000	0.029	N/A

Product Development (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
SoSE&I Program Management and Integration	TBD	Various Note: 1 : TBD	36.340	17.936	Nov 2018	5.790	Nov 2019	-		-		-	Continuing	Continuing	Continuing
FY 2019 SBIR / STTR Transfer	TBD	Various : None	-	0.078		-		-		-		-	0.000	0.078	-
Subtotal			36.340	18.014		5.790		-		-		-	Continuing	Continuing	N/A

Remarks
 Note: 1
 - Program Activities performed at Aberdeen Proving Ground (MD), TACOM (Warren MI), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC).

Support (\$ in Millions)				FY 2019		FY 2020		FY 2021 Base		FY 2021 OCO		FY 2021 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Facilities and IT Support	TBD	Various Note: 1 : TBD	4.520	0.778	Nov 2018	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			4.520	0.778		-		-		-		-	Continuing	Continuing	N/A

Remarks
 Note:1
 - Program Activities performed at Aberdeen Proving Ground (MD), TACOM (Warren MI), Taylor Bldg, (Crystal City, VA), Pentagon, (Washington DC), FT Bliss (TX), White Sands Missile Range (NM).

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Exhibit R-4, RDT&E Schedule Profile: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>

Event Name	FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024				FY 2025							
	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				
NIE 18.2 Planning -- Execution																																
Capability Set 18 Fieldings																																
CS18 New Equipment Training (NET)																																
CS18 New Equipment Fielding (NEF)																																
JWA 19.1 Planning -- Execution																																
AWA 19.1 Planning/Prep - ValEx/CommEX/Pilot																																
AWA 19.1 Event																																
AWA 19.1 Event Analysis & Summary																																
Capability Set 19 Fieldings																																
NIE 18.2 Planning - Execution																																
JWA 19.1 Planning - Execution																																
NIE 19.2 Planning - Execution																																

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Capability Set 17 Fieldings	1	2015	1	2018
CS17 New Equipment Training (NET)	1	2017	2	2018
CS17 New Equipment Fielding (NEF)	1	2017	1	2018
JWA 18.1 Planning -- Execution	4	2017	3	2018
AWA 18.1 Event	1	2018	1	2018
AWA 18.1 Event Analysis & Summary	3	2018	3	2018
NIE 18.2 Planning -- Execution	1	2018	1	2019
NIE 18.2 Planning/Prep - ValEx/CommEX/Pilot	4	2016	3	2018
NIE 18.2 Event	3	2018	3	2018
NIE 18.2 Event Analysis & Summary	3	2018	4	2018
Capability Set 18 Fieldings	1	2016	1	2019
CS18 Build and Integration	3	2016	4	2018
CS18 New Equipment Training (NET)	1	2018	2	2019
CS18 New Equipment Fielding (NEF)	1	2018	1	2019
JWA 19.1 Planning -- Execution	4	2018	3	2019
AWA 19.1 Planning/Prep - ValEx/CommEX/Pilot	3	2016	1	2019
AWA 19.1 Event	1	2019	1	2019
AWA 19.1 Event Analysis & Summary	1	2019	2	2019
Capability Set 19 Fieldings	1	2017	1	2020
JWA 18.1 Planning - Execution	3	2016	3	2018
NIE 18.2 Planning - Execution	2	2017	2	2019
JWA 19.1 Planning - Execution	3	2016	4	2019

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Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army			Date: February 2020	
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604798A / <i>Brigade Analysis, Integration and Evaluation</i>	Project (Number/Name) DZ6 / <i>Army Integration Management & Coordination</i>		

Events	Start		End	
	Quarter	Year	Quarter	Year
NIE 19.2 Planning - Execution	2	2018	1	2020