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Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army										Date: March 2019		
Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives							
COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
Total Program Element	-	0.000	42.813	45.896	-	45.896	46.961	51.222	53.285	48.518	0.000	288.695
FI3: Rapid Capability Development and Maturation	-	0.000	42.813	45.896	-	45.896	46.961	51.222	53.285	48.518	0.000	288.695

Note

PE0605054A project FI3 is a realignment from project PE0604798A FG7 for greater transparency of the Army's Rapid Capability Office (RCO) efforts.

A. Mission Description and Budget Item Justification

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.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2018</u>	<u>FY 2019</u>	<u>FY 2020 Base</u>	<u>FY 2020 OCO</u>	<u>FY 2020 Total</u>
Previous President's Budget	0.000	42.866	41.726	-	41.726
Current President's Budget	0.000	42.813	45.896	-	45.896
Total Adjustments	0.000	-0.053	4.170	-	4.170
• Congressional General Reductions	-	-0.053			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	4.170	-	4.170

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COST (\$ in Millions)	Prior Years	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total	FY 2021	FY 2022	FY 2023	FY 2024	Cost To Complete	Total Cost
FI3: <i>Rapid Capability Development and Maturation</i>	-	0.000	42.813	45.896	-	45.896	46.961	51.222	53.285	48.518	0.000	288.695
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project funds the prototyping and demonstration of selected technology enabled capabilities to support advanced Soldier, ground, aviation, and Command, Control, Communications, Computers Intelligence & Reconnaissance (C4ISR) systems and equipment. The Primary goal is to take technologies to Technology Readiness Level (TRL) 7 and 8 through a collaborative and accelerated acquisition process. Technologies will be demonstrated in relevant environments, performing tactical/operational scenarios. Efforts will focus on high-priority, threat-based projects with the intent to deliver an operationally effective capability in the immediate, near- and mid-terms. Efforts will include accelerated material development and competitive prototyping based on anticipated and emerging threats and opportunities. This Project provides the Army an improved mechanism to effectively confront emerging threats and advance America's military dominance. Efforts include development, acquisition, assessment, maturation, and transition of prototype technologies to acquisition programs in Cyber; Electronic Warfare (EW); Signals Intelligence (SIGINT); Unmanned Aerial Vehicles (UAV) and Counter UAV (C-UAV); Communications; Positioning, Navigation and Timing (PNT); Survivability; Long Range Precision Fires and other high priority emerging threats and opportunities. Funds may also allow for acceleration of critical Program of Record capabilities to counter urgent and emerging threats. Funding may also be used to acquire specialized expertise to execute an initiative.

The Army RCO expedites the provisioning and fielding of critical combat materiel capabilities to the Warfighter to meet Combatant Commanders' needs. The RCO assesses Commercial-Off-The Shelf (COTS), Government Off-The- Shelf (GOTS), and Non-Developmental Item (NDI) (non-standard equipment) solutions for modification and/or integration to address changes in contested environments with enduring materiel solutions for forces deployed globally. Procure prototypes and evaluate solutions to be fielded and transition to an acquisition program for production and sustainment.

The RCO capabilities focus areas are: Cyber Electronic Warfare (EW), Signals Intelligence (SIGINT), Unmanned Aerial Vehicles (UAV) and Counter UAV (C-UAV), Communications, Position, Navigation and Timing (PNT), Survivability, and Long Range Precisions Fires Directed Requirements (DR) and Operational Needs Statements (ONS). In addition, any other operational needs that become a priority as designated by the Army Rapid Capabilities Office Board of Directors (BOD).

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

	FY 2018	FY 2019	FY 2020
Title: Maturation, Prototyping, Assessment, and Integration of Emerging and Essential Technologies	-	42.813	45.896
Description: This effort selects technologies that show high promise for advancing and accelerating capabilities required under acquisition programs and develops and evaluates associated prototypes for accelerated identification, assessment, and transition to an acquisition program for production and fielding. It also demonstrates integrated technologies within a high fidelity and realistic operating environment and transitions them to a formal program of record on an accelerated basis. includes air and ground platform integration.			

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Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) F13 / <i>Rapid Capability Development and Maturation</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2018	FY 2019
<p><i>FY 2019 Plans:</i> These funds will be used to identify, develop, procure, modify, and evaluate prototypes providing capability prioritized by the Board of Directors (BOD) in the areas of Cyber, EW, PNT, Survivability, and other critical capability gaps. Funding supports development and procurement of prototypes, system modification, engineering support, platform integration, integration materials, field service representation, early acquisition documentation, training, and developmental and operational testing needed to initiate limited fielding and/or transition to a procurement ready solution for acquisition. Funds may be used to obtain resources or subject matter expertise to support the execution of an initiative.</p> <p><i>FY 2020 Plans:</i> These funds will be used to identify, develop, procure, modify, and evaluate prototypes providing capability prioritized by the Board of Directors (BOD) in the areas of Artificial Intelligence Cyber, EW, SIGINT, UAV, C-UAV, Communications, PNT, Survivability, Long Range Precision Fires, and other critical capability gaps. Funding supports development and procurement of prototypes, system modification, engineering support, platform integration, integration materials, field service representation, early acquisition documentation, training, and developmental and operational testing needed to initiate limited fielding and/or transition to a procurement ready solution for acquisition. This also funds RCO labor (Government matrix and contractor), service contracts, travel, training, supplies, facilities and Information Technology (IT) required to execute initiative.</p> <p><i>FY 2019 to FY 2020 Increase/Decrease Statement:</i> FY 2020 program increase reflects funding to support OSD efforts as well as core and matrix support costs for the RCO.</p>			
Accomplishments/Planned Programs Subtotals		-	42.813
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
The Army RCO capitalizes on current and emerging technologies to provide rapid solutions to address emerging threats and high impact capability opportunities of U.S. Army Forces deployed globally. This is accomplished in one of two ways: 1) adapting COTS/GOTS/NDI equipment to meet operational needs and 2) developing emerging deployable capability through research and development organizations, academia, and industry. The RCO uses streamlined acquisition methods, processes and techniques to rapidly acquire capability; these methods vary by project. The Rapid Capabilities Office will have a dedicated contracting staff, with the flexibility to use both traditional and non-traditional contracting approaches. To reach non-traditional vendors, RCO will use non-standard contracting methods, such as Other Transaction Authority instruments. Where practicable, prototypes will be acquired using competitive procedures. Projects will be transitioned to an approved acquisition program for production and sustainment. Operational assessments will be conducted to provide feedback in support of Army requirements generation, prototype maturation, and future capability development.			

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<div>E. Performance Metrics</div> <div>N/A</div>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2020 Army												Date: March 2019			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0605054A / Emerging Technology Initiatives				Project (Number/Name) FI3 / Rapid Capability Development and Maturation					
Management Services (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Matrix, Contractor	Various	TBD : Various	-	-		-		9.803		-		9.803	0.000	9.803	-
Facilities, IT/Supplies, Travel, Training	Various	TBD : Various	-	-		-		3.587		-		3.587	0.000	3.587	-
Subtotal			-	-		-		13.390		-		13.390	0.000	13.390	N/A
Product Development (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Emerging Technologies Development	Various	TBD : Various	-	-		20.378		13.327		-		13.327	0.000	33.705	-
OSD - EW/Cyber Ground PoDs Development	Various	TBD : Various	-	-		8.800		-		-		-	0.000	8.800	-
FY 2019 SBIR / STTR Transfer	TBD	TBD : Various	-	-		1.569		-		-		-	0.000	1.569	-
Subtotal			-	-		30.747		13.327		-		13.327	0.000	44.074	N/A
Support (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Initiative Engineering Support	TBD	TBD : Various	-	-		2.066		4.629		-		4.629	0.000	6.695	-
Subtotal			-	-		2.066		4.629		-		4.629	0.000	6.695	N/A
Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OSD - EW/Cyber Ground PoDs Test	TBD	TBD : Various	-	-		2.000		-		-		-	0.000	2.000	-

UNCLASSIFIED

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Test and Evaluation (\$ in Millions)				FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
OSD - UCIDS Test	TBD	TBD : Various	-	-		2.000		-		-		-	0.000	2.000	-
Emerging Technologies Test & Evaluation	TBD	TBD : Various	-	-		6.000		14.550		-		14.550	0.000	20.550	-
Subtotal			-	-		10.000		14.550		-		14.550	0.000	24.550	N/A
			Prior Years	FY 2018		FY 2019		FY 2020 Base		FY 2020 OCO		FY 2020 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			-	-		42.813		45.896		-		45.896	0.000	88.709	N/A
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army			Date: March 2019		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>		Project (Number/Name) FI3 / <i>Rapid Capability Development and Maturation</i>	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
Technology Evaluation FY19																												
Prototype Procurement FY19																												
RCO EW Phase I Deployment																												
RCO EW Phase II Development																												
RCO PNT Sensor Development (fixed and mobile)																												
RCO PNT Test Planning																												
RCO PNT NRE and Integration on Stryker Platforms																												
RCO PNT NRE and Integration on Heavy Platforms																												
RCO PNT Laboratory Testing of PNT Systems																												
RCO PNT Pseudolite Risk Reduction Testing																												
RCO PNT Safety Release for Customer Test																												
RCO PNT Customer Test																												
RCO PNT C&L and Safety Confirmation																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army			Date: March 2019		
Appropriation/Budget Activity 2040 / 5		R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>		Project (Number/Name) FI3 / <i>Rapid Capability Development and Maturation</i>	

Event Name	FY 2018				FY 2019				FY 2020				FY 2021				FY 2022				FY 2023				FY 2024			
	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
RCO PNT Deployment Decision Package			2																									
RCO PNT BOD Deployment Decision			3																									
RCO PNT Purchase A Kits																												
RCO PNT Sensor Purchase/Site Surveys																												
RCO PNT Ship A kits to USAREUR																												
RCO Begin Deployment to USAREUR Units																												
RCO OSD Effort Initiation & Engineer Analysis																												
RCO OSD Operational Assessment FY19																												
RCO OSD Operational Assessment FY20																												
RCO OSD Residual OA Equipment Maintenance FY21																												
RCO OSD Residual OA Equipment Maintenance FY22																												
RCO OSD Effort Integration FY20																												
RCO OA SIGINT Sensors																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2020 Army

Date: March 2019

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2040 / 5

R-1 Program Element (Number/Name)

PE 0605054A / Emerging Technology Initiatives

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

F13 / Rapid Capability Development and Maturation

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0605054A / <i>Emerging Technology Initiatives</i>	Project (Number/Name) FI3 / <i>Rapid Capability Development and Maturation</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Technology Evaluation FY19	1	2019	3	2019
Prototype Procurement FY19	3	2019	4	2019
RCO EW Phase I Deployment	2	2018	2	2018
RCO EW Phase II Development	1	2018	4	2018
RCO PNT Sensor Development (fixed and mobile)	4	2017	3	2018
RCO PNT Test Planning	4	2017	2	2018
RCO PNT NRE and Integration on Stryker Platforms	4	2017	3	2018
RCO PNT NRE and Integration on Heavy Platforms	1	2018	3	2018
RCO PNT Laboratory Testing of PNT Systems	3	2017	2	2018
RCO PNT Pseudolite Risk Reduction Testing	2	2018	2	2018
RCO PNT Safety Release for Customer Test	2	2018	2	2018
RCO PNT Customer Test	3	2018	3	2018
RCO PNT C&L and Safety Confirmation	3	2018	3	2018
RCO PNT Deployment Decision Package	3	2018	3	2018
RCO PNT BOD Deployment Decision	4	2018	4	2018
RCO PNT Purchase A Kits	3	2018	2	2019
RCO PNT Sensor Purchase/Site Surveys	1	2019	2	2019
RCO PNT Ship A kits to USAREUR	1	2019	3	2019
RCO Begin Deployment to USAREUR Units	4	2019	4	2019
RCO OSD Effort Initiation & Engineer Analysis	1	2018	4	2018
RCO OSD Operational Assessment FY19	1	2019	4	2019
RCO OSD Operational Assessment FY20	3	2020	4	2020

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Exhibit R-4A, RDT&E Schedule Details: PB 2020 Army			Date: March 2019	
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		Start		End
Events	Quarter	Year	Quarter	Year
RCO OSD Residual OA Equipment Maintenance FY21	1	2021	4	2021
RCO OSD Residual OA Equipment Maintenance FY22	1	2022	4	2022
RCO OSD Effort Integration FY20	1	2020	2	2020
RCO OA SIGINT Sensors	1	2020	3	2020
RCO Long Range Cannon	1	2020	4	2020
RCO Optical Augmentation	1	2020	2	2020
RCO Alt PNT Prototype	1	2020	2	2020
RCO Cyber Counter UAS-System	1	2020	3	2020