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

Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV
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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	-	6.180	3.218	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.398
RA7: RQ-11 Raven (MIP)	-	6.180	3.218	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.398

Note

FY 2021 funding has transferred from Program Element (PE) 0305232A RQ-11 UAV to PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).

A. Mission Description and Budget Item Justification

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

The RPUAS FoSUAS provides the battalion and below ground maneuver elements with an organic, on-demand, asset to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data. The RPUAS FoSUAS includes a combination of three separate hand-launched mission specific configurable aircraft that do not require an improved launch/recovery. The three separate mission specific configurable Unmanned Aircraft (UA) are the Short Range Reconnaissance (SRR), the Medium Range Reconnaissance (MRR), and the Long Range Reconnaissance (LRR). In addition to the aircraft, the system contains ground control equipment, which includes an interoperable handheld ground control station (H-GCS) which incorporates the Tactical Open Government Owned Architecture (TOGA). FoSUAS will utilize existing RQ-11 in a system of systems fielding concept, with Short Range Reconnaissance (SRR) and Long Range Reconnaissance (LRR) options under development.

B. Program Change Summary (\$ in Millions)

	<u>FY 2019</u>	<u>FY 2020</u>	<u>FY 2021 Base</u>	<u>FY 2021 OCO</u>	<u>FY 2021 Total</u>
Previous President's Budget	6.180	3.218	3.879	-	3.879
Current President's Budget	6.180	3.218	0.000	-	0.000
Total Adjustments	0.000	0.000	-3.879	-	-3.879
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-3.879	-	-3.879

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Appropriation/Budget Activity 2040: <i>Research, Development, Test & Evaluation, Army / BA 7: Operational Systems Development</i>	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	

Change Summary Explanation

FY 2021 funding has transferred from Program Element (PE) 0305232A RQ-11 UAV to PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army										Date: February 2020		
Appropriation/Budget Activity 2040 / 7					R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV				Project (Number/Name) RA7 / RQ-11 Raven (MIP)			
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
RA7: RQ-11 Raven (MIP)	-	6.180	3.218	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	9.398
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2021 funding has transferred from Program Element (PE) 0305232A RQ-11 UAV to PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).

A. Mission Description and Budget Item Justification

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

The RPUAS FoSUAS provides the battalion and below ground maneuver elements with an organic, on-demand, asset to develop situational awareness, enhance force protection, and secure routes, points, and areas. The system provides the small unit commander an organic and responsive reconnaissance and targeting capability with real-time Full Motion Video and sensor data. The RPUAS FoSUAS includes a combination of three separate hand-launched mission specific configurable aircraft that do not require an improved launch/recovery. The three separate mission specific configurable Unmanned Aircraft (UA) are the Short Range Reconnaissance (SRR), the Medium Range Reconnaissance (MRR), and the Long Range Reconnaissance (LRR). In addition to the aircraft, the system contains ground control equipment, which includes an interoperable handheld ground control station (H-GCS), which incorporates the Tactical Open Government Owned Architecture (TOGA). FoSUAS will utilize existing RQ-11 in a system of systems fielding concept, with Short Range Reconnaissance (SRR) and Long Range Reconnaissance (LRR) options under development.

FY 2021 funding has transferred from Program Element (PE) 0305232A RQ-11 UAV to PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).

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

	FY 2019	FY 2020	FY 2021
Title: Systems Engineering/Program Management (SEPM)	0.380	0.244	-
Description: Systems Engineering and Program Management Support during SRR engineering, integration and preparation of documentation for FRP decision.			
FY 2020 Plans: Will continue Program Management Support for Short Range Reconnaissance Testing activities			
FY 2020 to FY 2021 Increase/Decrease Statement:			

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Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2019	FY 2020	FY 2021
All remaining funding has been removed from Program Element (PE) 0305232A RQ-11 UAV and can be found on PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).				
<p>Title: SRR Developmental Engineering</p> <p>Description: SRR Developmental Engineering and integration with H-GCS.</p> <p>FY 2020 Plans: Will continue Short Range Reconnaissance (SRR) formerly Short Range Micro (SRM) product validation and integration with the Handheld Ground Control Station in preparation for FRP decision.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: All remaining funding has been removed from Program Element (PE) 0305232A RQ-11 UAV and can be found on PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).</p>		2.800	0.974	-
<p>Title: LRR Requirements Decomposition/Systems Engineering/Component Level Projects/Market Research</p> <p>Description: Funding provided to initiate the Long Range Reconnaissance prototype materiel baseline</p> <p>FY 2020 Plans: Will continue the LRRS prototype materiel baseline.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement: All remaining funding has been removed from Program Element (PE) 0305232A RQ-11 UAV and can be found on PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).</p>		2.000	0.750	-
<p>Title: SRR Test and Evaluation</p> <p>Description: Test and Evaluation of the SRR.</p> <p>FY 2020 Plans: Will continue the Development Testing of the SRR.</p> <p>FY 2020 to FY 2021 Increase/Decrease Statement:</p>		1.000	1.250	-

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Exhibit R-2A, RDT&E Project Justification: PB 2021 Army		Date: February 2020
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B. Accomplishments/Planned Programs (\$ in Millions)	FY 2019	FY 2020	FY 2021
All remaining funding has been removed from Program Element (PE) 0305232A RQ-11 UAV and can be found on PEs 0604101A Small Unmanned Aerial Vehicle (SUAV) (6.4) Project BR6 Small Unmanned Aircraft System (6.4) and 0605205A SUAV (6.5) Project BR7 Small Unmanned Aircraft System (6.5).			
Accomplishments/Planned Programs Subtotals	6.180	3.218	-

C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• A00010: RQ-11 (RAVEN)	46.438	21.420	20.851	-	20.851	16.397	16.581	21.342	21.560	Continuing	Continuing
• 0604101A: Small Unmanned Aerial Vehicle (SUAV) (6.4)	-	-	1.378	-	1.378	1.387	1.392	1.753	1.786	0.000	7.696
• 0605205A: Small Unmanned Aerial Vehicle (SUAV) (6.5)	-	-	5.999	-	5.999	2.407	6.382	9.009	3.018	0.000	26.815

Remarks
FY 2019 funding procures 200 RQ-11B Raven Systems for Security Force Assistance Brigades (SFAB), FY 2020 - 2025 funding procures 2589 SRR systems. RDT&E funding moves to PEs 604101A and 605205A starting in FY2021.

D. Acquisition Strategy
The Product Office will contract utilizing full and open competition via an Other Transaction Agreement (OTA) or a traditional contracting method to host a fly-off and down select. The Government will make contract award based upon competitive source selection criteria.

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

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)
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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			
Systems Engineering/ Program Management (SEPM)	RO	PM-TUAS/ AMRDEC : Redstone Arsenal, AL	2.705	0.380		0.244		-		-		-	0.000	3.329	-
Subtotal			2.705	0.380		0.244		-		-		-	0.000	3.329	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			
Developmental Engineering 1	C/IDIQ	Various : Various	9.824	-		-		-		-		-	0.000	9.824	-
Developmental Engineering 2	C/IDIQ	AMRDEC : Redstone Arsenal, AL	1.935	-		-		-		-		-	0.000	1.935	-
SRR Prototype Developmental Engineering	TBD	Various : Various	7.850	2.800		0.974		-		-		-	0.000	11.624	-
LRR Requirements Decomposition/Systems Engineering/Component Level Projects/Market Research	TBD	Various : Various	3.000	2.000		0.750		-		-		-	0.000	5.750	-
Subtotal			22.609	4.800		1.724		-		-		-	0.000	29.133	N/A

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			
Test and Evaluation 1	MIPR	Various : Various	1.046	-		-		-		-		-	0.000	1.046	-
Test and Evaluation 2	MIPR	Various : Various	0.300	-		-		-		-		-	0.000	0.300	-
SRR Test and Evaluation	TBD	Various : Various	0.826	1.000		1.250		-		-		-	0.000	3.076	-
Subtotal			2.172	1.000		1.250		-		-		-	0.000	4.422	N/A

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

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)
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	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	27.486	6.180	3.218	-	-	-	0.000	36.884	N/A

Remarks
All funding has been removed from this PE starting in FY 2021 and can be found on PEs 644101A BR6 and 655205A BR7.

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

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)
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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
Systems Engineering Program Management (SEPM)																												
SEPM																												
SRR Tranche I OTA Award																												
	1 SRR Tranche I OTA																											
SRR Tranche I Prototyping																												
	SRR Tranche I Prototypes																											
Test and Evaluation																												
TE																												
SRR/HGCS Integration																												
SRR/HGCS Int																												
SRR Tranche I End User Assessment																												
					2 SRR Tranche II EUA																							
SRR Tranche I Full Rate Production (FRP) Decision																												
					3 SRR Tranche I FRP																							
SRR Tranche II OTA Award																												
									4 SRR Tranche I OTA																			
SRR Tranche II Prototyping																												
													SRR Tranche II Prototypes															
SRR Tranche II End User Assessment																												
																	5 SRR Tranche II EUA											
SRR Tranche II FRP Decision																												
																					6 SRR Tranche I FRP							
SRR Tranche III																												
																					SRR Tranche III							
LRR OTA Award (Component)																												
													LRR OTA															

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

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)
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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
LRR Prototyping (System)													[Redacted]															
LRR/HGCS Integration													[Redacted]															
LRR End User Assessment																					7 LRR EUA							
LRR Full Rate Production (FRP) Decision																					8 LRR MS-C FRP							

Note
Schedule data beyond FY 2020 is for informational purposes. Funding moves to APEs 644101A and 655205A starting in FY 2021.

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

Appropriation/Budget Activity 2040 / 7	R-1 Program Element (Number/Name) PE 0305232A / RQ-11 UAV	Project (Number/Name) RA7 / RQ-11 Raven (MIP)
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Tactical Open Government Owned Architecture Development	4	2014	4	2014
Tactical Open Government Architecture Test Event 2	3	2015	3	2015
Systems EngineeringProgram Management (SEPM)	2	2018	4	2024
SRR Tranche I OTA Award	3	2019	3	2019
SRR Tranche I Prototyping	3	2019	4	2020
Test and Evaluation	4	2018	4	2024
SRR/HGCS Integration	2	2018	4	2020
SRR Tranche I End User Assessment	3	2020	3	2020
SRR Tranche I Full Rate Production (FRP) Decision	4	2020	4	2020
SRR Tranche II OTA Award	3	2021	3	2021
SRR Tranche II Prototyping	3	2021	3	2022
SRR Tranche II End User Assessment	2	2022	2	2022
SRR Tranche II FRP Decision	3	2022	3	2022
SRR Tranche III	3	2022	2	2024
LRR OTA Award (Component)	3	2021	3	2022
LRR Prototyping (System)	3	2022	1	2025
LRR/HGCS Integration	3	2022	2	2024
LRR End User Assessment	3	2024	3	2024
LRR Full Rate Production (FRP) Decision	2	2025	2	2025

Note

All funding after FY 2020 has been removed from this PE and can be found on PEs 0604101A BR6 and 0605205A BR7. Scheduling detail after FY 2020 is for information purposes only.