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 0607143A / *Unmanned Aircraft System Universal Products*							
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	-	36.488	18.132	7.743	-	7.743	4.897	0.500	0.500	0.500	Continuing	Continuing
EX1: *Unmanned Aircraft Systems Universal Products*	-	36.488	18.132	7.743	-	7.743	4.897	0.500	0.500	0.500	Continuing	Continuing

A. Mission Description and Budget Item Justification

Scalable Control Interface (SCI) will be the primary means of Command and Control (C2) for Program of Record Army Unmanned Aircraft Systems (UAS). SCI software will be hosted on Mission Command devices in both ground and airborne platforms serving as nodes on the Integrated Tactical Network to retrieve and provide data. SCI distributes UAS capabilities by greatly increasing the number of UAS control devices available to Soldiers and Commanders through the depth of the battlefield. SCI provides simultaneous control of multiple aircraft from a single node. SCI leverages a Modular Operating System Approach (MOSA) to software in order to reduce time and cost to integrate new hardware and software in response to the dynamic future operating environment.

Deployment of SCI will include, but is not limited to, devices in the Mobile/Handheld Computing Environment (such as Nett Warrior), Mounted Computing Environment (such as MFoCS), and Command Post Computing Environment (such as TSI). SCI will integrate decision-aiding, autonomy, and artificial intelligence as they mature technically, in order to support MDO tenets and enable Many-to-Many (vice 1 controller: 1 UAS) Control/use of UAS assets and reduce cognitive workload.

Justification: FY2021 SCI (Formerly Universal Product) Base funding of $7.743M will be used to continue the development of software applications needed to address the SCI MOSA/Future Airborne Capabilities Environment (FACE) Compliant Software requirement that support NETT Warrior, Mounted Family of Computer Systems (MFoCS), and Mission Command Tactical Server Infrastructure (TSI). Pertinent activities include Systems Engineering, Software Integration, Logistics Planning, Test, and Program Management.

B. Program Change Summary ($ in Millions)	FY 2019	FY 2020	FY 2021 Base	FY 2021 OCO	FY 2021 Total
Previous President's Budget	38.331	32.016	7.751	-	7.751
Current President's Budget	36.488	18.132	7.743	-	7.743
Total Adjustments	-1.843	-13.884	-0.008	-	-0.008
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-13.884			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.843	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-0.008	-	-0.008

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 0607143A / *Unmanned Aircraft System Universal Products*	Project (Number/Name) EX1 / *Unmanned Aircraft Systems Universal Products*	

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
EX1: *Unmanned Aircraft Systems Universal Products*	-	36.488	18.132	7.743	-	7.743	4.897	0.500	0.500	0.500	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Scalable Control Interface (SCI) will be the primary means of Command and Control (C2) for Program of Record Army Unmanned Aircraft Systems (UAS). SCI software will be hosted on Mission Command devices in both ground and airborne platforms serving as nodes on the Integrated Tactical Network to retrieve and provide data. SCI distributes UAS capabilities by greatly increasing the number of UAS control devices available to Soldiers and Commanders through the depth of the battlefield. SCI provides simultaneous control of multiple aircraft from a single node. SCI leverages a Modular Operating System Approach (MOSA) to software in order to reduce time and cost to integrate new hardware and software in response to the dynamic future operating environment.

Deployment of SCI will include, but is not limited to, devices in the Mobile/Handheld Computing Environment (such as Nett Warrior), Mounted Computing Environment (such as MFoCS), and Command Post Computing Environment (such as TSI). SCI will integrate decision-aiding, autonomy, and artificial intelligence as they mature technically, in order to support MDO tenets and enable Many-to-Many Control/use of UAS assets and reduce cognitive workload.

Justification: Fiscal Year (FY) 2021 SCI (Formerly Universal Product) Base funding of $7.743 million will be used to continue the development of software applications needed to address the SCI MOSA/Future Airborne Capabilities Environment (FACE) Compliant Software requirement that support NETT Warrior, Mounted Family of Computer Systems (MFoCS), and Mission Command Tactical Server Infrastructure (TSI).

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
Title: Universal Products Improvements/Scalable Control Interface ***Description:*** Development of Universal Products Improvements - Funding continues to support development of Hardware, Software, and documentation to ensure a supportable Universal Ground Control Station (UGCS), Missile Defense Activation Rehearsal and Training (MDAR-T), and Universal Ground Data Terminal (UGDT) that increases interoperability and commonality. This software will also support emerging UAS UGCS.	10.523	-	-
Title: Scalable Control Interface (SCI) ***Description:*** SCI will be the primary means of C2 for Program of Record Army UAS. SCI software will be hosted on Mission Command devices in both ground and airborne platforms serving as nodes on the Integrated Tactical Network to retrieve and provide data. SCI distributes UAS capabilities by greatly increasing the number of UAS control devices available to Soldiers and Commanders through the depth of the battlefield. SCI provides simultaneous control of multiple aircraft from a single node	25.965	18.132	7.743

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 0607143A / *Unmanned Aircraft System Universal Products*	**Project (Number/Name)** EX1 / *Unmanned Aircraft Systems Universal Products*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2019	FY 2020	FY 2021
FY 2020 Plans: Base Funding of $18.132 million used to continue the development of software applications needed to address the SCI MOSA/ FACE compliant Software requirement that support NETT Warrior, MFoCS, and Mission Command TSI. ***FY 2021 Plans:*** Base Funding of $7.743 million will be used to continue the development of software applications needed to address the SCI MOSA/FACE compliant Software requirement that support NETT Warrior, MFoCS, and Mission Command TSI. ***FY 2020 to FY 2021 Increase/Decrease Statement:*** The development of SCI MOSA software will continue in 2020. Decreased funding in 2020 will add risk to continued development and integration of FACE and UCS aligned software in support of the SCI MOSA requirement and lower risk in meeting FY 2025 expected fielding.			
Accomplishments/Planned Programs Subtotals	36.488	18.132	7.743

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
• A02706: *Universal Ground Control Equipment (UAS)*	27.114	2.090	7.509	-	7.509	7.611	-	-	-	0.000	44.324

Remarks

D. Acquisition Strategy

SCI Software development and integration efforts are based on competitive awards. Acquisition of a standard Government owned software and architecture will prevent duplication of the time and cost as new UAS Platforms along with current will utilize the standard control software. Product Offices Designing, Developing, Delivering and Sustaining unique requirements will have control software readily available.

SCI focused on primarily Gov't-Owned technical solutions that postures the Gov't to take advantage of industry competition and avoid costly Sole Source arrangements.

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 0607143A / *Unmanned Aircraft System Universal Products*	Project (Number/Name) EX1 / *Unmanned Aircraft Systems Universal Products*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Universal Products (UGCS) Improvements	C/CPFF	TBD : TBD	6.601	10.523		-		-		-		-	0.000	17.124	-
Training Device Improvements	C/CPFF	TBD : TBD	3.917	-		-		-		-		-	0.000	3.917	-
Scalable Control Interface (SCI) Software Development	TBD	TBD : TBD	26.408	25.965	Mar 2020	18.132	Mar 2020	7.743	Jan 2021	-		7.743	0.000	78.248	-
		Subtotal	36.926	36.488		18.132		7.743		-		7.743	0.000	99.289	N/A

	Prior Years	FY 2019 Cost	FY 2019 Award Date	FY 2020 Cost	FY 2020 Award Date	FY 2021 Base Cost	FY 2021 Base Award Date	FY 2021 OCO Cost	FY 2021 OCO Award Date	FY 2021 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	36.926	36.488		18.132		7.743		-		7.743	0.000	99.289	N/A

Remarks

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 0607143A / *Unmanned Aircraft System Universal Products*	**Project (Number/Name)** EX1 / *Unmanned Aircraft Systems Universal Products*

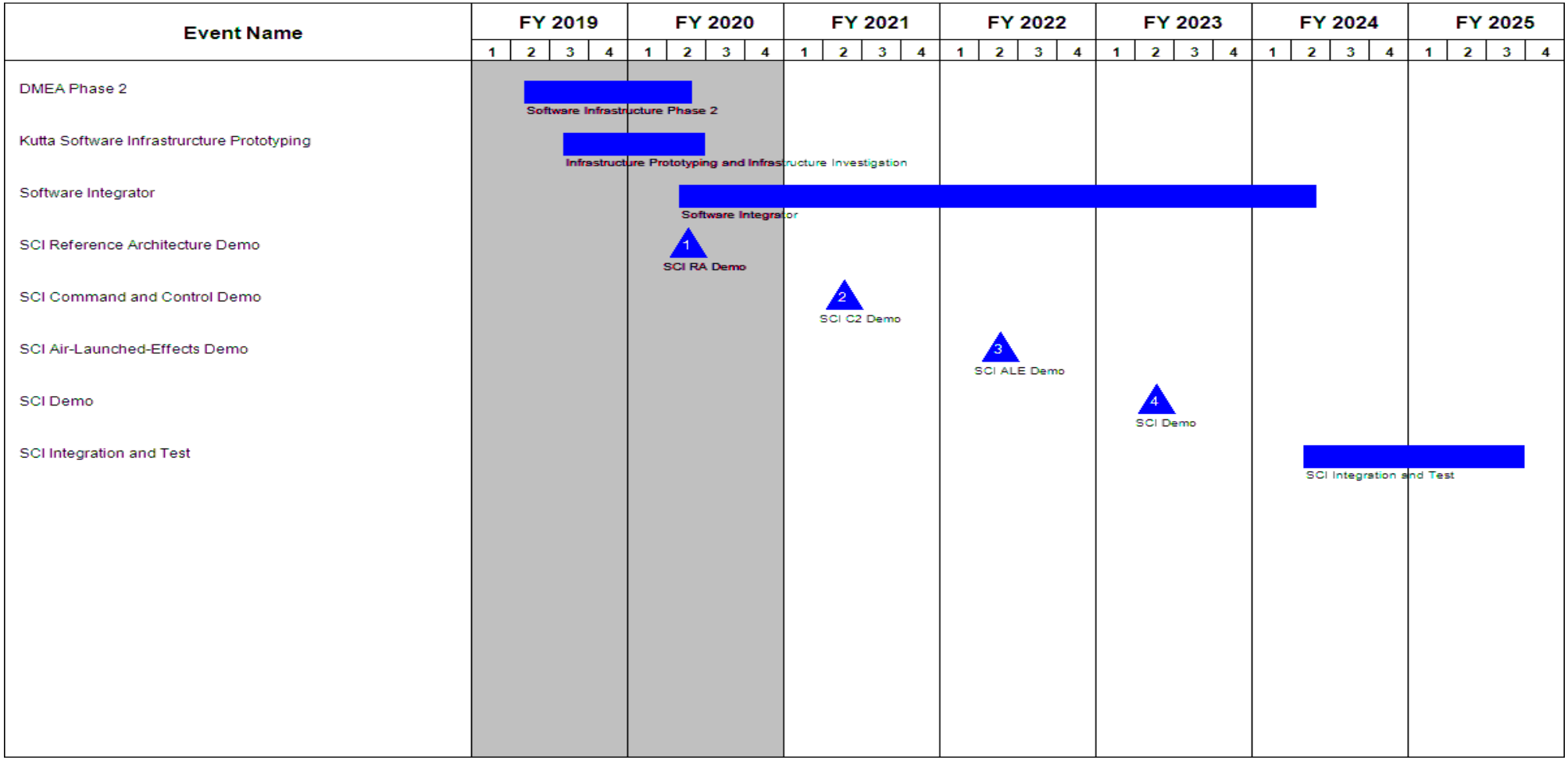

Exhibit R-4A, RDT&E Schedule Details: PB 2021 Army		Date: February 2020
Appropriation/Budget Activity 2040 / 7	**R-1 Program Element (Number/Name)** PE 0607143A / *Unmanned Aircraft System Universal Products*	**Project (Number/Name)** EX1 / *Unmanned Aircraft Systems Universal Products*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DMEA Phase 1	1	2017	4	2018
DMEA Phase 2	2	2019	2	2020
Kutta Software Infrastrurcture Prototyping	3	2019	2	2020
Software Integrator	2	2020	2	2024
SCI Reference Architecture Demo	2	2020	2	2020
SCI Command and Control Demo	2	2021	2	2021
SCI Air-Launched-Effects Demo	2	2022	2	2022
SCI Demo	2	2023	2	2023
SCI Integration and Test	2	2024	3	2025