Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army											Date: March 2019	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603006A *I Space Application Advanced Technology*							
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	-	39.277	48.985	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	88.262
257: *DIGITAL BATTLEFLD COMM (CA)*	-	27.500	36.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	63.500
592: *Space Application Tech*	-	11.777	12.985	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.762

Note

In Fiscal Year (FY) 2020 this Program Element (PE) is being realigned to the following PE:
* 0603463A Network C3I Advanced Technology

A. Mission Description and Budget Item Justification

This PE matures and demonstrates advanced space technologies that support the Army's ability to control and exploit space assets that contribute to current and future military operations as defined in the national, Department of Defense (DoD), and Army space policies. This PE provides applications for enhanced intelligence, reconnaissance, surveillance, target acquisition, position/navigation/timing, missile warning, ground-to-space surveillance, and command and control capabilities. Project 592 matures and demonstrates networked and integrated surveillance, communications, and command and control capabilities for high altitude and tactically responsive space payloads to enable information superiority, enhanced situational awareness, and support global assured access enabling distributed tactical operations.

Work in this PE complements the work in PE 0602120A (Sensors and Electronic Survivability), PE 0603008A (Electronic Warfare Advanced Technology), and PE 0603794A (Command, Control, and Communications Advanced Technology).

All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.

The cited work is consistent with the Assistant Secretary of Defense, Research and Engineering Science and Technology (S&T) priority focus areas and the Army Modernization Strategy.

Work in this PE is performed by the United States Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) Technical Center in Huntsville, AL.

Exhibit R-2, RDT&E Budget Item Justification: PB 2020 Army	Date: March 2019
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army I* BA 3: *Advanced Technology Development (ATD)*	**R-1 Program Element (Number/Name)** PE 0603006A *I Space Application Advanced Technology*

B. Program Change Summary ($ in Millions)	FY 2018	FY 2019	FY 2020 Base	FY 2020 OCO	FY 2020 Total
Previous President's Budget	12.231	13.000	13.986	-	13.986
Current President's Budget	39.277	48.985	0.000	-	0.000
Total Adjustments	27.046	35.985	-13.986	-	-13.986
• Congressional General Reductions	-0.009	-0.015			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	27.500	36.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.445	-			
• Adjustments to Budget Years	-	-	-13.986	-	-13.986

Congressional Add Details ($ in Millions, and Includes General Reductions)	FY 2018	FY 2019
Project: 257: *DIGITAL BATTLEFLD COMM (CA)*		
Congressional Add: *Tactical Small Launch*	20.000	20.000
Congressional Add: *Global Communications Research*	7.500	10.000
Congressional Add: *Assured Positioning, Navigation and Timing for Space and Missile Defense Assets*	-	6.000
Congressional Add Subtotals for Project: 257	27.500	36.000
Congressional Add Totals for all Projects	27.500	36.000

Change Summary Explanation

FY18 congressional adds for Tactical small launch ($20.000 million) and Global communications research ($7.500 million).
FY19 congressional adds for: assured positioning, navigation, and timing for space and missile defense assets ($6.000 million); global communications research ($10.000 million); and tactical small launch ($20.000 million).
FY20 decrease - PE eliminated due to science and technology (S&T) Financial Restructuring.

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603006A / *Space Application Advanced Technology*	Project (Number/Name) 257 / *DIGITAL BATTLEFLD COMM (CA)*	

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
257: *DIGITAL BATTLEFLD COMM (CA)*	-	27.500	36.000	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	63.500

A. Mission Description and Budget Item Justification

Congressional Interest Item funding for Space Application Advanced Technology as specified in Appropriations Act Conference Reports.

Congressional adds fund efforts to: adapt and mature Conventional Prompt Strike technologies in both the payload delivery vehicle and the payload to meet the Army's emerging long range fires requirements; mature design of glide body, optimize flight-proven navigation, guidance, and control system, and exploit internal layout and design of current vehicle to meet required range, payload, and lethality capabilities; mature and demonstrate Space and High Altitude based global communications technologies and multi-payload/platform communication and prioritization protocols in order to demonstrate commanders guaranteed access to critical communications and position and timing to ensure mission command.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019
Congressional Add: Tactical Small Launch ***FY 2018 Accomplishments:*** Tactical Small Launch ***FY 2019 Plans:*** Tactical Small Launch	20.000	20.000
Congressional Add: Global Communications Research ***FY 2018 Accomplishments:*** Global Communications Research ***FY 2019 Plans:*** Global Communications Research	7.500	10.000
Congressional Add: Assured Positioning, Navigation and Timing for Space and Missile Defense Assets ***FY 2019 Plans:*** Assured Positioning, Navigation and Timing for Space and Missile Defense Assets	-	6.000
Congressional Adds Subtotals	27.500	36.000

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603006A / *Space Application Advanced Technology*	**Project (Number/Name)** 257 / *DIGITAL BATTLEFLD COMM (CA)*

E. Performance Metrics

N/A

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army			Date: March 2019
Appropriation/Budget Activity 2040 / 3	R-1 Program Element (Number/Name) PE 0603006A / *Space Application Advanced Technology*	Project (Number/Name) 592 / *Space Application Tech*	

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
592: *Space Application Tech*	-	11.777	12.985	0.000	-	0.000	0.000	0.000	0.000	0.000	0.000	24.762

Note

In Fiscal Year (FY) 2020 this Project is being realigned to:
Program Element (PE) 0603463A Network C3I Advanced Technology, Projects:
* A06 Tag, Track and Locate Small Satellites Advanced Technology
* AV2 LEO Advanced Technology

A. Mission Description and Budget Item Justification

This Project matures and demonstrates payloads, sensors, and data down link systems for tactically responsive space and high altitude platforms supporting Army ground forces. This Project matures, demonstrates, and integrates lightweight materials, hardware components with reduced power consumption, and advanced data collection, processing, and dissemination capabilities. This Project also develops algorithms that process space and near space sensor data in real and near real time for integration into battlefield operating systems. These efforts support the Army's ability to control and exploit space assets that contribute to current and future military operations as defined in the National, Department of Defense (DoD), and Army space policies.

All FY 2020 adjustments align program financial structure to Army Modernization Priorities in support of the National Defense Strategy.

The cited work is consistent with the Under Secretary of Defense, Research and Engineering Science and Technology priority focus areas and the Army Modernization Strategy.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
Title: Payload Technology Development	11.777	12.542	-
Description: This effort matures technologies for smaller, Warfighter-responsive sensor and communication small satellite constellations. Work related to standard Army networks is done in coordination with the Communications-Electronics Research Development and Engineering Center (CERDEC) and the Army Cyber Center of Excellence.			
FY 2019 Plans: Mature and demonstrate technologies to address Army gaps in tracking and locating capabilities for ground objects of interest; advance space-based data exploitation technologies and components, space-based signal detection/processing/dissemination technologies, and software algorithms; and demonstrate and exploit incremental advances made in tag, track, and location technologies and capabilities.			
FY 2019 to FY 2020 Increase/Decrease Statement:			

Exhibit R-2A, RDT&E Project Justification: PB 2020 Army		Date: March 2019
Appropriation/Budget Activity 2040 / 3	**R-1 Program Element (Number/Name)** PE 0603006A / *Space Application Advanced Technology*	**Project (Number/Name)** 592 / *Space Application Tech*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2018	FY 2019	FY 2020
This Program Element (PE) realigns to PE 0603463A/Project A06 (Tag, Track and Locate Small Satellites Advanced Technology and new effort Low Earth Orbit (LEO) Advanced Technology as part of the financial restructure and supports the Army?s Modernization Priorities.			
Title: FY 2019 SBIR / STTR Transfer ***Description:*** FY 2019 SBIR / STTR Transfer ***FY 2019 Plans:*** FY 2019 SBIR / STTR Transfer ***FY 2019 to FY 2020 Increase/Decrease Statement:*** FY 2019 SBIR / STTR Transfer	-	0.443	-
Accomplishments/Planned Programs Subtotals	11.777	12.985	-

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A