Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army											Date: May 2017	
Appropriation/Budget Activity 2040: *Research, Development, Test & Evaluation, Army* / BA 3: *Advanced Technology Development (ATD)*					R-1 Program Element (Number/Name) PE 0603006A / *Space Application Advanced Technology*							
COST ($ in Millions)	**Prior Years**	**FY 2016**	**FY 2017**	**FY 2018 Base**	**FY 2018 OCO**	**FY 2018 Total**	**FY 2019**	**FY 2020**	**FY 2021**	**FY 2022**	**Cost To Complete**	**Total Cost**
Total Program Element	-	5.384	3.904	12.231	-	12.231	13.000	13.986	16.675	17.158	-	-
592: *Space Application Tech*	-	5.384	3.904	12.231	-	12.231	13.000	13.986	16.675	17.158	-	-

A. Mission Description and Budget Item Justification

This Program Element (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, 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).

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.

B. Program Change Summary ($ in Millions)	FY 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total
Previous President's Budget	5.554	3.904	14.026	-	14.026
Current President's Budget	5.384	3.904	12.231	-	12.231
Total Adjustments	-0.170	0.000	-1.795	-	-1.795
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.170	-			
• Adjustments to Budget Years	0.000	0.000	-1.795	-	-1.795

Exhibit R-2, RDT&E Budget Item Justification: FY 2018 Army	Date: May 2017
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*

Change Summary Explanation

Fiscal Year (FY) 2018 decrease reflects realignment of funds to higher priority Army S&T efforts.

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army			Date: May 2017
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 2016	FY 2017	FY 2018 Base	FY 2018 OCO	FY 2018 Total	FY 2019	FY 2020	FY 2021	FY 2022	Cost To Complete	Total Cost
592: *Space Application Tech*	-	5.384	3.904	12.231	-	12.231	13.000	13.986	16.675	17.158	-	-

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.

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

Work in this Project is performed by the United States Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) Technical Center in Huntsville, AL. This program is designated as a DoD Space Program.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2016	FY 2017	FY 2018
Title: Payload Technology Development	5.384	3.904	12.231
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 2016 Accomplishments: Demonstrated proof-of-concept small satellite control using standard Army networks; integrated small satellite communications and imagery payload software onto standard Army network platforms and assessed ability to control on-orbit small satellites and onboard payloads; and matured Software Defined Radio (SDR) and imagery payloads based on lessons learned from earlier on-orbit demonstrations.			
FY 2017 Plans: Will mature small satellite components and integrate into a system-level demonstrator to support the Army's Warfighter Information Network – Tactical (WIN-T); continue to demonstrate small satellite payload performance through analysis and Hardware In The Loop assessments; mature architecture and software to support processing of tag, track, and locate payloads.			
FY 2018 Plans:			

Exhibit R-2A, RDT&E Project Justification: FY 2018 Army		Date: May 2017
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 2016	FY 2017	FY 2018
Will develop a plan to demonstrate small satellite technologies to support multi-band beyond-line-of-sight (BLOS) and on-the-move comms for disadvantaged users; mature and demonstrate incremental advances in capability for experimental small satellite communication infrastructure; assess and improve architecture and software, and plan for demonstration of tag, track, and locate payloads, to include planning for tasking, processing, exploitation, and dissemination.			
Accomplishments/Planned Programs Subtotals	5.384	3.904	12.231

C. Other Program Funding Summary ($ in Millions)

N/A

Remarks

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A