ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE
3 - Advanced technology development	**0603006A - Command, Control, Communications Advanced Technology**

	COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
	Total Program Element (PE) Cost	11626	14082	9183	8787	8321	8506	8698
257	DIGITAL BATTLEFLD COMM	1405	1987					
588	HIGH ALTITUDE AIRSHIP ACTD							
592	SPACE APPLICATION TECH	10221	9038	4819	3624	4548	6161	6300
DF7	DF7		3057	4364	5163	3773	2345	2398

A. Mission Description and Budget Item Justification: This program element (PE) matures and demonstrates advanced space technology applications 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, DoD, and Army space policies. The Army has identified the need to develop tactically relevant space-based capabilities that are responsive, assured, accurate, timely and interoperable as one of the essential capabilities required in support of Army and joint ground maneuver force operations. 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 funds the Space Applications Technology efforts that provide technology options for networked and integrated surveillance and command and control capabilities to achieve information superiority, enhanced situational awareness, and support for distributed operations. Project 592 also matures and demonstrates high altitude and space sensor and communications payloads for Army applications. and provides technology risk reduction capability for ground-to-space surveillance system development. Project DF7 supports classified activities. Properly accessed individuals can obtain further information from the Assistant Secretary of the Army for Acquisition Logistics & Technology (ASAALT) Special Programs Office. Work in this PE is coordinated with PE 0602120A (Sensors and Electronic Survivability). The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Science and Technology Master Plan, the Army Modernization Strategy, and the Army Posture Statement. Work in this PE is performed by the US Army Space and Missile Defense Technical Center in Huntsville, AL. This program is designated as a DoD Space Program.

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B. Program Change Summary	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	11997	12255	9235
Current BES/President's Budget (FY 2009)	11626	14082	9183
Total Adjustments	-371	1827	-52
Congressional Program Reductions		-173	
Congressional Rescissions			
Congressional Increases		2000	
Reprogrammings	-54		
SBIR/STTR Transfer	-317		
Adjustments to Budget Years			-52

One FY08 congressional adds totaling $2000 were added to this PE.

($2000) No-Idle Climate Control for Military Vehicles

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
3 - Advanced technology development	**0603006A - Command, Control, Communications Advanced Technology**	**592**

COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
592 SPACE APPLICATION TECH	10221	9038	4819	3624	4548	6161	6300

A. Mission Description and Budget Item Justification: This project matures and demonstrates advanced space technology applications 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, DoD, and Army space policies. The Army has identified the need to develop and exploit tactically relevant space based capabilities that are responsive, assured, accurate, timely and interoperable as one of the essential capabilities required in support of Army and joint ground maneuver force operations. This project provides technology options for networked and integrated surveillance and command and control capabilities to achieve information superiority, enhanced situational awareness, and support for distributed operations. This project matures and demonstrates advanced technologies in the areas of light weight materials, miniaturization, reduced power consumption, and advanced data collection, processing, and dissemination. 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. It matures and demonstrates payloads for tactically responsive space and high altitude platforms, sensors, and data down link systems. This project provides space advanced technology risk reduction capability for ground-to-space surveillance and systems development. Work in this Project is coordinated with PE 0602120A (Sensors and Electronic Survivability) and PE 0603008 (Electronic Warfare Advanced Technology). The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Science and Technology Master Plan, the Army Modernization Strategy, and the Army Posture Statement. Work in this PE is performed by the US Army Space and Missile Defense Technical Center in Huntsville, AL. This program is designated as a DoD Space Program.

Accomplishments/Planned Program:	FY 2007	FY 2008	FY 2009
Distributed Imaging Radar Technology: In FY07, field demonstrated and evaluated the distributed aperture radar brassboard with wide area imagery and Moving Target Indicators (MTI); modified software and refined algorithms based on analysis of demonstration results. In FY08, demonstrate and validate modified software and refined distributed imaging radar algorithms on tactical air and/or high altitude platforms within the Distributed Common Ground Station-Army (DCGS-A); transition validated software to DCGS-A.	5600	3175	
All Weather Radio Frequency (RF) Launch Detection: In FY07, developed an RF test receiver to implement the baseline algorithm; matured algorithms and expanded threat set to include tanks and artillery; and assessed system receiver hardware requirements to extend field of view for increased detection range. In FY08, mature, evaluate, and validate algorithms for an expanded threat set, to include rockets and missiles, and assess space and battlefield RF receiver requirements for tactical applications.	2290	2125	
Ground Based Space Surveillance: In FY07, completed expanded threat set signature and processing efforts, integrated netted sensor hardware/software, and demonstrated mobile data processor with ground sensor. In FY08, complete and validate algorithm and netted sensor hardware/software development; demonstrate mobile data processor with ground sensor in netted ground architecture; and transition ground based space surveillance technology to the US Army 1st Space Brigade.	2331	2349	
Vertical Integration of Space Technology and Applications (VISTA): In FY08, design and demonstrate Intelligent Agent components that process missile warning messages; develop agent reference models and VISTA architecture; and complete software builds of components. In FY09, will mature and demonstrate vertical and horizontal integration of missile threat warning, collaborative planning, and tailored		1156	3443

data, and information distribution to verify compatibility of intelligent agent and knowledge management technologies with Army networks within battle command applications.			
Payload Technology Development: In FY09, will mature selected technology efforts in areas of light weight materials and microelectronic components in order to reduce size, weight and power for brassboard communications relay payloads operating in high altitude environments; will mature responsive nano-satellite, tactical space communications, and space sensor technology to support in-theater operational control and direct down link to the tactical commanders.			1376
Small Business Innovative Research/Small Business Technology Transfer Programs		233	
Total	10221	9038	4819