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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Army **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 3: <i>Advanced Technology Development (ATD)</i>				PE 0603006A: <i>Command, Control, Communications Advanced Technology</i>							
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	12.074	8.102	5.312	-	5.312	4.118	5.813	5.830	6.038	Continuing	Continuing
257: <i>DIGITAL BATTLEFLD COMM</i>	3.730	-	-	-	-	-	-	-	-	Continuing	Continuing
592: <i>SPACE APPLICATION TECH</i>	3.463	4.442	5.312	-	5.312	4.118	5.813	5.830	6.038	Continuing	Continuing
DF7: <i>DF7</i>	4.881	3.660	-	-	-	-	-	-	-	Continuing	Continuing

**Note**

FY 12 funding realigned to higher priority efforts

**A. Mission Description and Budget Item Justification**

Efforts in this program element (PE) mature and demonstrate 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. 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 supports the maturation and demonstration of Space Applications Technology efforts that provide technology options for networked and integrated surveillance and command and control capabilities to enable information superiority, enhanced situational awareness, and support for distributed operations. Project 257 funds congressional special interest items. 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) and PE 0603008A (Electronic Warfare Advanced Technology).

The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this PE is performed by the US Army Space and Missile Defense Technical Center in Huntsville, AL.

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2040: Research, Development, Test & Evaluation, Army		PE 0603006A: Command, Control, Communications Advanced Technology				
BA 3: Advanced Technology Development (ATD)						
B. Program Change Summary (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget		12.352	8.102	7.073	-	7.073
Current President's Budget		12.074	8.102	5.312	-	5.312
Total Adjustments		-0.278	-	-1.761	-	-1.761
• Congressional General Reductions			-			
• Congressional Directed Reductions			-			
• Congressional Rescissions		-	-			
• Congressional Adds			-			
• Congressional Directed Transfers			-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-0.278	-			
• Other Adjustments 1		-	-	-1.761	-	-1.761

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army								<b>DATE:</b> February 2011			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 3: <i>Advanced Technology Development (ATD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0603006A: <i>Command, Control, Communications Advanced Technology</i>				<b>PROJECT</b> 257: <i>DIGITAL BATTLEFLD COMM</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
257: <i>DIGITAL BATTLEFLD COMM</i>	3.730	-	-	-	-	-	-	-	-	Continuing	Continuing
<b>A. Mission Description and Budget Item Justification</b> Congressional Interest Item funding for digital battlefield advanced technology development.											
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b> <i>Title:</i> Program Increase  <i>Description:</i> This is a Congressional Interest Item.  <i>FY 2010 Accomplishments:</i> Developed increased situational awareness capability in training environment by providing relevant geospatial, human terrain, and combat event information fused with other entity information to support mission planning, command and control, and capture lessons learned. Implemented a Space-Battlefield Integration Laboratory to explore, develop, and validate space capabilities/ concepts for integration within the Exportable Combat Training Center (E-CTC).								<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>	
								3.730	-	-	
<b>Accomplishments/Planned Programs Subtotals</b>								3.730	-	-	
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A											
<b>D. Acquisition Strategy</b> N/A											
<b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 3: Advanced Technology Development (ATD)				R-1 ITEM NOMENCLATURE PE 0603006A: Command, Control, Communications Advanced Technology				PROJECT 592: SPACE APPLICATION TECH			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
592: SPACE APPLICATION TECH	3.463	4.442	5.312	-	5.312	4.118	5.813	5.830	6.038	Continuing	Continuing

## A. Mission Description and Budget Item Justification

Efforts in this project mature and demonstrate 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. 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, sensors and data down link systems for tactically responsive space and high altitude platforms. 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 0603008A (Electronic Warfare Advanced Technology).

The cited work is consistent with the Department of Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

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.

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

	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Payload Technology Development	1.013	2.206	5.312
<b>Description:</b> This effort matures technologies for smaller, Warfighter-responsive sensor and communication payloads for use in both space and high altitude environments.			
<b>FY 2010 Accomplishments:</b> Matured Electro-Optical/Infrared (EO/IR) imaging space sensor; using prior year demonstration data, matured the tactical radio relay payload to improve bandwidth and support more users; demonstrated improved tactical radio relay payload performance at high altitude.			
<b>FY 2011 Plans:</b> Mature high speed data relays for use in data links of high altitude and space-based assets; complete the development of a flight-ready EO/IR imaging space sensor; prepare a small satellite with data exfiltration capability for launch integration.			
<b>FY 2012 Plans:</b> Will begin development and building of data exfiltration mission small satellite using a software defined radio for increased communications bands to receive data from Unattended Ground Sensors; will conduct systems engineering analysis and			

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
assessments of enhanced EO/IR imaging satellite technologies and will select and mature technologies to support constellation architectures; will support launch integration and operational demonstration of EO/IR imaging space sensor and data exfiltration small satellites.			
<b>Title:</b> Vertical/Horizontal Integration of Space Technology and Applications (VISTA) <b>Description:</b> This effort matures and demonstrates algorithms and intelligent agent based software applications to provide missile threat warning for Warfighters on-the-move.  <b>FY 2010 Accomplishments:</b> Matured the intelligent agent software technology, including automated and seamless distribution of relevant space and strategic system-developed situational awareness information to specific Brigade and below tactical units in a format that can be directly integrated into their applicable Battle Command System, including Force XXI Battle Command Brigade and Below (FBCB2) and Command and Control Personal Computer (C2PC); demonstrated the automated network-centric VISTA capability in the Army Training and Doctrine Command (TRADOC) Battle Laboratory Collaborative Simulation Environment.  <b>FY 2011 Plans:</b> Further mature the intelligent agent technology in cooperation with complementary network-centric intelligent agent technology being developed by US Army Communications Electronics Research, Development, and Engineering Center (CERDEC); demonstrate seamless missile warning and situational awareness automated information dissemination for tactical On-the-Move (OTM) forces at the Brigade and below level.		2.450	2.236
<b>Accomplishments/Planned Programs Subtotals</b>		3.463	4.442
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.			

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<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
DF7: <i>DF7</i>	4.881	3.660	-	-	-	-	-	-	-	Continuing	Continuing

**A. Mission Description and Budget Item Justification**  
 The purpose of the project is to conduct classified research efforts. The details of the efforts may be provided upon request to appropriately cleared individuals.

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>
<b>Title:</b> Classified efforts	4.881	3.660	-
<b>Description:</b> Classified efforts			
<b>FY 2010 Accomplishments:</b> Classified efforts			
<b>FY 2011 Plans:</b> Classified efforts			
<b>Accomplishments/Planned Programs Subtotals</b>	4.881	3.660	-

**C. Other Program Funding Summary (\$ in Millions)**  
 N/A

**D. Acquisition Strategy**  
 N/A

**E. Performance Metrics**  
 Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.

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