

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE			
<b>5 - System Development and Demonstration</b>		<b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	172146	116687	82260	Continuing	Continuing
016 Close Combat Capabilities ENG DEV	88023	73755	39634	Continuing	Continuing
415 MINE NEUTRAL/DETECTION	62009	40142	42626	Continuing	Continuing
434 ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)	19021				19021
443 APL-A (MIXED SYSTEMS)	3093	2790			5883

**A. Mission Description and Budget Item Justification:** This program element (PE) provides for System Development and Demonstration of networked munitions and countermine systems. This PE implements the National Landmine Policy to develop alternatives to the non-self-destructing anti-vehicle and anti-personnel landmine systems.

Project 016, Close Combat Capabilities Engineering Development, provides for the development of the anti vehicle mine replacement, the Intelligent Munitions System (IMS) supports the current force in accordance with the landmine policy.

Project 415, Mine Neutralization/Detection provides for development of the Airborne Surveillance, Target Acquisition and Minefield Detection (ASTAMIDS), Ground Standoff Mine Detection System, Future Combat System (GSTAMIDS), and the Advanced Mine Detection System (AMDS).

Project 434, Anti-Personnel Landmine Alternatives (NSD) provides for system enhancements towards addressing committee language associated with the Spider program.

Project 443, APL-A (Mixed Systems) provides for a variety of demolition efforts to include development of Magneto-Inductive Remote Activation Munition System (MI-RAMS), and for performance enhancing product improvements to demolitions, grenades, pyrotechnics and non-lethal systems.

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BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604808A - Landmine Warfare/Barrier - Eng Dev**

<u><b>B. Program Change Summary</b></u>	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	160079	126475	62393
Current BES/President's Budget (FY 2010)	172146	116687	82260
Total Adjustments	12067	-9788	19867
Congressional Program Reductions		-12588	
Congressional Rescissions			
Congressional Increases		2800	
Reprogrammings	16458		20000
SBIR/STTR Transfer	-4391		
Adjustments to Budget Years			-133

**Change Summary Explanation:**

FY 2008: Funds reprogrammed to Project 415 for ASTAMIDS program from PE 0630619A - Countermine Advanced Development and from OPA line S11500 - Aerial Detection.

FY 2009 : \$12.2M Congressional decrement allocated to GSTAMIDS program (Project 415). \$2.8M Congressional increase for MI-RAMS (Project 443).

FY 2010: \$20M reprogrammed from IMS production programs; E96901 - PAA (\$10M) and B55503 OPA2 (\$10M), to RDTE - Project 016.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**May 2009**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			<b>PROJECT</b> <b>016</b>	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
016 Close Combat Capabilities ENG DEV	88023	73755	39634	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** The Scorpion - Intelligent Munitions System (IMS) is an anti-vehicular weapons system that provides highly responsive terrain-shaping and protection capabilities to the unit commander. Trained operators remotely control ground-emplaced munitions via a portable control station out to distances of 1.5 kilometers. The commander integrates the Scorpion IMS into his scheme of maneuver and fires in order to attack the enemy's freedom of maneuver while maintaining full friendly freedom of maneuver. He directs the emplacement of the munitions on the ground in building block fashion to achieve the desired effects against mounted threats ranging from single light wheeled vehicles to large armored formations. Scorpion IMS is a full spectrum weapons system effective in offensive, defensive, and stability operations. Scorpion IMS supports the National Landmine Policy by serving as a far superior alternative to the non-self-destructing anti-vehicular mines being removed from the U.S Inventory by 31st December 2010.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08-FY11: Complete IMS/Scorpion Increment-I system development.	69194	21884	5723
FY08-FY11 Fabricate hardware for Government Qualification testing		14150	12211
FY08-FY10: Continues to conduct IMS/Scorpion Increment-I modeling and simulation.	1360	7180	1271
FY08-FY10: Conduct IMS/Scorpion Increment-I system contractor development testing.	17469	16967	
FY08-FY11: Conduct IMS/Scorpion Increment-I Government Development and Operational Testing. .		7775	15588
FY09-13 Develop IMS Trainer in coordination with PEO STRI		3734	4841
Small Business Innovative Research/Small Business Technology Transfer Programs		2065	
<b>Total</b>	<b>88023</b>	<b>73755</b>	<b>39634</b>

<u>B. Other Program Funding Summary</u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
PAA E96901 - Intelligent Munitions System			20000	Continuing	Continuing
OPA2 B55503 - Intelligent Munitions System (IMS) Remote Control Unit			10000	Continuing	Continuing

Comment:

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY

**5 - System Development and Demonstration**

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PROJECT

**016**

**C. Acquisition Strategy** The Scorpion IMS is being developed as an evolutionary acquisition program utilizing an incremental approach. This strategy will address all IMS Scorpion capabilities in the requirements document. The first increment supports National Landmine Policy and provides full spectrum weapons system effectiveness in offensive, defensive, and stability operations. In June 2006, a competitive Engineering and Manufacturing Development (EMD) Contract was awarded to Textron Defense Systems of Wilmington, MA. This contract has two Low Rate Initial Production (LRIP) Options which will be exercised in FY10 and FY11. Increment I will serve as the baseline design for the follow-on increments and enabling technology development will be conducted to ensure all requirements can be rapidly achieved with the follow-on increments at the lowest cost possible. Increment II will provide a networked munitions reload capability, enhanced sensors in urban and complex terrain, integration of the JTRS radio when it becomes available, integrated day and night imager, non-lethal anti-personnel layered lethality dispensers and non-lethal anti-vehicle munitions.

# ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
5 - System Development and Demonstration			0604808A - Landmine Warfare/Barrier - Eng Dev							016		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
IMS System Development & Demonstration	C-CPIF	Textron Defense System Corp., Wilmington, MA	91555	73900	2Q	54000	1Q	22218	1Q	Cont.	Cont.	
IMS Increment 2 System Dev & Demonstration	C-CPIF	Textron Defense System Corp., Wilmington, MA									7740	
IMS - MITRE provide C4 support		MITRE, McLean, VA	3191	805	1Q	700	1Q	300	1Q	Cont.	Cont.	
Subtotal:			94746	74705		54700		22518		Cont.	Cont.	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
IMS Engineering Support	MIPR	ARDEC Picatinny Arsenal, NJ	17931	5806	1Q	5500	1-2Q	3776	1-2Q	Cont.	Cont.	
Modelling and Simulation	MIPR	NVESD Ft Belvoir VA		500	1Q	600	1-2Q	250	1-2Q	Cont.	Cont.	
C4ISR and IA		CECOM, Ft Monmouth NJ		519	1Q	350	1-2Q	150	1-2Q	Cont.	Cont.	
Simple Key Loader (SKL)	MIPR	PEO C3T, Ft Monmouth NJ		200	3Q	450	1-2Q			Cont.	Cont.	
IMS Engineering Support	MIPR	Various	7883	179	1-2Q	300	1-2Q	314	1-2Q	Cont.	Cont.	
IMS - PM HMS	MIPR	Fort Monmouth, NJ	4144								4144	
PEO STRI	MIPR	Orlando FL				200	1-2Q	150	1-2Q		500	
Subtotal:			29958	7204		7400		4640		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract

# ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
<b>5 - System Development and Demonstration</b>			<b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>							<b>016</b>		
IMS	MIPR	Various	2718	1272	1-2Q	613	1-2Q	715	1-2Q	Cont.	Cont.	
SLAD, AMSAA, AEC, DTC, ERDEC	MIPR	SLAD, AMSAA, AEC, DTC, ERDEC	1014	1855	2Q	1023	1-2Q	3500	1-2Q	Cont.	Cont.	
DT-G & Live Fire	MIPR	Yuma Proving Grounds AZ				2400		2811	1-2Q			5211
Various testing	MIPR	White Sands Missile Range. MN		575	2Q	935	1-4Q	2175	1-4Q			3685
Operational Test	MIPR	OTC				742		1300				2042
DTC	MIPR	Aberdeen Proving Grounds MD		255								3555
Arena Frag Testing	MIPR	ARDEC, Picatinny NJ				1200						1200
Subtotal:			3732	3957		6913		10501		Cont.	Cont.	
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
IMS	In-House	PM CCS, Picatinny Arsenal, NJ	6495	712	1-4Q	1398	1-4Q	1000	1-4Q	Cont.	Cont.	
IMS	T.O. Contract	Robbins-Goia, Alexandria, VA	2098	405	2Q	450	2Q	400	2Q	Cont.	Cont.	
IMS	T.O. Contract	BRTRC, Alexandria, VA	1084	540	2Q	450	2Q	400	2Q	Cont.	Cont.	
IMS TSM Spt	T.O. Contract	MTS, Alexandria VA		500	1Q	305	1-2Q	100				905
LCCE	T.O. Contract	Tecolote, Fort Monmouth, NJ				75		75				150
SBIR/STTR						2064						2064
Subtotal:			9677	2157		4742		1975		Cont.	Cont.	
<b>Project Total Cost:</b>			<b>138113</b>	<b>88023</b>		<b>73755</b>		<b>39634</b>		<b>Cont.</b>	<b>Cont.</b>	

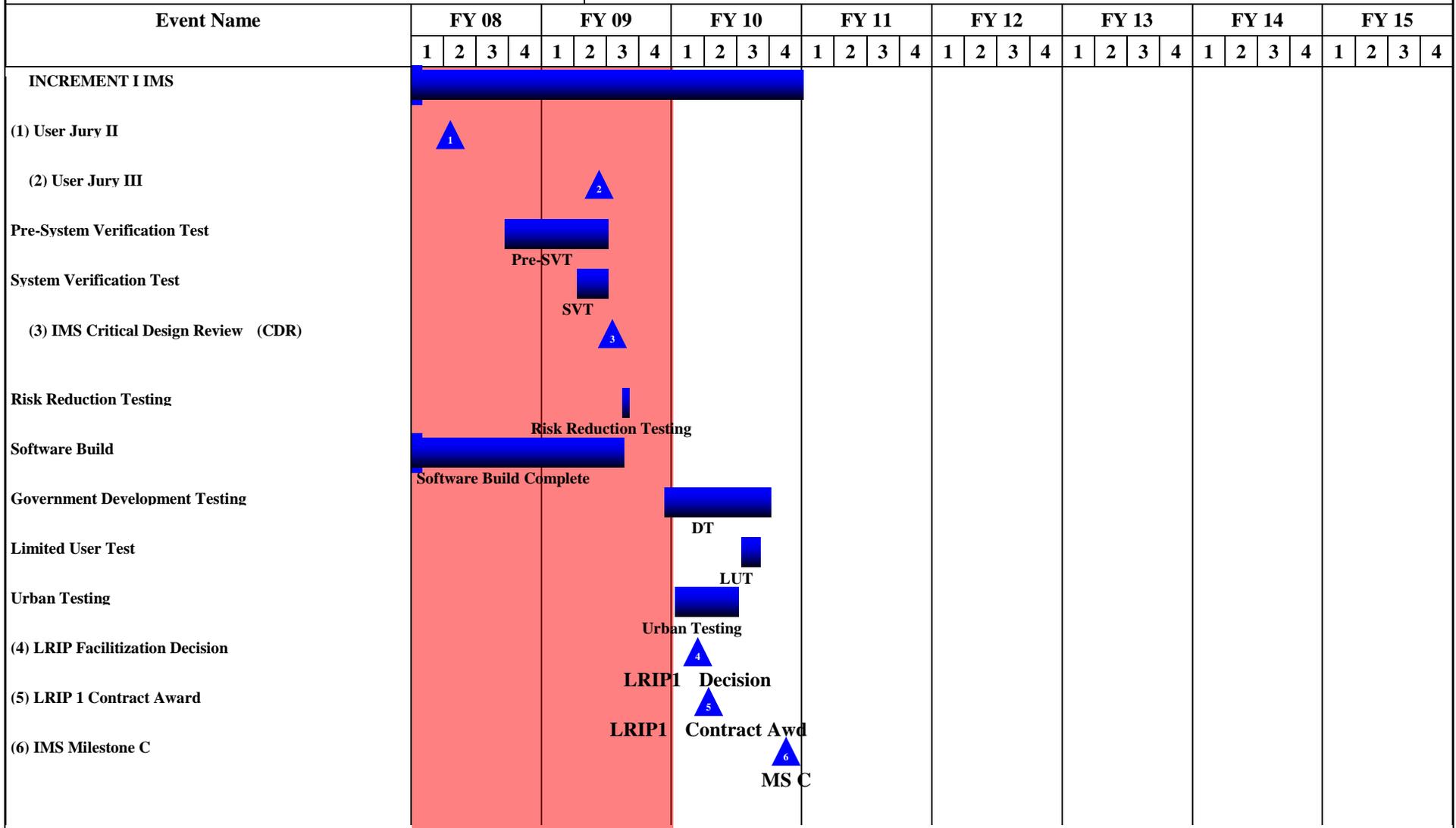
# Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT  
**016**



# Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT  
**016**

<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>
INCREMENT I IMS	1Q - 4Q	1Q - 4Q	1Q - 4Q					
User Jury II	2Q							
User Jury III		2Q						
Pre-System Verification Test	3Q - 4Q	1Q - 2Q						
System Verification Test		2Q						
IMS Critical Design Review (CDR)		3Q						
Risk Reduction Testing		3Q						
Software Build	1Q - 4Q	1Q - 3Q						
Government Development Testing		4Q	1Q - 3Q					
Limited User Test			3Q					
Urban Testing			1Q - 2Q					
LRIP Facilitization Decision			1Q					
LRIP 1 Contract Award			2Q					
IMS Milestone C			4Q					
First Unit Equipped				1Q				
IMS Initial Operational Capability				4Q				
LRIP 2 Contract Awd				2Q				
IOT&E				3Q				
Full Rate Production Decision					2Q			
INCREMENT II IMS				1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	
Milestone B				1Q				
Milestone C							1Q	
Initial Operational Capability								3Q

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**May 2009**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			<b>PROJECT</b> <b>415</b>	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
415 MINE NEUTRAL/DETECTION	62009	40142	42626	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** This project provides System Development and Demonstration (SDD) for the Airborne Surveillance, Target Acquisition, and Minefield Detection System (ASTAMIDS), and Ground Standoff Mine Detection System (GSTAMIDS).  
 The ASTAMIDS uses Multi-Spectral Imaging (MSI) and visible/Near Infrared sensor mounted on a Future Combat System Brigade Combat Team (BCT) Unmanned Aerial Vehicle to detect and locate combat targets and to detect minefields and obstacles that are impediments to maneuver forces. ASTAMIDS can be used in tactical operations day and night, to detect surface emplaced and recently buried minefields and obstacles. ASTAMIDS can also recognize and identify combat targets and designate them for laser guided munitions.

GSTAMIDS shall provide ground countermine capabilities to the Future Engineer Force. At Milestone B, GSTAMIDS was intended to meet FCS countermine requirements, since then individual technologies have been extracted to support the Army's modular BCT structure. GSTAMIDS will support the current and Future Engineer Force with on-route mine detection, mine and temporary lane marking, precision mine neutralization and interfaces with host platforms Command, Control, Communications, and Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) capabilities.

ASTAMIDS and GSTAMIDS are both Tier One Complementary programs and have been identified in FCS Spinouts 2 & 3 respectively as part of the Army's initiative to spiral future capabilities to the current force. ASTAMIDS Operational Testing (OT) is currently intended to be conducted by FCS with ASTAMIDS mounted on, and fully integrated with the FCS Class IV UAS, other non-FCS platforms have been identified to support the Modular BCTs with the same capability. GSTAMIDS Developmental Testing/Operational Testing (DT/OT) is intended to be a system level test conducted by FCS. Extracted capabilities are being tested on the Husky Mine Detection Vehicle and other experimental platforms.

<u><b>Accomplishments/Planned Program:</b></u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08: ASTAMIDS - Complete Sprial I prototype fabrication	5843		
FY08: ASTAMIDS - Conduct system fluiht testing	5000		
FY08: ASTAMIDS - Completes Spiral 2 Prototype Fabrication /Delivery AP #3, #4	3500		
FY08: ASTAMIDS - Initiates Spiral 3 Component Fabrication	4805		
FY08: ASTAMIDS - Initiates Spiral 3 Gimbal/Prototype Fabrication	5000		
FY08: ASTAMIDS - Completes Test Readiness Review (TRR)	3500		
FY08: ASTAMIDS - Completes Contractor DT Testing	5682		
FY08: ASTAMIDS - Delivery of AP PROTOTYPES #1, #2	3000		
FY09: ASTAMIDS - Completes Critical Design Review.		6904	

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<b>5 - System Development and Demonstration</b>	<b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>	<b>415</b>	
FY09-FY10: ASTAMIDS - Initiates Spiral 3 Gimbal/Prototype Fabrication		4700	4000
FY09-FY10: ASTAMIDS - Complete Spiral 3 Prototype Fabrication AP#5, #6, #7		7852	2000
FY09: ASTAMIDS - Deliver Spriral 2 & 3 Prototypes for FCS Integration/Test		2200	2000
FY09: ASTAMIDS - Complete all SDD Contract Data Deliverables		1500	750
FY09-FY10: ASTAMIDS - Prepare MS C IPR Package		2000	1500
FY09-FY10: ASTAMIDS - Prepare LRIP Procurement Package		1000	750
FY10: ASTAMIDS Support to FCS Integration / Test			1100
FY10: ASTAMIDS Algorithm Detection Enhancement Development			700
FY10: ASTAMIDS Algorithm False Alarm Reduction Development			900
FY10: ASTAMIDS Change Detection Algorithm Development			3163
FY10: ASTAMIDS Next Generation Workstation Development			2540
FY08: GSTAMIDS - Complete computer s/w and hardware, deliver initial emulator hardware and s/w	3322		
FY08: GSTAMIDS - Complete build and test of Lane Marking subsystem final prototype	3439		
FY08: GSTAMIDS - Complete build and test of scanning sensor final prototype and deployment mechanism	6266		
FY08: GSTAMIDS - Complete neutralizer munition design, neutralizer magazine and deliver mechanism design	8867		
FY08 - GSTAMIDS - Complete critical design review and final prototype development and testing	3785		
FY09 - GSTAMIDS FCS - Continue development of the Mine Neutralization Subsystem		3750	
FY09 - GSTAMIDS - Complete integration and testing of the Mine Detection Subsystem		1850	
FY09 - GSTAMIDS - Complete integration and testing of the Lane Marking subsystem		3300	
FY09 - GSTAMIDS - Complete Integration and testing of the GSTAMIDS Computer Subsystem		2950	
FY09 - GSTAMIDS - Complete Test Review for Final Prototype and conduct Contractor Verification Testing in the Systems Integration Laboratory and on the Surrogate Test Vehicle.		1103	
FY10: GSTAMIDS Product Development			15658
FY10: GSTAMIDS Program Support			3828
FY10: GSTAMIDS Test and Evaluation			1084
FY10: GSTAMIDS Program Management			2653
Small Business Innovative Research/Small Business Technology Transfer Programs		1033	
<b>Total</b>	<b>62009</b>	<b>40142</b>	<b>42626</b>

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY <b>5 - System Development and Demonstration</b>		PE NUMBER AND TITLE <b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			PROJECT <b>415</b>	
<b><u>B. Other Program Funding Summary</u></b>		FY 2008	FY 2009	FY 2010	To Compl	Total Cost
PE 0603619A, Project 606, Countermine/Barrier Advanced Dev		19120	14186	17821	Continuing	Continuing
OPA 3, R68102, GSTAMIDS / Interim capability		62590	46783	62044	Continuing	Continuing
OPA 3, S11500 ASTAMIDS			12773	11200	Continuing	Continuing

Comment:

**C. Acquisition Strategy** The ASTAMIDS competitively selected Prime System contractor was awarded Cost Plus Incentive Fee (CPIF) System Development and Demonstration (SDD) in FY03 after MDA Milestone B approval. Milestone C is scheduled for FY 2010.

GSTAMIDS entered the SDD Phase in June 2004 with MDA approval of MS B and competitively awarded a SDD Cost Plus Fixed Fee (CPFF) contract. Milestone C is scheduled for 2Q /3QFY2013, in conjunction with FCS Mule-C. Production will be initiated/executed via noncompetitive contract.

# ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
<b>5 - System Development and Demonstration</b>			<b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>							<b>415</b>		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS	C-CPFF	BAE Systems, Austin, TX	68470	19958	1Q	9000		16610	1Q	Cont.	Cont.	Cont.
ASTAMIDS	C-CPIF	Northrup Grumman	49740	32281		20499		14500	1Q	Cont.	Cont.	Cont.
Subtotal:			118210	52239		29499		31110		Cont.	Cont.	Cont.
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS	MIPR	Various OGAs	2763	1582	1Q	980	1Q	1510	1Q	Cont.	Cont.	
GSTAMIDS Engineering Support	MIPR	NVESD/CECOM, Ft Belvoir, VA	5469	1959	1Q	1473	1Q	1692	1Q	Cont.	Cont.	
GSTAMIDS Support	Task Orders	Various Contractors	970	360	1Q	300	1Q	375	1Q	Cont.	Cont.	
ASTAMIDS Engineering Support	MIPR	NVESD/CECOM, Fort Belvoir, VA	4082	1425	1Q	1363	1Q	2043	1Q	Cont.	Cont.	
ASTAMIDS Support	Various	Various	283	171	1Q	120	1Q	1500	1Q	Cont.	Cont.	
Subtotal:			13567	5497		4236		7120		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
GSTAMIDS Test Support	MIPR	ATEC, Alexandria, VA	1749	250	2Q	93		935		Cont.	Cont.	
ASTAMIDS	MIPR	ATEC, Alexandria, VA	2300	434	2Q	2874		250		Cont.	Cont.	
Subtotal:			4049	684		2967		1185		Cont.	Cont.	

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PROJECT  
**415**

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Program management	In-House	PM-CCS, Picatinny Arsenal, NJ	3516	1680	1-4Q	641	1Q	1553		Cont.	Cont.	
Program management Contractor support	Task Order	USFALCON	5650	1909		1766	1-4Q	1658		Cont.	Cont.	
SIBR/STTR						1033					1033	
Subtotal:			9166	3589		3440		3211		Cont.	Cont.	
<b>Project Total Cost:</b>			<b>144992</b>	<b>62009</b>		<b>40142</b>		<b>42626</b>		<b>Cont.</b>	<b>Cont.</b>	<b>Cont.</b>

# Schedule Profile (R4 Exhibit)

May 2009

BUDGET ACTIVITY  
**5 - System Development and Demonstration**

PE NUMBER AND TITLE  
**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT  
**415**

Event Name	FY 08				FY 09				FY 10				FY 11				FY 12				FY 13				FY 14				FY 15			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
<b>GSTAMIDS</b>																																
(1) Critical Design Review - Detection and Marking																																
(2) Preliminary Design Review - Neutralization																																
(3) Critical Design Review - Neutralization																																
(4) Test Readiness Review																																
Contracting Testing																																
(5) Delivery of Prototype to LSI																																
<b>ASTAMIDS</b>																																
(6) Test Readiness Review																																
(7) Critical Design Review																																
(8) Milestone C/LRIP																																

# Schedule Detail (R4a Exhibit)

May 2009

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT	
<b>5 - System Development and Demonstration</b>		<b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>						<b>415</b>	
<u>Schedule Detail</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	
GSTAMIDS									
Milestone B									
Preliminary Design Review - Detection and Marking									
Critical Design Review - Detection and Marking	3Q								
Preliminary Design Review - Neutralization		4Q							
Critical Design Review - Neutralization			1Q						
Test Readiness Review		3Q							
Contracting Testing		4Q	1Q - 4Q						
Delivery of Prototype to LSI				1Q					
Integration and Testing on FCS Platform				1Q - 4Q	1Q - 4Q	1Q			
Milestone C (Coincides w/ Mule-C MS C)						2Q			
ASTAMIDS									
Milestone B									
Preliminary Design Review									
Test Readiness Review				1Q					
Critical Design Review			2Q						
Milestone C/LRIP			4Q						
Integration and Testing on FCS Platform			3Q - 4Q	1Q - 2Q					
Full Rate Production Decision			2Q						
AMDS									
Milestone B					4Q				
Preliminary Design Review						1Q			
Test Readiness Review						2Q			
Critical Design Review						3Q			

Contractor Testing							2Q	
Operational Testing							3Q	
Milestone C								

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<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			<b>PROJECT</b> <b>434</b>	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
434 ANTI-PERSONNEL LANDMINE ALTERNATIVES (NSD)	19021				19021

**A. Mission Description and Budget Item Justification:** The Spider system's mission is to develop alternative systems for current Non Self-Destruct (NSD) Anti-Personnel Landmines (APL's). This mission was articulated in the Presidential Decision Directives (PDD's) 48, 54 and 64 and reiterated in the New Landmine Policy announced by the State Department on 27 Feb 04.

The Spider is a hand emplaced, remotely controlled, anti-personnel munition system. The system is made up of 4 subsystems: Man-in-the-Loop (the human operator), Remote Control Station (the system command and control station), Repeater (a communication link to the munitions that provides extended range), and Munition Control Units (delivers anti-personnel effects). Missions include force protection, shaping the battlefield, provide warning, delay enemy forces and attrit enemy forces. The Spider is designed to mitigate the indiscriminate engagement of the lethal mechanism. A Soldier/Marine makes a conscious decision to engage a target with the lethal mechanism. The envisioned obstacle can be either a permanent obstacle, such as the Korean Barrier System (KBS), or a temporary obstacle intended to be reused in other locations, such as forward airbases. FY2008 funding will be used to develop a long range standoff capability as directed by Congress.

<u><b>Accomplishments/Planned Program:</b></u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Spider extended range product development	17030		
Perform engineering support, modeling and simulation.	1504		
Government test and evaluation facility and facility support activities.	200		
Program management and support	287		
Total	19021		

<u><b>B. Other Program Funding Summary</b></u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
PAA E91700 - Spider networked Munition System	51525	51847	56387		159759
OPA2 B55501 - SPIDER Anti-Personnel Landmine Alternatives (APLA) Remote Control Unit		17947	21820		39767

Comment:

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

May 2009

BUDGET ACTIVITY

**5 - System Development and Demonstration**

PE NUMBER AND TITLE

**0604808A - Landmine Warfare/Barrier - Eng Dev**

PROJECT

**434**

**C. Acquisition Strategy** USD(AT&L)) approved the NSD-A plan to have Alliant Tech Systems and Textron Systems Corporation form a joint venture for the System Development & Demonstration (SDD) efforts of this program. A competitive SDD contract was awarded in September 2002. Spider was Type Classified - Limited Production in June 2006.

Initial production contracts have been awarded non-competatively to the developing contractors.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**May 2009**

<b>BUDGET ACTIVITY</b> <b>5 - System Development and Demonstration</b>	<b>PE NUMBER AND TITLE</b> <b>0604808A - Landmine Warfare/Barrier - Eng Dev</b>			<b>PROJECT</b> <b>443</b>	
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
443 APL-A (MIXED SYSTEMS)	3093	2790			5883

**A. Mission Description and Budget Item Justification:** This project was to provide alternatives to the anti-personnel submunitions used within mixed anti-tank (AT)/anti-personnel (AP)munition systems or the entire mixed AT/AP system. Alternative Beginning in FY 05, funding for this effort has transitioned to Project 016 within this Program Element.  
This line subsequently has been used for Congressional Adds for the Magneto Induction - Remote Activated Munition System (MI-RAMS) .

<u><b>Accomplishments/Planned Program:</b></u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
MI RAMS Development and prototype assembly	851	2025	
Provide general engineering support.	1772	645	
Test and Evaluation	292		
Program Management Support	178	120	
<b>Total</b>	<b>3093</b>	<b>2790</b>	

<u><b>B. Other Program Funding Summary</b></u>	FY 2008	FY 2009	FY 2010	To Compl	Total Cost
MA9200 Explosive Ordnance Disposal Equipment	3200				3200

Comment: Congressional Add in FY2008 to Other Production, Army line

**C. Acquisition Strategy** The Magneto Induction - Remote Activated Munition System (MI-RAMS) program has been a Congressionally funded program. The acquisition has been sole source to Ultra Electronics, Magnito Induction Systems.