

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)

February 2002

<b>BUDGET ACTIVITY</b> <b>4 - Demonstration/validation</b>	<b>PE NUMBER AND TITLE</b> <b>0603619A - Landmine Warfare and Barrier - Adv Dev</b>								
COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	17804	19877	20286	19295	21133	13909	14779	Continuing	Continuing
005 LANDMINE ADV DEV	8150	9343	10116	9190	9167	8957	6355	Continuing	Continuing
606 CNTRMN/BARRIER ADV DEV	9654	10534	10170	10105	11966	4952	8424	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** This program element provides for component development of new mine and counter mine systems by prototyping modern munitions technology, sensors, logic networks, fuzes, power sources, warhead components and modules into complete systems. It provides for system integration of the Intelligent Combat Outpost (Raptor) which will significantly enhance minefield effectiveness through coordinated attack/tactics and elimination of overwatch forces. It also provides for the initiation and/or continuation of component development of the Airborne Stand-off Minefield Detection System (ASTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS). These Systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

<b><u>B. Program Change Summary</u></b>	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY 2002 PB)	22594	21651	20633
Appropriated Value	22803	20051	0
Adjustments to Appropriated Value	0	0	0
a. Congressional General Reductions	0	-174	0
b. SBIR/STTR	-672	0	0
c. Omnibus or other above threshold reduction	0	0	0
d. Below threshold reprogramming	-4118	0	0
e. Rescissions	-209	0	0
Adjustments to Budget Years Since FY 2002 PB	0	0	-347
Current Budget Submit (FY 2003 PB )	17804	19877	20286

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PE NUMBER AND TITLE

**0603619A - Landmine Warfare and Barrier - Adv Dev**

FY01:

Funding: Reprogrammed \$4118K to support higher Army program requirements.

FY02:

Funding: Received \$400K congressional increase for Plants Detecting Minefields under project 606. Reduction against 005 (Raptor).

Schedule: Raptor MS B changed from 3Q 03 to 3Q 05 based on program restructuring.

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BUDGET ACTIVITY <b>4 - Demonstration/validation</b>	PE NUMBER AND TITLE <b>0603619A - Landmine Warfare and Barrier - Adv Dev</b>	PROJECT <b>005</b>
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COST (In Thousands)	FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
005    LANDMINE ADV DEV	8150	9343	10116	9190	9167	8957	6355	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** Intelligent Combat Outpost (Raptor) will improve the capability of smart mines/munitions used by the United States Army. It will enhance the effectiveness of current and future mines/munitions by providing real time targeting data, increase situational awareness, and coordinate attack capabilities while eliminating the need for overwatch forces. This System supports the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

**FY 2001 Accomplishments:**

- 530        Conducted Solicitation Development and Source Selection Plan
  - 2850        Conducted study of Wide Area Munitions (WAM) to Gateway interface, develop Interface Control Document, Concept of Operations and Cold Region Research & Engineering Laboratory Studies
  - 1681        Conducted Source Selection for Component Advanced Development
  - 3089        Continued modeling and simulation development and upgrade to test range
- Total    8150

**FY 2002 Planned Program**

- 2126        Raptor Modeling and Simulation, Smart Munition Test Range Upgrade
  - 1500        White papers for systems concepts
  - 3917        Initiate Component Advanced Development for Raptor
  - 1800        Raptor Engineering Support
- Total    9343

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**FY 2003 Planned Program**

- 5116 Continue Raptor System Component Advanced Development
- 3000 Raptor Modeling and Simulation
- 2000 Raptor Engineering Support

Total 10116

<b><u>B. Other Program Funding Summary</u></b>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
PE 0604808, Project 016, Mine Systems Engineering	0	4491	22472	31837	37359	37494	30823	Continuing	Continuing
SSN: M12100, Intelligent Combat Outpost	0	0	0	0	0	19976	19955	Continuing	Continuing
SSN: M12202, Raptor Training Device	0	0	0	0	0	2398	2395	Continuing	Continuing

**C. Acquisition Strategy:** Component Advanced Development contracts will be awarded to one or more contractors to develop the RAPTOR system. Downselect to one or more contractors for System Development and Demonstration.

<b><u>D. Schedule Profile</u></b>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
Raptor CAD Decision Review		4Q					
Raptor MS B					3Q		

## ARMY RDT&E COST ANALYSIS(R-3)

**February 2002**

**BUDGET ACTIVITY**  
**4 - Demonstration/validation**

**PE NUMBER AND TITLE**  
**0603619A - Landmine Warfare and Barrier - Adv Dev**

**PROJECT**  
**005**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Raptor Component Advanced Development	C-CPIF	TBD	0	0		3617	2Q	5116	2Q	Continue	Continue	Continue
b . White papers and Concept Studies	C-CPIF	Various	0	2850	1-4Q	1500	1Q	0		0	4350	0
Subtotal:			0	2850		5117		5116		Continue	Continue	Continue

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Eng. support (Raptor)	MIPR	ARDEC, Picatinny Arsenal NJ	2099	1511	1Q	1400	1Q	1490	1Q	Continue	Continue	Continue
b . Simulation and modeling	C-CPIF	Various	0	1000	1-4Q	800	1Q	1200	1Q	0	3000	0
c . Simulation/modeling	MIPR	CRREL, New Hampshire	200	1189	1Q	826	1Q	1500	1Q	0	3715	0
d . Other OGAs/contracts	Various	Various	989	400	1Q	400	1Q	500	1Q	Continue	Continue	Continue
Subtotal:			3288	4100		3426		4690		Continue	Continue	Continue

## ARMY RDT&E COST ANALYSIS(R-3)

**February 2002**

BUDGET ACTIVITY <b>4 - Demonstration/validation</b>	PE NUMBER AND TITLE <b>0603619A - Landmine Warfare and Barrier - Adv Dev</b>	PROJECT <b>005</b>
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III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Test support (RAPTOR)	MIPR	ATEC, Virginia	0	900	1Q	500	1Q	10	1Q	Continue	Continue	Continue
Subtotal:			0	900		500		10		Continue	Continue	Continue

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Program Management	In-house	PM-MCD, Picatinny Arsenal, New Jersey	372	300	1Q	300	1Q	300	1Q	Continue	Continue	Continue
Subtotal:			372	300		300		300		Continue	Continue	Continue

Project Total Cost:			3660	8150		9343		10116		Continue	Continue	Continue
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# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2002

<b>BUDGET ACTIVITY</b> <b>4 - Demonstration/validation</b>		<b>PE NUMBER AND TITLE</b> <b>0603619A - Landmine Warfare and Barrier - Adv Dev</b>					<b>PROJECT</b> <b>606</b>			
COST (In Thousands)		FY 2001 Actual	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
606	CNTRMN/BARRIER ADV DEV	9654	10534	10170	10105	11966	4952	8424	Continuing	Continuing

**A. Mission Description and Budget Item Justification:** This project provides for component development of new countermine systems by prototyping sensors for evaluation of neutralizing, clearing, breaching and detection concepts which will enhance the U.S. capability in countermine warfare. The program includes the Airborne Standoff Minefield Detection System (ASTAMIDS), and Ground Stand-off Mine Detection System (GSTAMIDS). These Systems support the Legacy to Objective transition path of the Transformation Campaign Plan (TCP).

**FY 2001 Accomplishments:**

- 8004      Developed GSTAMIDS Quadruple Resonance Confirmation Sensors.
  - 1650      Conducted Source selection and awarded GSTAMIDS Block 1 Systems Concept (Virtual Prototype) Contract.
- Total 9654

**FY 2002 Planned Program**

- 6500      Contractor Testing and Integration Risk Reduction of GSTAMIDS Quadruple Resonance Sensors.
  - 2500      Complete GSTAMIDS Block I Systems (Virtual Prototype) Concept.
  - 1134      Prepare and conduct GSTAMIDS Block I MS B IPR.
  - 400        Plants Detecting Minefields.
- Total 10534

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**BUDGET ACTIVITY**  
**4 - Demonstration/validation**

**PE NUMBER AND TITLE**  
**0603619A - Landmine Warfare and Barrier - Adv**  
**Dev**

**PROJECT**  
**606**

**FY 2003 Planned Program**

- 600 Prepare procurement package and award ASTAMIDS System Component Development.
- 9470 Initiate ASTAMIDS System Component Development.
- 100 Initiate test planning for ASTAMIDS.

Total 10170

<b><u>B. Other Program Funding Summary</u></b>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>To Compl</u>	<u>Total Cost</u>
PE 0604808A, Project 415, Mine Neutralization/Detection	25900	36844	46220	34272	11446	8943	9502	Continuing	Continuing
R68101, GSTAMIDS Block 0	0	13180	17425	0	0	0	0	0	30605
R68102, GSTAMIDS Block 1	0	0	0	0	2013	8989	8980	Continuing	Continuing
S11500, ASTAMIDS	0	0	0	0	0	0	0	Continuing	Continuing

**C. Acquisition Strategy:** Airborne Stand-off Minefield Detection System (ASTAMIDS) will competitively select a System Component Development contractor and will award a sole source System Development and Demonstration (SDD) contract upon completion of System Component Development phase and Milestone Decision Authority (MDA) approval. Sole source production contract with multiple options are anticipated for the successful SDD contractor. Ground Stand-off Minefield Detection System (GSTAMIDS) program is a spiral development and acquisition program designed to field vehicle mounted mine detection and neutralization capabilities in successive block upgrades (Blocks 0, 1, and 2). The Block I Quadrupole Resonance Contract was awarded on a sole source basis. The Block I Systems Concept Contract was competitively awarded for the Concept Technology Development Phase. The Block I SDD contract may be competitively solicited with multiple production options.

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BUDGET ACTIVITY <b>4 - Demonstration/validation</b>	PE NUMBER AND TITLE <b>0603619A - Landmine Warfare and Barrier - Adv Dev</b>	PROJECT <b>606</b>
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<u>D. Schedule Profile</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>
GSTAMIDS Block I MS B			2Q				
GSTAMIDS Block I MS C					4Q		
ASTAMIDS Component Advanced Development Initiation			2Q				

## ARMY RDT&E COST ANALYSIS(R-3)

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**BUDGET ACTIVITY**  
**4 - Demonstration/validation**

**PE NUMBER AND TITLE**  
**0603619A - Landmine Warfare and Barrier - Adv Dev**

**PROJECT**  
**606**

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . GSTAMIDS, Blk I ; System concept Contract	C-CPFF	BAE	0	1537	1Q	1745	1Q	0		0	3282	3282
b . GSTAMIDS BLK I QR	C-CPFF	Quantum Magnetics, San Diego, CA	2185	6400	2Q	4868		0		0	13453	13530
c . ASTAMIDS	C-CPIF	TBD	0	0		0		8761	3Q	Continue	Continue	Continue
d . Plants Detecting Landmines	TBD	TBD	0	0		309	1-4Q	0		0	309	0
Subtotal:			2185	7937		6922		8761		Continue	Continue	Continue

II. Support Cost	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . GSTAMIDS Blk I Eng. Support	MIPR	Various	0	779	3Q	1763	1Q	0		0	2542	0
b . ASTAMIDS	MIPR	Various	0	0		0		850	3Q	Continue	Continue	Continue
Subtotal:			0	779		1763		850		Continue	Continue	Continue

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**4 - Demonstration/validation**

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**0603619A - Landmine Warfare and Barrier - Adv Dev**

**PROJECT**  
**606**

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . GSTAMIDS Blk I Test Support	MIPR	ATEC, Virginia	0	430	3Q	724	3Q	0		0	1154	0
b . ASTAMIDS	MIPR	ATEC, Virginia	0	0		0		100	2Q	Continue	Continue	Continue
Subtotal:			0	430		724		100		Continue	Continue	Continue

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2001 Cost	FY 2001 Award Date	FY 2002 Cost	FY 2002 Award Date	FY 2003 Cost	FY 2003 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a . Prog Mgmt GSTAMIDS	In-house	PM-MCD, Picatinny, NJ	264	267	1Q	441	1Q	0		0	972	0
b . Prog Mgmt GSTAMIDS	C-FP	Various	662	241	1-4Q	684	1-4Q	0		0	1587	0
c . ASTAMIDS	In-house	PM-MCD	0	0		0		459	1Q	Continue	Continue	Continue
Subtotal:			926	508		1125		459		Continue	Continue	Continue

Project Total Cost:			3111	9654		10534		10170		Continue	Continue	Continue
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