

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY

PE NUMBER AND TITLE

4 - Advanced Component Development and Prototypes

0603305A - Army Missile Defense Systems Integration

COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	85637	127408	14005	14551	13927	41378	166000	Continuing	Continuing
TR3 MOBILE TACTICAL HIGH ENERGY LASER (MTHL)									43620
TR4 MISSILE DEFENSE INTEGRATION	68260	114899	1372	1687					186218
TR5 MISSILE DEFENSE BATTLELAB	17377	12509	12633	12864	13927	16547	16946	Continuing	Continuing
TR6 ARMY AIR AND MISSILE DEFENSE									959
TR7 MOBILE DIRECTED ENERGY WEAPON SYSTEM (MDEWS)						24831	149054		173885

A. Mission Description and Budget Item Justification: This Program Element funds missile defense systems integration efforts for both the US Army Space and Missile Defense Command/Army Forces Strategic Command (USASMDC/ARSTRAT) and the Program Executive Office for Missiles and Space (PEO-MS).

USASMDC/ARSTRAT: Headquarters, Department of the Army General Order 37, dated 16 October 2006, designated USASMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), the Army integrator for global missile defense, and the Army Service Component Command (ASCC) of the U.S. Strategic Command (USSTRATCOM). As the Army proponent, USASMDC/ARSTRAT is responsible to develop warfighting concepts, conduct warfighting experiments to validate those concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organizations, Training, Material, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize GMD capabilities. As the Army integrator for global missile defense, USASMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

Project TR4 funds the USASMDC/ARSTRAT to execute its proponent role for Ground-Based Missile Defense, and its role as the integrator for global missile defense.

Project TR5 funds USASMDC/ARSTRAT efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments associated with USASMDC/ARSTRAT's ASCC mission. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces.

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B. Program Change Summary

	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	88001	14389	14034
Current BES/President's Budget (FY 2009)	85637	127408	14005
Total Adjustments	-2364	113019	-29
Congressional Program Reductions		-821	
Congressional Rescissions			
Congressional Increases		113840	
Reprogrammings	-82		
SBIR/STTR Transfer	-2282		
Adjustments to Budget Years			-29

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER AND TITLE 0603305A - Army Missile Defense Systems Integration						PROJECT TR4	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TR4 MISSILE DEFENSE INTEGRATION	68260	114899	1372	1687					186218

A. Mission Description and Budget Item Justification: Headquarters, Department of the Army General Order Number 37, dated 16 October 2006, designated SMDC/ARSTRAT as the Army proponent for space and ground-based midcourse defense (GMD), and the Army integrator for global missile defense. This project funds efforts associated with those roles. As the Army proponent for GMD, SMDC/ARSTRAT is responsible to develop and validate warfighting concepts, identify capabilities needed to implement the validated concepts, and develop Doctrine, Organization, Training, Materiel, Leadership & Education, Personnel and Facilities (DOTMLPF) solutions to realize GMD capabilities. As the Army integrator for global missile defense, SMDC/ARSTRAT is responsible to review programs managed by the Army, other Services, Defense agencies and National agencies to ensure that they are correctly synchronized and will ultimately provide the capabilities required by USSTRATCOM to execute its global missile defense responsibilities.

After FY2010, this project is rolled into PE 0603308A, project 990 in recognition of the increasing interrelationship between space operations, exo-atmospheric ballistic missile defense and global missile defense.

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Continue combat development efforts to define DOTMLPF solutions for capabilities required to execute ground-based midcourse defense operations across the four domains of missile defense (passive defense, active defense, attack operations and battle management). Ensure that the various components of a global missile defense capability remain synchronized with USSTRATCOM's concept of operations.	1645	1766	1372
Includes FY07 Congressional Adds for various efforts. Includes FY08 Congressional Adds for Adaptive Lightweight Materials for Missile Defense, Advanced Battery Technology, Advanced Cavitation Power Technology, Advanced Electronics Rosebud Integration, Advanced Environmental Control System, Advanced Fuel Cell Research (Advanced Laser Electric Power), Advanced Hypersonic Weapon Mission Planning, Advanced Hypersonic Weapon Technology Demonstration, Advanced Standoff Technologies for National Security, AHW BMC2 HWIL Technology Demonstration, Alternative Power Technology (APT) for Missile Defense, Biological Air Filtration System Technology, Compact Pulsed Power for Defense Applications, Dielectrically Enhance Sensor System (DESS), Future TOC Hardware/Software Integration, Heat Dissipation for Electronic Systems & Enclosures, Integrated Composite Mounting Hardware, Micro Seeker System for Small Steerable Projectiles, Micro-Systems and Nano-technology for Advanced Technology Development, Model-Based Enterprise, Neutralization of IEDs, Next Generation Interceptors Materials Research, Next Generation Passive Sensors (NGPS), Orion High Altitude Long Endurance UAV, Radiation Hardening Initiative (RHI), Remote Explosive Analysis and Detection System (READS), Standoff Hazardous Agent Detection & Evaluation System, Thermal and Electrical Nanoscale Transport (TENT), Transfer Missile Power System, and Vertical Integration for Missile Defense Surveillance Data.	66615	109957	
Small Business Innovative Research/Small Business Technology Transfer Programs		3176	
Total	68260	114899	1372

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PROJECT

TR4

B. Other Program Funding Summary Not applicable for this item.

C. Acquisition Strategy This project employs a mix of government employees, soldiers and various contractors for different aspects of the combat development process to ensure a degree of independent thought, and to encourage the use of various analytic approaches.

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
4 - Advanced Component Development and Prototypes			0603305A - Army Missile Defense Systems Integration							TR4		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Various	Execute Congressional Adds	Various	163457	66615	1-4Q	109957	1-4Q				340029	
Subtotal:			163457	66615		109957					340029	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Govt support & support contracts	Various	Various in Colorado Springs CO and Huntsville AL	8416	1645	1-4Q	1766		1372			13199	
SBIR/STTR						3176					3176	
Subtotal:			8416	1645		4942		1372			16375	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY

PE NUMBER AND TITLE

PROJECT

4 - Advanced Component Development and Prototypes

0603305A - Army Missile Defense Systems Integration

TR4

Project Total Cost:

171873

68260

114899

1372

356404

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER AND TITLE 0603305A - Army Missile Defense Systems Integration					PROJECT TR4	
<u>Schedule Detail</u>	<u>FY 2007</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>	
Continue integration of Army missile defense capabilities & DOTMLPF solutions	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q				
Execute FY07 and FY08 Congressional Adds	1Q - 4Q	1Q - 4Q						

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2008

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER AND TITLE 0603305A - Army Missile Defense Systems Integration						PROJECT TR5	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	Cost to Complete	Total Cost
TR5 MISSILE DEFENSE BATTLELAB	17377	12509	12633	12864	13927	16547	16946	Continuing	Continuing

A. Mission Description and Budget Item Justification: Project TR5 funds USASMDC/ARSTRAT efforts to develop, analyze and mature warfighting concepts, focus military science and technology research, and conduct warfighting experiments. Additionally, this project funds the delivery of innovations to the warfighter through prototyping, operational analysis, and experimentation in support of current and future Forces. The concepts, experiments, analyses, and prototypes apply to all of the mission areas assigned to SMDC/ARSTRAT in its role as an ASCC to USSTRATCOM: Missile Defense, Space, Information Operations (IO), Global Strike (GS), Command, Control, Communications, Intelligence, Surveillance and Reconnaissance (C4ISR).

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Experimented with advanced prototype components of future operational- and tactical-level command and control (C2) systems to assess their impact on Doctrine, Organization, Training, Material, Leadership and Education, Personnel and Facilities (DOTMLPF) issues. Participated in major Army and Joint Experiments integrating space, missile defense, IO, GS and C4ISR integrating, functional and operational concepts into the Army Campaign Plan (ACP). For example, during FY07, SMDC/ARSTRAT participated in OmniFusion, Global Observer, Schriever IV, Unified Quest, Unified Engagement, Futures Game 2007, Combat System Brigade Combat Team Counterinsurgency; Digital Warfighter Experiment; Joint Forces Command Urban Resolve (three limited objective experiments); and the Intelligence, Surveillance, Reconnaissance Experiment. Participation in several experiments is scheduled during FY08 including Omni Fusion 08, Joint Expeditionary Force Experiment 08, and Communications Air-Borne Layer Expansion (CABLE) plus several TRADOC micro experiments. The Future Operation Capability (FOC) test bed has integrated commercial state-of-the-art technologies into C4ISR experiments, and continues to support National Capital Region operational missions, integrated emerging commercial technologies into the Future Operation Capability (FOC). Prototype derivatives of the FOC are supporting Operation Iraqi Freedom and various Homeland Defense missions.	13802	7268	7593
Operational Analysis/Tools, Modeling and Simulation (M&S) - Studies and Analysis included operational assessments of concepts, doctrine, organizations, technologies and tactics. Also examined Future Combat system/Transformation issues for space and missile defense including new national policy for Space Control, Space Superiority, and Operational Analysis of High Altitude Long Endurance capabilities at the Tactical Level, and Space Radar. Tools and M&S accomplishments included M&S for experimentation and operational assessments, and the maintenance of M&S tools including developing an operational representation of space based capabilities into ONESaf. Evolving concepts will require analysis that addresses emerging needs in FY08. Space control and operationally responsive space will require analysis to support the military utility analysis and requirements definition in FY08. Additionally, M&S integration will be required to support the fielding of Army simulations and experiments for Information Operations and Global Strike. Plans include continued maintenance of M&S tools and support for experimentation and analysis.	3575	5040	5040
Small Business Innovative Research/Small Business Technology Transfer Programs		201	
Total	17377	12509	12633

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February 2008

BUDGET ACTIVITY

4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE

0603305A - Army Missile Defense Systems Integration

PROJECT

TR5

B. Other Program Funding Summary Not applicable for this item.

C. Acquisition Strategy Not applicable for this item.

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY			PE NUMBER AND TITLE							PROJECT		
4 - Advanced Component Development and Prototypes			0603305A - Army Missile Defense Systems Integration							TR5		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Experiments & technology enhancements of prototypes/tools and analysis.	CPAFF/CPFF	Various Colorado Springs CO and Huntsville AL	21710	3575	1-4Q	5040	1-4Q	5040	1-4Q	Cont.	Cont.	
Govt Support and Support Contracts	MIPR/Allot	Various Colorado Springs CO and Huntsville AL	27216	13802	1-4Q	7268	1-4Q	7593	1-4Q	Cont.	Cont.	
SBIR/STTR						201					201	
Subtotal:			48926	17377		12509		12633		Cont.	Cont.	
III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												
IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal:												

ARMY RDT&E COST ANALYSIS (R3)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE						PROJECT		
4 - Advanced Component Development and Prototypes	0603305A - Army Missile Defense Systems Integration						TR5		
Project Total Cost:	48926	17377		12509		12633		Cont.	Cont.

Schedule Profile (R4 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE																PROJECT											
4 - Advanced Component Development and Prototypes	0603305A - Army Missile Defense Systems Integration																TR5											
Event Name	FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	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
Experiments & technology enhancements of prototypes/tools and analysis.																												

Schedule Detail (R4a Exhibit)

February 2008

BUDGET ACTIVITY 4 - Advanced Component Development and Prototypes		PE NUMBER AND TITLE 0603305A - Army Missile Defense Systems Integration					PROJECT TR5	
<u>Schedule Detail</u>	<u>FY 2007</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>	
Experiments & technology enhancements of prototypes/tools and analysis.	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	1Q - 4Q	