

PE NUMBER: 0603308A

UNCLASSIFIED

PE TITLE: Army Missile Defense Systems Integration

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

COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
Total Program Element (PE) Cost	68205	73304	12240	12226	12202	15240	15458	Continuing	Continuing
D989 Nautilus/THEL	46392	49385	0	0	0	0	0	0	62849
D990 Space and Missile Defense (SMD) Integration	2748	2602	2989	3048	3110	3171	3236	Continuing	Continuing
D997 Space and Missile Defense Battle Lab (SMDBL)	19065	21317	9251	9178	9092	12069	12222	Continuing	Continuing

Mission Description and Budget Item Justification: In an 18 April 1997 Memorandum of Agreement between the US Army Training and Doctrine Command (TRADOC) and the US Army Space and Strategic Defense Command (USASSDC), USASSDC was designated the specified proponent for space and National Missile Defense (NMD) and the overall integrator for Theater Missile Defense (TMD). In response to this designation, the Missile Defense Battle Integration Center (MDBIC) and other existing USASSDC elements were reorganized and merged to form the Space and Missile Defense Battle Lab (SMDBL). The SMDBL is chartered to develop warfighting concepts, focus military science and technology research, and conduct warfighting experiments. In addition, this program element funds the integration and synchronization of the functions, activities, events, and actions associated with space and NMD Doctrine, Training, Leader development, Organization, Materiel development and Soldiers (DTLOMS) development and implementation; as well as, the systems analysis, studies, and experimentation designed to validate and integrate the pillars of TMD: active defense, passive defense, attack operations, and battle management/command, control, communications, computers, and intelligence functions. Finally, this program element funds the completion of the joint U.S./Israeli Tactical High Energy Laser (THEL) Advanced Concept Technology Demonstration (ACTD). Work in this program element is dedicated to efforts to demonstrate general military utility to include demonstration and validation in the area of TMD and is appropriately funded in Budget Activity 4.

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

PROJECT
D989

COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
D989 Nautilus/THEL	46392	49385	0	0	0	0	0	0	62849

A. Mission Description and Justification: These funds will complete the Tactical High Energy Laser (THEL) Advanced Concept Technology Demonstration (ACTD) and field testing at the High Energy Laser Systems Test Facility (HELSTF). The THEL ACTD is a joint U.S./Israel program to design, fabricate, and test a tactical-sized THEL demonstrator to evaluate the effectiveness of high energy lasers (HELs) to defeat the threat posed by Katyusha and similar short range artillery rockets. The THEL ACTD is an integration effort that supports the active defense pillar of Theater Missile Defense.

Acquisition Strategy: The THEL ACTD has been assigned an urgent priority by the Secretary of Defense. A sole source letter contract was executed with TRW, Inc. to deliver the THEL demonstrator by 31 Mar 1998. The letter contract was definitized on 19 Jan 97. A change order to this contract is planned to include field testing of the demonstrator at HELSTF, to be completed by 1 Oct 98.

FY 1997 Accomplishments:

- 41181 Continued THEL ACTD design and fabrication.
 - 1500 Conducted system engineering, analysis and subsystem integration activities.
 - 2611 Conducted program management.
 - 1100 Provided government furnished property.
- Total 46392

FY 1998 Planned Program:

- 7700 Complete the THEL demonstrator integration and testing at TRW.
 - 8257 Conduct system engineering, analysis, system integration activities, and field test support.
 - 29600 Complete integration at HELSTF and conduct field testing.
 - 2590 Conduct program management.
 - 1238 Small Business Innovative Research/Small Business Technology Transfer Programs.
- Total 49385

FY 1999 Planned Program: Project not funded in FY 1999

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

PROJECT
D989

B. Project Change Summary

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
FY 1998/1999 President's Budget	44058	16457	0
Appropriated Value	44058	50957	
Adjustments to Appropriated Value	+2334	-1572	
FY 1999 President's Budget	46392	49385	0

Change Summary Explanation: Funding: FY 1998 Congress added field testing at HELSTF (+34500); undistributed Congressional reductions (-1,572).

C. Other Program Funding Summary

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>To Compl</u>	<u>Total Cost</u>
THEL ACTD OSD PE 0603750D	3520								3520
THEL - Israel	14500	14100							28600
THEL - HELSTF PE 0605605		9461							9461

D. Schedule Profile

	<u>FY 1997</u>				<u>FY 1998</u>				<u>FY 1999</u>			
	1	2	3	4	1	2	3	4	1	2	3	4
Initiate Long Leads & Fabrication	X*											
Complete Fabrication/Integration					X							
Complete TRW THEL ACTD Testing					X							
Complete HELSTF field testing									X			

*Milestone Complete

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

PROJECT
D989

A. Project Cost Breakdown

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
THEL Demonstrator	43781	46795	
Program Management	2611	2590	
Total	46392	49385	

B. Budget Acquisition History and Planning Information

Performing Organizations

Contractor or Government Performing Activity	Contract Method/Type or Funding Vehicle	Award or Obligation Date	Performing Activity EAC	Project Office EAC	Total Prior to FY 1997	FY 1997	FY 1998	FY 1999	Budget to Complete	Total Program
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Product Development Organizations

TRW	Letter/Sole Source	4th Qtr 96	78481	78481		41181	37300			78481
various	various	TBD	12095	12095		2600	9495			12095

Support and Management Organizations

Govt Support and Support Contracts	MIPR CPFF	Various		5201		2611	2590			5201
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Test and Evaluation Organizations

Government Furnished Property: Environmental Enclosures.

Subtotal Product Development						43781	46795			90576
Subtotal Support and Management						2611	2590			5201
Subtotal Test and Evaluation										
Total Project						46392	49385			95777

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

PROJECT
D990

COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
D990 Space and Missile Defense (SMD) Integration	2748	2602	2989	3048	3110	3171	3236	Continuing	Continuing

A. Mission Description and Justification: In an 18 April 1997 Memorandum of Agreement between the US Army Training and Doctrine Command (TRADOC) and the US Army Space and Strategic Defense Command (USASSDC), USASSDC was designated the specified proponent for space and National Missile Defense (NMD) and the overall integrator for Theater Missile Defense (TMD). This project funds the Force Development and Integration Center, a major support element of USASSDC, created to execute the integration and synchronization of the functions, activities, events, and actions associated with space and NMD Doctrine, Training, Leader development, Organization, Materiel development and Soldiers (DTLOMS) development and implementation. In addition, this project funds systems analysis, studies, and experimentation designed to validate and integrate the pillars of TMD: active defense, passive defense, attack operations, and battle management/command, control, communications, computers, and intelligence functions. Finally, this project funds the production of hardware and software solutions, doctrinal and procedural solutions, interfaces, and architectures for TMD. These inter-pillar and intra-pillar products, required to accomplish the integrated TMD mission, exceed the scope of other programs. This program supports the milestone decisions for active defense missile and C4I systems, as well as Aviation and Artillery attack operation systems and passive missile defense materiel solutions.

Acquisition Strategy: Program is continuous. Planned accomplishments will be conducted by various performers.

FY 1997 Accomplishments:

- 2748 Planned, developed, and conducted management oversight of testing and exercise prototypical hardware and software related to integrated TMD operations, enhancements to models and simulations, systems analysis and studies regarding TMD issues.
- Total 2748

FY 1998 Planned Program:

- 2536 Integrate and synchronize the functions, activities, events, and actions associated with space and NMD DTLOMS development and implementation; and plan, develop, and conduct management oversight of testing and exercise prototypical hardware and software related to integrated TMD operations, enhancements to models and simulations, systems analysis and studies regarding TMD issues.
 - 66 Small Business Innovative Research/Small Business Technology Transfer Programs.
- Total 2602

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

PROJECT
D990

FY 1999 Planned Program:

- 2989 Integrate and synchronize the functions, activities, events, and actions associated with space and NMD DTLOMS development and implementation; and plan, develop, and conduct management oversight of testing and exercise prototypical hardware and software related to integrated TMD operations, enhancements to models and simulations, systems analysis and studies regarding TMD issues.
- Total 2989

B. Project Change Summary

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
FY 1998/1999 President's Budget	2823	2685	2663
Appropriated Value	2823	2685	
Adjustments to Appropriated Value	-75	-83	
FY 1999 President's Budget	2748	2602	2989

Change Summary Explanation: Funding: FY 1999 increased (+326) to cover civilian pay.

C. **Other Program Funding Summary:** There are no other related efforts.

D. **Schedule Profile:** Due to the continuous nature of these efforts, milestones or events are not applicable.

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

PROJECT
D990

A. <u>Project Cost Breakdown</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
Program Management Support	2748	2602	2989
Total	2748	2602	2989

B. Budget Acquisition History and Planning Information:

Performing Organizations

Contractor or Government Performing <u>Activity</u>	Contract Method/Type or Funding <u>Vehicle</u>	Award or Obligation <u>Date</u>	Performing Activity <u>EAC</u>	Project Office <u>EAC</u>	Total Prior to <u>FY 1997</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>	Budget to <u>Complete</u>	Total <u>Program</u>
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Product Development Organizations

Support and Management Organizations

Govt Support and Support Contracts	MIPR CPFF	Monthly	N/A	N/A		2748	2602	2989	Cont	8339
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Test and Evaluation Organizations

Government Furnished Property:

Subtotal Product Development										
Subtotal Support and Management						2748	2602	2989		8339
Subtotal Test and Evaluation										
Total Project						2748	2602	2989		8339

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

PROJECT
D997

COST (In Thousands)	FY 1997 Actual	FY 1998 Estimate	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	Cost to Complete	Total Cost
D997 Space and Missile Defense Battle Lab (SMDBL)	19065	21317	9251	9178	9092	12069	12222	Continuing	Continuing

A. Mission Description and Justification: This project funds the Space and Missile Defense Battle Lab (SMDBL), (formerly the Missile Defense Battle Integration Center (SMDBIC)).The SMDBL is chartered to develop warfighting concepts, focus military science and technology research, and conduct warfighting experiments. It will provide users and materiel developers a synthetic battlefield context for integrating missile defense and space assets; supporting requirement activities and providing distributed, netted computing resources, models and simulations efforts for warfighter exercises, analytical and virtual prototyping activities. To accomplish this, the SMDBL will concentrate on: Experiments, Exercises and Training; Modeling and Simulation (M&S); Concepts and Initiatives; Analysis; the Synthetic Battlefield Environment (SBE); the Extended Air Defense Testbed (EADTB); and the Extended Air Defense Simulation (EADSIM).

Acquisition Strategy: Program is continuous. Planned accomplishments will be conducted by various performers.

FY 1997 Accomplishments:

- 6100 Participated in/supported Army and joint exercises/training and warfighting experiments, including Optic Windmill, Prairie Warrior, the Confederation Test, Coherent Defense, Army Experiment 4, and JTFEX 98-1.
- 4193 Completed additional development of the SBE, to include various interfaces to enhance the realism and fidelity of missile defense training, exercises, and testing.
- 2078 Conducted “stand alone” training and further developed AAR capabilities for Force XXI command and control entities.
- 3943 Performed missile defense studies and analyses by providing enhancements/developments to advanced models and simulations, incorporating existing testbeds and migrating to the DoD’s High-Level Architecture (HLA).
- 2751 Provided modeling, simulation, and advanced visualization capabilities for senior decision makers via the Warfighting Analysis and Integration Center (WAIC).

Total 19065

FY 1998 Planned Program:

- 6235 Participate in and/or conduct space and missile defense related experiments and demonstrations, including Corps AWE, Space support to Corps Deep Operations Control Cell (DOCC), Space Based Imagery evaluations, Force Warring of Ballistic Missiles, and others. Includes development of experiment hardware/software integration Center (HSIC).

UNCLASSIFIED

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

PROJECT
D997

FY 1998 Planned Program: (continued)

- 4156 Provide for development and/or enhancements of space and missile defense models, simulations, and advanced visualization capabilities, including the Synthetic Battlefield Environment (SBE) .
 - 6230 Participate in/support Army and joint exercises including (Roving Sands 98, Ulchi Focus Lens, Home Station Training, etc.).
 - 2078 Provide space and missile defense analytical support, studies, evaluations, and assessments to, Army, and DoD elements
 - 2084 Provide the SMDBL with M&S infrastructure to support experimentation, exercise, training, and analysis programs, including conversion to HLA, V&V of models and simulations, M&S domain management, M&S master plans.
 - 534 Small Business Innovation Research/Small Business Technology Transfer Programs.
- Total 21317

FY 1999 Planned Program:

- 5594 Conduct battle lab experiments and exercises focusing on space and missile defense operational and integration issues.
 - 1360 Continue development of virtual prototypes of potential battlefield systems and high fidelity synthetic battlefield environments.
 - 930 Implement and utilize long-haul, distributed after action review capabilities; maintain M & S infrastructure required for experimentation, exercise & analysis programs.
 - 1367 Conduct follow-on missile defense and space operation support studies and analyses.
- Total 9251

B. Project Change Summary

	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
FY 1998/1999 President's Budget	19581	4996	9974
Appropriated Value	19581	21996	
Adjustments to Appropriated Value	-516	-679	
FY 1999 President's Budget	19065	21317	9251

Change Summary Explanation: Funding: FY 1998 Congressional increase (+17000) for the SMDBL; undistributed Congressional reductions (-679).

C. Other Program Funding Summary: There are no other related efforts.

D. Schedule Profile: Due to the continuous nature of these efforts, milestones or events are not applicable.

RDT&E PROGRAM ELEMENT/PROJECT COST BREAKDOWN (R-3)

PROJECT
D997

<u>A. Project Cost Breakdown</u>	<u>FY 1997</u>	<u>FY 1998</u>	<u>FY 1999</u>
SMDBL Operations	19065	21317	9251
Total	19065	21317	9251

B. Budget Acquisition History and Planning Information: Not Applicable.