Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE: **0603913C Israeli Cooperative**

COST ($ in Thousands)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Total PE Cost	0	0	119,634					
WX26 Israeli ARROW Program	0	0	73,842					
WX34 Short Range Ballistic Missile Defense	0	0	45,792					

This new Program Element encompasses MDA's U.S.-Israeli cooperative programs. Previously, these programs were listed under the Ballistic Missile Defense Terminal Defense Segment (0603881C).

A. Mission Description and Budget Item Justification

Since 1986, the United States and the State of Israel have cooperated on missile defense. MDA has three significant initiatives with Israel to develop and improve their indigenous capability to defend against short and medium range ballistic missiles. These include the Arrow Weapon System (AWS), the David's Sling Weapon System (DSWS) for Short Range Ballistic Missile Defense (SRBMD) and a new upper tier system. Additionally, MDA is developing, testing and exercising interoperability between U.S. BMDS systems and the Israeli Missile Defense Architecture to ensure Israeli systems can be integrated into the global BMDS. These programs are under the Capability Development mission area investments.

Funding for these activities is directed by annual Congressional action.

A.1 System Element Description

The Arrow program consists of the following major efforts: The Arrow System Improvement Program (ASIP) enhances baseline Arrow Weapon System capabilities against more stressing evolving regional threats. ASIP enhancements will be implemented in a block upgrade program that includes ground and flight testing. The program also includes the development of Arrow co-manufacturing capability, co-production of the interceptor and the enhancement of Arrow's interoperability with U.S. Ballistic Missile Defense Systems (BMDS) via Joint Tactical Information Data System (JTIDS) /Link-16 common communication architecture. Related activities include the Israeli Test Bed (ITB), and the Israeli Systems Architecture and Integration (ISA&I) study that assesses requirements and growth paths for the 2020 Israel missile defense architecture. The ASIP Agreement concludes in 2016.

The second Capability Development mission is the development of the David's Sling Weapon System (DSWS) for Short Range Ballistic Missile Defense (SRBMD). This system, designed to counter short range rockets serve as a lower-tier to the Arrow Weapon System, is also being developed

in blocks. The first fielded block capability will perform the short range rocket defense mission. This need for this system was underscored in the 2006 2nd Lebanon War.

Beginning in FY08, the U.S. and Israel began jointly assessing solutions for an upper-tier component for Israel's Missile Defense Architecture. By adding an upper-tier capability to their current BMD architecture, Israel will increase the system's capability against advanced threats. The 2008 Joint Analysis of Alternatives study showed that Israel's proposed Upper Tier Component Interceptor (Arrow-3) could provide better performance at a lower cost than the land-based Standard Missile-3 (SM-3) interceptor if development and cost objectives are met. However, technology and schedule for Arrow-3 have been assessed by MDA as high risk. Therefore, MDA has developed detailed Knowledge Points to assess Israel's development progress for Arrow-3. Additionally, a risk mitigation strategy to utilize land-based SM-3 as an interim Upper Tier solution has been established by MDA.

A.2 System Element Budget Justification and Contribution to the Ballistic Missile Defense System (BMDS)

U.S. Israeli cooperative programs like the Arrow Weapon System and the David's Sling Weapon System are not part of the BMDS. MDA is working to ensure interoperability between U.S. BMDS assets and the Israeli Missile Defense Architecture. A portion of the Israeli Upper Tier funding will be used to integrate the land-based SM-3 solution into Arrow Weapon System's command and control.

A.3 Major System Element Goals

These programs continue the United States' strategic cooperation with the State of Israel in Missile Defense. Israel's primary goal is the development of an Anti-Ballistic Missile System for defending Israel and its civilian population.

For the United States:

- Assist in Developing Indigenous Regional Ballistic Missile Deterrent Capability
- Develop Interoperability Between Israeli Missile Defense Architecture and U.S. Ballistic Missile Defense System
- Shared Technology Development/Data Collection: Weapon Systems Technology, Interceptor Technology, Phenomenology, Models & Simulations, and Potential use of SRBMD system for US Forces

Missile Defense Agency (MDA) Exhibit R-2 RDT&E Budget Item Justification	Date: May 2009
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A.4 Major Events Schedule and Description

Major Event	Project	Timeframe
Critical Design Review		
Development Milestones		
AWS Block 5.0 SRR	WX26	1Q FY 2010
Arrow-3 CDR	WX26	3Q FY 2010
DSWS Block 1.0 CDR	WX34	1Q FY 2010
Flight Test		
Flight Tests		
Stunner Interceptor Flyout	WX34	1Q FY 2010
Ground Test		
Integration and Test		
Interoperability Tests	WX26	1Q FY 2010

The Israeli Cooperative Programs has many significant events planned for FY10. Among which, and shown in more detailed below, are the continuation of design reviews for Arrow and David's Sling Weapon System, the flight test of the David's Sling Weapon System, and a major interoperability exercise between U.S. and Israeli Ballistic Missile Defense elements.

B. Program Change Summary	FY 2008	FY 2009	FY 2010	FY 2011
Previous President's Budget (FY2009 PB)	0	0	0	
Current President's Budget (FY2010 PB)	0	0	119,634	
Total Adjustments	0	0	119,634	
Congressional Program Reductions	0	0	0	
Congressional Rescissions	0	0	0	
Total Congressional Increases	0	0	0	
Total Reprogrammings	0	0	0	
SBIR/STTR Transfer	0	0	0	
Adjustments to Budget Years	0	0	119,634	

This new Program Element encompasses MDA's U.S.-Israeli cooperative programs. Previously, these programs were listed under the Ballistic Missile Defense Terminal Defense Segment (0603881C).

The FY10 increase from 0603881C PB09's funding is MDA starting multiyear funding for the SRBMD program of ~$45 Million a year.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

COST ($ in Thousands)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
WX26 Israeli ARROW Program	0	0	73,842					
RDT&E Articles Qty	0	0	0					

A. Mission Description and Budget Item Justification

This project provides funding for Arrow Weapon System (AWS) development, to include the Arrow System Improvement Program (ASIP), the Arrow Missile Production Program (AMPP) for the co-production of Arrow Interceptors, the Israeli Test Bed (ITB) experiments to evaluate Human-In-The-Loop (HWIL) battle management, and the Israeli Systems Architecture and Integration (ISA&I) studies to assess Israel's future 2020 Missile Defense Architecture. The Arrow Weapon System provides Israel an indigenous capability to defend against short and medium range ballistic missiles. Further, Arrow also acts as a cornerstone of the Architecture Enhancement Plan which is a joint U.S.-Israeli effort to create a combined U.S.-Israeli multitier Missile Defense Architecture. In addition to the geo-strategic goals of the Arrow cooperative effort, the United States derives technical benefit from its participation in these projects and gains knowledge and experience of the Israeli Defense Forces operation of a multi-layered defense architecture. U.S. participation in the Arrow development effort also ensures interoperability of the Arrow and the Israeli Missile Defense System with deployed U.S. missile defense assets. The ASIP effort will enhance the performance of the AWS to defeat longer-range and more robust ballistic missile threats expected to be introduced in the Middle East in the near future. Testing of the enhanced AWS in the U.S. against longer range threats is planned for FY09 to verify Arrow's improved performance and capability. Co-production will continue to increase the industrial production capacity of the Arrow II interceptor. The ITB and ISA&I efforts will continue to support AWS development as well as to define future missile defense architectures and growth paths. Finally, a new Upper Tier component has been started to provide Israel with additional capability against emerging regional threats.

NOTE: Planned Program assumes matching funds from Israel per our international agreements.

B. Accomplishments/Planned Program

	FY 2008	FY 2009	FY 2010	FY 2011
Arrow System Improvement Program	0	0	15,000	
RDT&E Articles (Quantity)	0	0	0	

The Arrow System Improvement Program (ASIP) is the fourth phase of the cooperative effort which began in 1988 to provide Israel with an indigenous missile defense and ensure the Arrow Weapon System retains system effectiveness against evolving longer-range, more robust regional Theater Ballistic Missile threats. This initiative commenced on March 13, 2001 under the ASIP International Agreement between the United States and the State of Israel and runs through 2016. While the current program concludes with a 2009 capstone event of 2 flight tests on an U.S. test range,

additional capability has been proposed as part of the new Upper Tier component. Thus a follow-on spiral development is being formulated (Block 4.5 that will increase the Arrow II`s effective battlespace and provide additional sensor capability to the Arrow Weapon System. Block 5.0 will add an upper tier component to the Arrow Weapon System.

Interdependency: BMDS elements (THAAD, AEGIS, C2BMC, AN/TPY-2, and PATRIOT) participate in ground testing and exercises with the Arrow Weapon System.

FY10 Planned Program:

- Initial Operational Capability of the AWS Block 4.0
- Conduct Joint Interoperability Exercise Juniper Cobra with Israel and U.S. forces
- Conduct System Requirements Review for AWS Block 5.0
- Participate in Performance Assessment 2010 (PA10)

	FY 2008	FY 2009	FY 2010	FY 2011
Israeli Upper Tier	0	0	37,536	
RDT&E Articles (Quantity)	0	0	0	

With emerging weapons of mass destruction threats from regional enemies, the Government of Israel has determined a need for an upper-tier BMD component to complement the current Arrow Weapon System. Beginning in FY08, the U.S. and Israel began jointly assessing solutions for an upper-tier component for Israel's Missile Defense Architecture. The 2008 Joint Analysis of Alternatives study showed that Israel's proposed Upper Tier Component Interceptor (Arrow-3) could provide better performance at a lower cost than the land-based Standard Missile-3 (SM-3) interceptor if development and cost objectives are met. However, technology and schedule for Arrow-3 have been assessed by MDA as high risk. Therefore, MDA has developed detailed Knowledge Points to assess Israel's development progress for Arrow-3. Additionally, a risk mitigation strategy to utilize land-based SM-3 as an interim Upper Tier solution has been established by MDA. A portion of the Israeli Upper Tier funding will be used to integrate the land-based SM-3 solution into Arrow Weapon System's command and control.

FY10 Planned Program:

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

- Conduct Critical Design Review for the Israeli Arrow-3 interceptor
- Conduct 6 Element Level Knowledge Point Demonstrations
  - Large format focal plane arrays developed and lab tested
  - Demonstrate rocket motor performance, with fixed nozzle, in static fire test
  - Demonstrate rocket motor performance, with large nozzle deflection, in static test.
  - Demonstrate first pulse of two-pulse rocket motor design and barrier margin in static test.
  - Demonstrate two pulse rocket motor performance in static test.
  - Demonstrate kill vehicle hit point accuracy across engagement space in high fidelity simulation

	FY 2008	FY 2009	FY 2010	FY 2011
Arrow Missile Production Program (AMPP)	0	0	15,000	
RDT&E Articles (Quantity)	0	0	0	

The co-manufacturing project further enhances the Arrow Weapon System by establishing a capability in the United States and the State of Israel to co-produce Arrow components and interceptors. The goal of the co-production effort is to accelerate production of Arrow interceptors to meet Israel's defense requirements. The current production plan will be completed in 2011 and meet Israel's Defense Forces (IDF) current inventory requirement. However, discussions are ongoing to possibly increase these requirements and thus extend the co-production program.

FY10 Planned Program: Continue delivery of Arrow II interceptors.

	FY 2008	FY 2009	FY 2010	FY 2011
Israeli Test Bed (ITB)	0	0	3,535	
RDT&E Articles (Quantity)	0	0	0	

The Israeli Test Bed (ITB) is a cooperative effort conducted under the 30 March 1989 Theater Ballistic Missile Defense Test Bed Memorandum of Agreement between the U.S. and Israel. The ITB is a large scale human-in-the-loop (HIL) modeling and simulation facility for the purpose of developing, analyzing, and evaluating candidate architectures, battle management concepts, and engagement algorithms. Many of the exercises accomplished on the ITB include participation of U.S. and Israel warfighters. The principal ITB facility resides at Holon, Israel. A second ITB capability is operational at the Missile Defense Agency's Advanced Research Center in Huntsville, Alabama.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE: **0603913C Israeli Cooperative**

FY10 Planned Program: Accomplish 3 experiments and 1 exercise refining HWIL tools for Command and Control, developing regional defense architectures, and impacts to tactics, techniques and procedures of the combined U.S.-Israeli Multi-tier Missile Defense Architecture.

	FY 2008	FY 2009	FY 2010	FY 2011
Israeli Systems Architecture and Integration (ISA&I)	0	0	2,771	
RDT&E Articles (Quantity)	0	0	0	

The Israeli Systems Architecture and Integration (ISA&I) Study provides analyses of the future 2020 Israeli Missile Defense Architecture, growth paths for future development and interoperability with U.S. BMDS assets. Program objectives are to assess the ballistic missile threats, provide analyses and architecture options, assess missile defense system robustness and issues, and assess Israeli and U.S. missile defense interoperability issues. The ISA&I effort is contracted by MDA to an Israeli consulting firm.

FY10 Planned Program: Continue studies on emerging regional ballistic missile threats, growth path options for the Israeli Missile Defense Architecture and evaluate Israeli and U.S. missile defense systems interoperability.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

C. Other Program Funding Summary

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total Cost
PE 0603175C Ballistic Missile Defense Technology	106,437	119,308	109,760						-
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,034,478	956,686	719,465						-
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,198,664	1,507,481	982,922						-
PE 0603883C Ballistic Missile Defense Boost Defense Segment	503,475	400,751	186,697						-
PE 0603884C Ballistic Missile Defense Sensors	574,231	777,693	636,856						-
PE 0603886C Ballistic Missile Defense System Interceptors	330,874	385,493	0						-
PE 0603888C Ballistic Missile Defense Test and Targets	619,137	919,956	966,752						-
PE 0603890C Ballistic Missile Defense Enabling Programs	416,937	402,778	369,145						-
PE 0603891C Special Programs – MDA	193,157	175,712	301,566						-
PE 0603892C Ballistic Missile Defense Aegis	1,126,337	1,113,655	1,690,758						-
PE 0603893C Space Tracking & Surveillance System	226,499	208,923	180,000						-
PE 0603894C Multiple Kill Vehicle	223,084	283,481	0						-
PE 0603895C BMD System Space Program	16,237	24,686	12,549						-
PE 0603896C BMD C2BMC	439,997	288,287	340,014						-
PE 0603897C BMD Hercules	51,387	55,764	48,186						-
PE 0603898C BMD Joint Warfighter Support	45,400	69,743	60,921						-
PE 0603904C Missile Defense Integration & Operations Center (MDIOC)	77,102	106,040	86,949						-
PE 0603906C Regarding Trench	1,945	2,968	6,164						-
PE 0603907C Sea Based X-Band Radar (SBX)	155,244	146,895	174,576						-
PE 0603908C BMD Europ Intercep Site	0	362,007	0						-
PE 0603909C BMD Europ Midcourse Radar	0	76,537	0						-
PE 0603911C BMD European Capability	0	0	50,504						-
PE 0603912C BMD European Comm Support	0	27,008	0						-
PE 0605502C Small Business Innovative Research BMDO	137,409	0	0						-
PE 0901585C Pentagon Reservation	5,971	19,667	19,709						-
PE 0901598C Management Headquarters – MDA	83,907	81,174	57,403						-

Note: The Ballistic Missile Defense System (BMDS) is an integrated, interoperable, global defense system. The programs which comprise the BMDS are interdependent.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

D. Acquisition Strategy

As a bi-lateral cooperative program with the State of Israel, the Arrow Program does not follow standard DoD Acquisition Practices. The program is managed by an Israeli Co-Program Manager and, equal in responsibility, an U.S. Co-Program Manager. Program funding is equitable between the U.S. and Israel with Israel providing matching funds. However, a portion of the Israeli cost share is from non-financial contributions such as background information and facilities. With ASIP, Israel Ministry of Defense (IMoD) contracts on behalf of U.S. government to IAI and other ASIP contractors. MDA Targets Office contracts for production and instrumentation of targets for U.S. flight testing. Additionally with Arrow Missile Production, IMoD contracts on behalf of U.S. government to IAI. IAI then subcontracts to Boeing for manufacture of U.S. components. IAI manufactures Israeli components and performs final assembly. For the Israeli Test Bed, MDA contracts directly with Tadiran while IMoD provides their share of the funding to U.S. Finally, MDA contracts directly with WALES, Ltd for the Israeli System Architecture and Integration.

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

I. Product Development Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Arrow System Improvement Program										
ASIP	CPFF	IAI/ Israel	0	0	N/A	15,000	4Q			15,000
Israeli Upper Tier										
Upper Tier	CPFF		0	0	N/A	37,536	4Q			37,536
Arrow Missile Production Program (AMPP)										
Arrow Missile Production	CPFF	IAI & Boeing/ Israel&AL	0	0	N/A	15,000	1Q			15,000
Israeli Test Bed (ITB)										
Israeli Test Bed	FFP	Tadiran/ Israel	0	0	N/A	3,535	1Q			3,535
Israeli Systems Architecture and Integration (ISA&I)										
ISA&I	FFP	Wales, LTD/ Israel	0	0	N/A	2,771	1Q			2,771
Subtotal Product Development			0	0		73,842				73,842

Remarks

II. Support Costs Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Support Costs										

Remarks

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

III. Test and Evaluation Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										

Remarks

IV. Management Services Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Management Services										

Remarks

Project Total Cost			0	0		73,842				73,842

Remarks

Missile Defense Agency (MDA) Exhibit R-4 Schedule Profile

Date: **May 2009**

APPROPRIATION/BUDGET ACTIVITY: **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**

R-1 NOMENCLATURE: **0603913C Israeli Cooperative**

Fiscal Year	2008				2009				2010				2011				2012				2013				2014				2015			
	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
Development Milestones																																
AWS Block 5.0 SRR									△																							
Arrow-3 CDR											△																					
Integration and Test																																
Interoperability Tests									△																							
Israeli Test Bed Exercise									▲																							
Israeli Test Bed Experiment										△	△	△																				

Legend

▲	Significant Event (complete)	△	Significant Event (planned)
★	Milestone Decision (complete)	☆	Milestone Decision (planned)
◆	Element Test (complete)	◇	Element Test (planned)
▼	System Level Test (complete)	▽	System Level Test (planned)
▲	Complete Activity	△	Planned Activity

Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Development Milestones								
AWS Block 5.0 SRR			1Q					
Arrow-3 CDR			3Q					
Integration and Test								
Interoperability Tests			1Q					
Israeli Test Bed Exercise			1Q					
Israeli Test Bed Experiment			2Q,3Q,4Q					

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE: **0603913C Israeli Cooperative**

COST ($ in Thousands)	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
WX34 Short Range Ballistic Missile Defense	0	0	45,792					
RDT&E Articles Qty	0	0	0					

A. Mission Description and Budget Item Justification

The 2006 summer conflict between Israel and Hezbollah underscored the strategic effect of short-range, inexpensive ballistic missiles attacks on civilian populations. The current Israeli Missile Defense Architecture (comprised of PATRIOT and Arrow) has capability against some of these short-range missile threats, but does not provide a cost-effective defense. The goal of the Israeli SRBMD program is to provide a low-cost ($350K per missile) defense capability. In March 2005, the U.S. and Israel initiated a joint 18-month feasibility study of a low-cost SRBMD capability as a compliment to the Arrow Weapon System. This was followed in May 2006 by Israeli's down selection to the David's Sling Weapon System (DSWS) for their SRBMD solution. While currently there is no U.S. requirement for a SRBMD system MDA plans to provide input regarding specifications and development decisions to ensure the system could be suitable for potential future U.S. needs and interoperable with the U.S. Ballistic Missile Defense System (BMDS). The system is to be developed in development blocks with the initial block providing a baseline capability against long range rockets and short range ballistic missiles.

Under the U.S.-Israeli Project Agreement signed in September 2008, the project is jointly managed by the U.S. Missile Defense Agency and the Israeli Missile Defense Organization. The agreement documents the U.S.-Israeli cost share, in which the development costs are equitable between the U.S. and Israel with Israel providing matching funds. However a portion of the Israeli cost share is from non-financial contributions such as background information and facilities.

NOTE: Planned Program assumes matching funds from Israel per our international agreements.

B. Accomplishments/Planned Program

	FY 2008	FY 2009	FY 2010	FY 2011
David`s Sling Weapon System	0	0	45,792	
RDT&E Articles (Quantity)	0	0	0	

FY10 Planned Program:

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: **RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)**	R-1 NOMENCLATURE: **0603913C Israeli Cooperative**

- Conduct Critical Design Review for Block 1.0
- Conduct two interceptor control navigation test flyouts

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
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C. Other Program Funding Summary

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Total Cost
PE 0603175C Ballistic Missile Defense Technology	106,437	119,308	109,760						-
PE 0603881C Ballistic Missile Defense Terminal Defense Segment	1,034,478	956,686	719,465						-
PE 0603882C Ballistic Missile Defense Midcourse Defense Segment	2,198,664	1,507,481	982,922						-
PE 0603883C Ballistic Missile Defense Boost Defense Segment	503,475	400,751	186,697						-
PE 0603884C Ballistic Missile Defense Sensors	574,231	777,693	636,856						-
PE 0603886C Ballistic Missile Defense System Interceptors	330,874	385,493	0						-
PE 0603888C Ballistic Missile Defense Test and Targets	619,137	919,956	966,752						-
PE 0603890C Ballistic Missile Defense Enabling Programs	416,937	402,778	369,145						-
PE 0603891C Special Programs – MDA	193,157	175,712	301,566						-
PE 0603892C Ballistic Missile Defense Aegis	1,126,337	1,113,655	1,690,758						-
PE 0603893C Space Tracking & Surveillance System	226,499	208,923	180,000						-
PE 0603894C Multiple Kill Vehicle	223,084	283,481	0						-
PE 0603895C BMD System Space Program	16,237	24,686	12,549						-
PE 0603896C BMD C2BMC	439,997	288,287	340,014						-
PE 0603897C BMD Hercules	51,387	55,764	48,186						-
PE 0603898C BMD Joint Warfighter Support	45,400	69,743	60,921						-
PE 0603904C Missile Defense Integration & Operations Center (MDIOC)	77,102	106,040	86,949						-
PE 0603906C Regarding Trench	1,945	2,968	6,164						-
PE 0603907C Sea Based X-Band Radar (SBX)	155,244	146,895	174,576						-
PE 0603908C BMD Europ Intercep Site	0	362,007	0						-
PE 0603909C BMD Europ Midcourse Radar	0	76,537	0						-
PE 0603911C BMD European Capability	0	0	50,504						-
PE 0603912C BMD European Comm Support	0	27,008	0						-
PE 0605502C Small Business Innovative Research BMDO	137,409	0	0						-
PE 0901585C Pentagon Reservation	5,971	19,667	19,709						-
PE 0901598C Management Headquarters – MDA	83,907	81,174	57,403						-

Note: The Ballistic Missile Defense System (BMDS) is an integrated, interoperable, global defense system. The programs which comprise the BMDS are interdependent.

Missile Defense Agency (MDA) Exhibit R-2A RDT&E Project Justification	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

D. Acquisition Strategy

As a bi-lateral cooperative program with the State of Israel, the SRBMD program does not follow standard DoD Acquisition Practices. The program is managed through a joint program office lead by an Israeli Co-Program Manager and, equal in responsibility, an U.S. Co-Program Manager. Program funding is equitable between the U.S. and Israel with Israel providing matching funds. However, a portion of the Israeli cost share is from non-financial contributions such as background information and facilities. With the David Sling Weapon System, Israel Ministry of Defense (IMoD) contracts on behalf of U.S. government to Rafael and other David's Sling Weapon System contractors. A Short Range Ballistic Missile Defense Project Agreement under the RDT&E Framework agreement between U.S. and Israel was signed Sept 2008 creating a joint program office to manage this program. This agreement allows Israel to contract on behalf of the United States.

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

I. Product Development Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
David`s Sling Weapon System										
SRBMD Program	CPFF	Rafael/ Israel	0	0	N/A	45,792	2Q			45,792
Subtotal Product Development			0	0		45,792				45,792

Remarks

II. Support Costs Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Support Costs										

Remarks

III. Test and Evaluation Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Test and Evaluation										

Remarks

Missile Defense Agency (MDA) Exhibit R-3 RDT&E Project Cost Analysis	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

IV. Management Services Cost ($ in Thousands)

Cost Categories:	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2009 Cost	FY 2009 Award/ Oblg Date	FY 2010 Cost	FY 2010 Award/ Oblg Date	FY 2011 Cost	FY 2011 Award/ Oblg Date	Total Cost
Subtotal Management Services										

Remarks

Project Total Cost			0	0		45,792				45,792

Remarks

Missile Defense Agency (MDA) Exhibit R-4A Schedule Detail	Date: May 2009
APPROPRIATION/BUDGET ACTIVITY: RDT&E, DW/04 Advanced Component Development and Prototypes (ACD&P)	R-1 NOMENCLATURE: 0603913C Israeli Cooperative

Schedule Profile	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Development Milestones								
DSWS Block 1.0 CDR			1Q					
Flight Tests								
Stunner Interceptor Flyout			1Q					