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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	209.048	235.700	99.836	-	99.836	95.782	96.803	103.940	106.020	Continuing	Continuing
MD20: <i>Israeli Upper Tier</i>	58.667	66.220	50.892	-	50.892	52.607	54.368	55.660	56.773	Continuing	Continuing
MD26: <i>Israeli ARROW Program</i>	66.089	58.955	10.665	-	10.665	10.663	10.701	11.142	11.365	Continuing	Continuing
MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>	84.292	110.525	38.279	-	38.279	32.512	31.734	37.138	37.882	Continuing	Continuing

Note

Content supports expected matching contributions from Israel per international agreements, and historical-based supplemental funding provided by Israel Ministry of Defense (IMOD). Israeli proposed program content that has no US or Israeli funds are not included in this budget exhibit.

FY 2011 appropriation increased the FY 2011 Israeli Program Budget by \$7.133M in MD20, \$42.180M in MD26 and \$38.000M in MD34.

FY 2012 appropriation increased the FY 2012 Israeli Program Budget by \$13.000M in MD20, \$47.200M in MD26 and \$69.400M in MD34.

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 Arrow-3 Interceptor. Within the AWS Project MDA develops, tests and exercises interoperability between U.S. BMDS and the Israeli Missile Defense Architecture.

System Element Description:

U.S.-Israel Cooperative Programs consist of the following major efforts:

Israeli Upper Tier Project (UTI) (MD20):

The UTI Program, which provides a new Arrow 3 missile that increases the system's capability against advanced threats by providing approximately four times the current Arrow-2 battle space, has developed detailed Knowledge Points to assess Israel's development progress. MDA and the Israeli Ministry of Defense continue to implement practices that allow for the more effective use of program management tools to ensure risk is adequately managed. The primary near term objective for UTI is to demonstrate readiness for a Low Rate Initial Production (LRIP) in FY 2014 through successful flight testing

Israeli Arrow Weapon System (AWS) (MD26):

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Missile Defense Agency	DATE: February 2012
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The Arrow System Improvement Program (ASIP) includes block upgrades to the Arrow Weapon System that enhances capabilities against more stressing evolving regional threats by increasing the total defended area by approximately 50 percent. ASIP elements include the Arrow-2 missile and launcher, Citron Tree Battle Management Center (BMC), Green Pine (GP) and Super GP Radars, and the Hazelnut Tree Launcher Control Center (LCC). The program also includes the development of Arrow co-manufacturing capability, co-production of the interceptor and the continued development of Arrow's interoperability with U.S. Ballistic Missile Defense Systems (BMDS). 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.

Short Range Ballistic Missile Defense (SRBMD) (MD34):

SRBMD also known as The David's Sling Weapon System (DSWS) is designed to counter short range rockets and missiles and serve as a lower-tier to the Arrow Weapon System. The first fielded block capability will perform the short range rocket and missile defense mission. Subsequent blocks will address a cruise missile defense capability per 2010 Congressional direction. DSWS Elements include the Stunner Interceptor, Missile Firing Unit (MFU), Multi-Mission Radar (MMR), and the Golden Almond Battle Management Center (BMC). The primary near term objective for DSWS is to demonstrate readiness for a Low Rate Initial Production (LRIP) in FY2012 through successful flight testing.

B. Program Change Summary (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	121.735	106.100	99.873	-	99.873
Current President's Budget	209.048	235.700	99.836	-	99.836
Total Adjustments	87.313	129.600	-0.037	-	-0.037
• Congressional General Reductions	-1.067	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	88.200	129.600			
• Congressional Directed Transfers	-	-			
• Reprogrammings	0.180	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustment	-	-	-0.037	-	-0.037

Change Summary Explanation

FY 2011 adjustment reflects a Congressional reductions and increases (DoD and Full Year Continuing Appropriation Act, FY 2011, Public Law 112-10).

FY 2012 adjustment reflects a Congressional increase (DoD and Full Year Continuing Appropriation Act, FY 2012, Public Law 112-74).

FY 2013 reflects realignments for other DoD priorities.

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD20: <i>Israeli Upper Tier</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD20: <i>Israeli Upper Tier</i>	58.667	66.220	50.892	-	50.892	52.607	54.368	55.660	56.773	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

This project code encompasses MDA's U.S.-Israeli cooperative programs for the Israeli Upper Tier program.

A. Mission Description and Budget Item Justification

This project provides funding for the Upper Tier component of the Arrow Weapon System (AWS) development. The Upper Tier Interceptor will enhance Israel's indigenous capability to defend against short and medium range ballistic missiles by increasing the battle space by a factor of four. The scope of the Upper Tier Program covers interceptor development, testing, initial lot production, and integration with the Block 5 AWS. In addition to the geo-strategic goals of the Upper Tier 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. This project also includes the development of the Silver Sparrow Air-Launched Target which is necessary to validate the performance of the Arrow 3 Missile.

The Upper-Tier Interceptor Project Agreement was signed in 2010. This agreement states that the project will be jointly managed by the U.S. Missile Defense Agency and the Israeli Missile Defense Organization. The agreement also documents the U.S.-Israeli cost share, in which the development costs will be equitable between the U.S. and Israel, with Israel providing matching contributions.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Upper Tier	58.667	66.220	50.892
Articles:	0	0	0
Description: See Description Below			
FY 2011 Accomplishments:			
-Completed detailed propulsion, seeker hardware and avionics demonstrations enabling progress to Critical Design Review.			
-Developed preliminary design for Arrow-3 integration into the Block 5 Arrow Weapon System so they are interoperable.			
FY 2012 Plans:			
-Conduct 3 Element Level Knowledge Point demonstrations to provide critical data to assess viability of component design.			
-Demonstrate seeker functional capability and system performance.			
-Conduct first interceptor fly-out test of the Arrow-3 Interceptor.			
-Conduct software Critical Design Review to finalize tactical system software.			
-Conduct target fly-out test.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD20: <i>Israeli Upper Tier</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Perform Static Fire Test for Booster and Kill Vehicle. -Conduct Long Range Target Wind Tunnel Test. -Conduct Critical Design Review. <p><i>FY 2013 Plans:</i></p> <ul style="list-style-type: none"> -Conduct 2 Element Level Knowledge Point demonstrations to provide critical data to assess viability of component design. -Conduct second interceptor fly-out test of the Arrow-3 Interceptor. -Complete data reduction and analysis for the second interceptor fly-out test of the Arrow-3 Interceptor. -Conduct algorithm design review for Intercept Test #1 to verify requirements. -Conduct Long Range Target fly out for validation. -Complete Production Readiness Review for Initial Lot Production. 				
Accomplishments/Planned Programs Subtotals		58.667	66.220	50.892
C. Other Program Funding Summary (\$ in Millions)				
N/A				
D. Acquisition Strategy				
<p>As a bi-lateral cooperative program with the State of Israel, the Upper Tier Project does not follow standard DoD Acquisition Practices. The Upper-Tier Interceptor Project Agreement under the RDT&E Framework agreement between the U.S. and Israel creates a joint program office to manage this program. This agreement allows Israel to contract on behalf of the United States. The DoD U.S. Israeli Cooperative Program Office jointly manages the Upper Tier program with Israel Ministry of Defense (IMoD) to ensure that all systems are delivered on time, on budget and meet the needs of the warfighter. Program funding is equitable between the U.S. and Israel with Israel providing matching contributions. A portion of the Israeli cost share comes from non-financial contributions such as previously completed work prior to joint program initiation. With the Upper Tier Interceptor, IMoD will contract to Israel Aerospace Industries (IAI). IAI subcontracts to Israeli and U.S. companies such as Boeing.</p>				
E. Performance Metrics				
N/A				

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD20: <i>Israeli Upper Tier</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Upper Tier Upper Tier	C/CPFF	Israel Aerospace Industries (IAI):Israel	109.984	66.220	Mar 2012	50.892	Mar 2013	-		50.892	Continuing	Continuing	Continuing
Subtotal			109.984	66.220		50.892		-		50.892			

Remarks
Prior years cost is for FY 2010 and FY 2011

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

UNCLASSIFIED

Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Remarks N/A													
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			109.984	66.220		50.892		-		50.892			

Remarks
Contract cost reflect U.S. contribution only.

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD20: <i>Israeli Upper Tier</i>

UNCLASSIFIED

Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD20: <i>Israeli Upper Tier</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Israeli Cooperative Intercept Flight Test - FY 2012	1	2012	4	2012
Arrow-3 Software Critical Design Review (CDR)	1	2012	4	2012
Arrow-3 Production Readiness Review (PRR)	1	2013	4	2013
Complete Data Reduction and Analysis of Fly-Out	1	2013	4	2013
Israeli Cooperative Intercept Flight Test - FY 2013	1	2013	4	2013
Israeli Cooperative Intercept Flight Test - FY 2014	1	2014	4	2014
Israeli Cooperative Intercept Flight Test - FY 2015	1	2015	4	2015
Israeli Cooperative Intercept Flight Test - FY 2016	1	2016	4	2016

UNCLASSIFIED

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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD26: <i>Israeli ARROW Program</i>	66.089	58.955	10.665	-	10.665	10.663	10.701	11.142	11.365	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

N/A

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 (HIL) battle management, and the Israeli Systems Architecture and Integration (ISA&I) studies to assess Israel's future 2020 Missile Defense Architecture. The AWS provides Israel an indigenous capability to defend against short and medium range ballistic missiles. 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. ASIP elements include the Arrow-2 missile and launcher, Citron Tree Battle Management Center (BMC), Green Pine (GP) and Super GP Radars, and the Hazelnut Tree Launcher Control Center (LCC). Testing of the enhanced AWS in the U.S. against U.S. targets is planned to verify Arrow's improved performance and capability. The ASIP also ensures AWS interoperability via Joint Tactical Information Data System (JTIDS) Link-16 common communication architecture with the U.S. BMDS elements such as Terminal High Altitude Area Defense (THAAD), AEGIS, Command, Control, Battle Management and Communications (C2BMC), AN/TPY-2, and PATRIOT through ground tests, flight tests, and operational exercises. Co-production will continue increased 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.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: Arrow System Improvement Program	47.754	52.593	4.303
Articles:	0	0	0
Description: See Description Below			
FY 2011 Accomplishments:			
-Conducted AWS Block 5.0 System Requirements Review (SRR) to finalize system requirements enabling initiation of system design.			
-Conducted AWS Block 4.0 flight test in the U.S., destroying a Foreign Military Asset target in flight and proved system functionality.			
FY 2012 Plans:			
-Conduct AWS Block 5.0 Critical Design Review to finalize design.			
-Conduct Block 5 Battle Management Center Systems Requirements Review.			

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Conduct Airborne Ballistic Early Warning System Preliminary Design Review. -Conduct AWS Block 4.0 flight test in Israel. -Conduct AWS Block 4 Initial Operations Capability Validation. -Conduct Silver Oak Preliminary Design Review. -Expand AWS-BMDS integration (with AN/TPY-2, C2BMC, and Aegis) and demonstrate performance in U.S. BMDS ground test, GTI-04 (ISR). -Develop/Finalize Version 2 Software-Adds Seeker Capability. -Conduct Block 5 Preliminary Design Review. -Complete Software development for Tactical Debriefing Center (TDC). <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Complete data reduction and analysis for the intercept flight test in Israel to validate models and simulations. -Conduct interoperability ground test with U.S. BMDS. 				
<p>Title: Arrow Missile Production Program (AMPP)</p> <p>Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Continued delivery of Arrow II interceptors expending the final U.S. contribution for this effort. <p>FY 2012 Plans:</p> <ul style="list-style-type: none"> -Complete delivery of Arrow II interceptors using Israeli funding. <p>FY 2013 Plans:</p> <p>Project task completed in FY 2012.</p> <p>Variance Analysis: FY 2012 budget decreased from FY2011 due to project task completion in FY 2012 using Israeli funding.</p>		12.000 0	- 0	- 0
<p>Title: Israeli Test Bed (ITB)</p> <p>Articles:</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <ul style="list-style-type: none"> -Conducted HIL experiment on regional defense concepts on placement of batteries, radars and battle management centers. 		3.535 0	3.535 0	3.535 0

UNCLASSIFIED

Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<p>-Conducted HIL experiment on integrated air and missile defense including integration of external sensors and battle management evaluation to determine requirements for future systems.</p> <p>-Conducted experiment on potential future architecture enhancements that determine requirements for future systems.</p> <p>-Conducted exercise with warfighters that refined Tactics, Techniques & Procedures (TTP) and Concept of Operations (CONOPs).</p> <p>FY 2012 Plans:</p> <p>-Conduct HIL experiment on regional defense concepts.</p> <p>-Conduct HIL experiment on affect of new mission capabilities on integrated air and missile defense.</p> <p>-Conduct experiment on potential future architecture enhancements.</p> <p>-Conduct exercise with warfighters to further refine TTPs and CONOPs.</p> <p>FY 2013 Plans:</p> <p>-Conduct HIL experiment on regional defense concepts.</p> <p>-Conduct HIL experiment Arrow 2/3 and related Block 5 Integration including integration of external sensors and battle management.</p>				
<p>Title: Israeli Systems Architecture and Integration (ISA&I)</p> <p>Description: See Description Below</p> <p>FY 2011 Accomplishments:</p> <p>-Developed and assessed activities for regional defense, missile systems performance issues, and interoperability, special studies related to time period up to 2020 that created the ground work for future Israeli missile defense architectures.</p> <p>FY 2012 Plans:</p> <p>-U.S.- Israeli operational exercise design and assessment, and interoperability special studies on regional threats and growth path options.</p> <p>FY 2013 Plans:</p> <p>-U.S.- Israeli operational exercise design and assessment, and interoperability special studies on regional threats and growth path options.</p>		<p>Articles:</p> <p>2.800 0</p>	<p>2.827 0</p>	<p>2.827 0</p>
Accomplishments/Planned Programs Subtotals		66.089	58.955	10.665
C. Other Program Funding Summary (\$ in Millions)				
N/A				

UNCLASSIFIED

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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 DoD U.S. Israeli Cooperative Program Office jointly manages the Arrow Program with Israel Ministry of Defense (IMoD) to ensure that all systems are delivered with quality on time, on budget and meet the needs of the warfighter. Program funding is equitable between the U.S. and Israel with Israel providing matching contributions. However, a portion of the Israeli cost share comes from non-financial contributions such as previously completed work prior to joint program initiation. With ASIP, IMoD contracts on behalf of U.S. government to Israel Aerospace Industries (IAI). IAI subcontracts to Israeli and U.S. companies such as Boeing. MDA Targets Office contracts for production and instrumentation of targets for flight testing conducted in the U.S. Additionally with Arrow Missile Production, IMoD contracts on behalf of U.S. government to IAI, who subcontracts to Boeing for manufacture of components in the U.S. IAI manufactures Israeli components and performs final assembly. For the Israeli Test Bed, MDA contracts directly with Tadiran while IMoD provides an equitable share of the funding to U.S. Finally, MDA contracts directly with WALES, Ltd for the Israeli System Architecture and Integration program.

E. Performance Metrics

N/A

UNCLASSIFIED

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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Arrow System Improvement Program Arrow System Improvement Program (ASIP)	C/CPFF	Israel Aerospace Industries (IAI):Israel	88.912	52.593	Jul 2012	4.303	Jun 2013	-		4.303	Continuing	Continuing	Continuing
Arrow Missile Production Program (AMPP) Arrow Missile Production	C/FFP	Israel Aerospace Industries (IAI) & Boeing:Israel & Alabama	36.486	-		-		-		-	0.000	36.486	0.000
Israeli Test Bed (ITB) Israeli Test Bed	C/FFP	Israel Aerospace Industries (IAI) & Boeing:Israel & Alabama	7.070	3.535	Oct 2011	3.535	Oct 2012	-		3.535	Continuing	Continuing	Continuing
Israeli Systems Architecture and Integration (ISA&I) ISA&I	C/FFP	Wales LTD:Israel	5.751	2.827	Oct 2011	2.827	Oct 2012	-		2.827	Continuing	Continuing	Continuing
Subtotal			138.219	58.955		10.665		-		10.665			

Remarks
Prior years cost is for FY 2010 and FY 2011

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

UNCLASSIFIED

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Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Subtotal			-	-		-		-		-	0.000	0.000	0.000	

Remarks
N/A

	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract
		Cost	Award Date	Cost	Award Date	Cost	Award Date				
Project Cost Totals		138.219	58.955		10.665	-		10.665			

Remarks
Contract cost reflect U.S. contribution only.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD26: <i>Israeli ARROW Program</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD26: <i>Israeli ARROW Program</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
AWS Block 4.0 flight test in the U.S.	1	2011	4	2011
Arrow Weapon System Block 5.0 System Requirements Review	1	2011	4	2011
Three Israeli Test Bed Experiments FY 2011	1	2011	4	2011
Israeli Test Bed Exercise FY 2011	1	2011	4	2011
Target fly-out flight test in Israel FY 2012	1	2012	4	2012
Arrow Weapon System Block 5.0 Preliminary Design Review	1	2012	4	2012
GTI-04 (ISR) - ASIP event in FY 2012	1	2012	4	2012
Three Israeli Test Bed Experiments FY 2012	1	2012	4	2012
Israeli Test Bed Exercise FY 2012	1	2012	4	2012
Arrow Weapon System Block 5.0 Critical Design Review	1	2012	4	2012
Interoperability Test FY 2012	1	2012	4	2012
Three Israeli Test Bed Experiments FY 2013	1	2013	4	2013
Israeli Test Bed Exercise FY 2013	1	2013	4	2013
Three Israeli Test Bed Experiment FY 2014	1	2014	4	2014
Israeli Test Bed Exercise FY 2014	1	2014	4	2014
Interoperability Test FY 2014	1	2014	4	2014
Three Israeli Test Bed Experiments FY 2015	1	2015	4	2015
Israeli Test Bed Exercise FY 2015	1	2015	4	2015
Arrow Intercept Flight Test - FY 2015(1)	1	2015	4	2015
Arrow Intercept Flight Test - FY 2015(2)	1	2015	4	2015
Three Israeli Test Bed Experiments FY 2016	1	2016	4	2016
Israeli Test Bed Exercise FY 2016	1	2016	4	2016

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD26: <i>Israeli ARROW Program</i>
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Events	Start		End	
	Quarter	Year	Quarter	Year
Three Israeli Test Bed Experiments FY 2017	1	2017	4	2017
Israeli Test Bed Exercise FY 2017	1	2017	4	2017

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>
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COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>	84.292	110.525	38.279	-	38.279	32.512	31.734	37.138	37.882	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0		0	0	0	0	0		

Note

N/A

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 Short Range Ballistic Missile Defense (SRBMD) program is to provide an affordable 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 complement 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. The system is to be developed in blocks with the initial block providing a baseline capability against large caliber rockets and short range ballistic missiles. The DSWS is comprised of the Stunner Interceptor, Battle Management Center and the integration of the Multi-Mission Radar, and the Missile Firing Unit.

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 contributions. However a portion of the Israeli cost share is from previously completed work per our international agreements.

B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)

	FY 2011	FY 2012	FY 2013
Title: SRBMD Program	84.292	110.525	38.279
Articles:	0	0	0
Description: See Description Below			
FY 2011 Accomplishments:			
-Conducted Radar Field Test #1 to assess initial radar acquisition and track capability.			
-Conducted final Block 1 Critical Design Review which enabled production of test articles and software.			
-Completed Block 1 performance analysis studies to finalize assessment of capability to meet performance requirements.			
-Conducted two interceptor controlled navigation fly-out flight tests that verified aerodynamic performance and control capability which solidified some sub-system designs for a Low Rate Initial Production (LRIP) decision.			
FY 2012 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2013 Missile Defense Agency		DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2011	FY 2012	FY 2013
<ul style="list-style-type: none"> -Conduct Safe Separation Test 1.1 with production representative canister. -Conduct one Block One System Interception Test. -Conduct one Block One System Fly-by Test. -Complete 3 Knowledge Points to provide critical data to assess viability of subsystem and system designs. -Conduct Lower Tier BMC development System Readiness Review and Preliminary Design Review. -Initiate Block 2 development efforts through System Readiness Review and initial Preliminary Design Review. -Conduct Production Readiness Review and Procure Long Lead Items for Initial Lot Production. -Initiate Stunner Qualification Testing. -Conduct Seeker Critical Design Review. -EO Seeker hardware and software testing in a closed and open loop. -Finalize initial Stunner flight control algorithms for Block One. -Conduct Radar Field Test #2 and #3 to assess radar acquisition and track capability. <p>FY 2013 Plans:</p> <ul style="list-style-type: none"> -Complete data analysis of intercept test to validate Block 1 functionality. -Complete 2 Knowledge Points which provide critical data to assess viability of subsystem and system design and intercept cost. -Complete Block 2 Critical Design Review which expands the DSWS threat set. -Continue Block 3 Development which enables the engagement of an expanded threat set and expands the battle space by 300 percent. -Evaluate Field Test #3 against model and simulation expectations and Technical Performance Measurements. 				
Accomplishments/Planned Programs Subtotals		84.292	110.525	38.279
C. Other Program Funding Summary (\$ in Millions)				
N/A				
D. Acquisition Strategy				
<p>As a bi-lateral cooperative program with the State of Israel, the SRBMD program does not follow standard DoD Acquisition Practices. The DoD U.S. Israeli Cooperative Program Office jointly manages the SRBMD program with IMoD to ensure that all systems are delivered with on time, on budget and meet the needs of the warfighter. The DSWS Project Agreement allows Israel to contract on behalf of the United States. For the Stunner Interceptor, Rafael, an Israeli company, subcontracts to Raytheon Missile Systems for certain interceptor components.</p>				
E. Performance Metrics				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>
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Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
SRBMD Program SRBMD Program	C/CPFF	Rafael:Israel	156.547	110.525	Mar 2012	38.279	Mar 2013	-		38.279	Continuing	Continuing	Continuing
Subtotal			156.547	110.525		38.279		-		38.279			

Remarks
Prior years cost is for FY 2010 and FY 2011

Support (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

Remarks
N/A

Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-	0.000	0.000	0.000

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>
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Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost				
Remarks N/A														
			Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	
Project Cost Totals			156.547	110.525		38.279		-		38.279				

Remarks
Contract cost reflect U.S. contribution only.

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Exhibit R-4, RDT&E Schedule Profile: PB 2013 Missile Defense Agency		DATE: February 2012
APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>

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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Missile Defense Agency **DATE:** February 2012

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 4: <i>Advanced Component Development & Prototypes (ACD&P)</i>	R-1 ITEM NOMENCLATURE PE 0603913C: <i>Israeli Cooperative Programs</i>	PROJECT MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Block 1, V1B Critical Design Review	1	2011	4	2011
Stunner Interceptor Fly-out #1.2 FY 2011	1	2011	4	2011
Stunner Interceptor Fly-out #2 FY 2011	1	2011	4	2011
Block 1, V2 Critical Design Review	1	2011	4	2011
Radar Field Test FY 2011	1	2011	4	2011
Interceptor Flight Test FY 2012 #1	1	2012	4	2012
Interceptor Flight Test FY 2012 #2	1	2012	4	2012
Block 2.0 Preliminary Design Review	1	2012	4	2012
Block 3.0 Preliminary Design Review	1	2012	4	2012
Production Readiness Review	1	2012	4	2012
Block 1, V3 Critical Design Review	1	2012	4	2012
Radar Field Test #2 and #3 FY 2012	1	2012	4	2012
System Flight Test #3 FY 2013	1	2013	4	2013
System Flight Test #4 FY 2013	1	2013	4	2013
Block 2 Critical Design Review	1	2013	4	2013
Block 3 Critical Design Review	1	2014	4	2014
System Flight Test #5 FY 2014	1	2014	4	2014
System Flight Test #6 FY 2014	1	2014	4	2014
System Flight Test #7 FY 2014	1	2014	4	2014
System Flight Test #8 FY 2015	1	2015	4	2015
System Flight Test #9 FY 2016	1	2016	4	2016
System Flight Test #10 FY 2016	1	2016	4	2016