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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
Total Program Element	1,123.117	268.842	267.595	103.835	-	103.835	105.612	108.271	110.009	112.168	Continuing	Continuing
MD20: <i>Israeli Upper Tier</i>	319.548	74.707	74.550	55.793	-	55.793	56.861	58.285	59.225	60.392	Continuing	Continuing
MD26: <i>Israeli ARROW Program</i>	249.294	56.201	56.519	10.831	-	10.831	10.833	11.117	11.285	11.505	Continuing	Continuing
MD34: <i>Short Range Ballistic Missile Defense (SRBMD)</i>	554.275	137.934	136.526	37.211	-	37.211	37.918	38.869	39.499	40.271	Continuing	Continuing

Program MDAP/MAIS Code: 362

Note

Content supports expected contributions from Israel per international agreements.

A. Mission Description and Budget Item Justification

Since 1986, the United States and the State of Israel have cooperated on missile defense. Currently, Missile Defense Agency (MDA) has three major projects with Israel to develop and improve their indigenous capability to defend against short and medium range ballistic missiles. These include Upper Tier Interceptors (MD20), the Arrow Weapon System (MD26) and the Short-Range Ballistic Missile Defense, also known as the David's Sling Weapon System (MD34). Within these projects MDA develops and produces weapon systems, conducts tests, and exercises interoperability between U.S. Ballistic Missile Defense System (BMDS) and the Israeli Missile Defense Architecture.

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

Israeli Upper Tier Interceptor (UTI) Project (MD20): The Upper Tier Program provides the Arrow-3 missile, increasing the system's capability against advanced medium range threats by providing approximately four times the current Arrow-2 battle space. The primary near term objective is to complete and demonstrate Upper Tier design, and initiate acquisition for Long Lead items and begin Initial Lot Production (ILP).

Israeli Arrow Weapon System (AWS) (MD26): The Arrow System Improvement Program (ASIP) includes block upgrades to the AWS that enhances capabilities against evolving medium range 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 Green Pine (SGP) Radars, and the Hazelnut Tree Launcher Control Center (LCC). Also included is the integration of Block 5 assets which include the Arrow-3 missile and launcher. Arrow Block 5, under the ASIP agreement will also incorporate a Long Range Detection suite that consists of an unmanned aerial vehicle Airborne Early Warning System (ABEWS) and an S-Band Silver Oak radar for increased sensor range, early detection and enhanced raid size capacity. The program also includes the continued development of Arrow's interoperability with U.S. 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 2025 Israel Missile Defense Architecture.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2017 Missile Defense Agency	Date: February 2016
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Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 4: Advanced Component Development & Prototypes (ACD&P)</i>	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>
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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, cruise missiles, and tactical ballistic missiles and will be integrated into the Israeli Missile Defense Architecture adding another layer of defense to the current Arrow System. Block 1 capability will enhance the short range rocket and missile defense capability. Block 2 will add capability to defend against medium range and cruise missiles. Block 3 will provide robust defense capability and add significant detection capability to the Israeli Air Defense Architecture The David`s Sling Weapon System (DSWS) includes the Stunner Interceptor, Missile Firing Unit (MFU), Multi-Mission Radar (MMR), Launch Site Controller (LSC) and the Golden Almond Battle Management Center (BMC). The near term objectives are completion of Block 1 development, demonstrate system capability and flight test, and procure material of Initial Lot Production (ILP) utilizing Research, Development, Test, & Evaluation (RDT&E) funding and field the system to the Israeli Air Force for first unit delivery in 2016.

B. Program Change Summary (\$ in Millions)	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total
Previous President's Budget	268.842	102.795	104.923	-	104.923
Current President's Budget	268.842	267.595	103.835	-	103.835
Total Adjustments	0.000	164.800	-1.088	-	-1.088
• Congressional General Reductions	0.000	0.000			
• Congressional Directed Reductions	0.000	0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds	0.000	164.800			
• Congressional Directed Transfers	0.000	0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustment	0.000	0.000	-1.088	-	-1.088

Change Summary Explanation

N/A

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MD20: <i>Israeli Upper Tier</i>	319.548	74.707	74.550	55.793	-	55.793	56.861	58.285	59.225	60.392	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

This project code encompasses the Missile Defense Agency's (MDA) U.S.-Israeli cooperative program 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, material procurement to include initial lot production, and integration of spiral software development for Block 5 AWS. The United States through the cooperative effort gains knowledge and experience of the Israeli Defense Forces operation of a multi-layered defense architecture. This project also includes the procurement of the Silver Sparrow Air-Launched Target which is necessary to validate the performance of the Arrow-3 Missile and related Block 5 spiral development activities.

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.

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

	FY 2015	FY 2016	FY 2017
Title: Upper Tier Interceptor	74.707	74.550	55.793
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments:			
-Continued lab testing to demonstrate discrimination Knowledge Points.			
-Conducted one Element-Level Knowledge Point demonstration to provide critical data to assess viability of component design.			
-Began Arrow-3 component Production Readiness Reviews for Initial Lot Production.			
FY 2016 Plans:			
-Conduct Interceptor Test #1 of the Arrow-3 Interceptor.			
-Conduct algorithm design review for Interceptor Test Number #2 and 3 to verify requirements.			
-Continue procurement of Initial Lot Production assets.			
-Conduct Upper Tier Interceptor Production Readiness Review (PRR).			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> -Continue spiral development of Arrow 3. -Acquire targets for use in Flight Tests <p><i>FY 2017 Plans:</i></p> <ul style="list-style-type: none"> -Conduct Interceptor Test #2 of the Arrow-3 Interceptor. -Conduct algorithm design review for Interceptor Test Number #4 to verify requirements. -Continue procurement of Initial Lot Production assets. 				
Accomplishments/Planned Programs Subtotals		74.707	74.550	55.793
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>The Upper-Tier Interceptor Project Agreement under the Research, Development, Test and Evaluation (RDT&E) Framework agreement between the U.S. and Israel creates a joint program office to manage this program. Missile Defense Agency (MDA) and the Israeli Ministry of Defense (IMoD) continue to implement best management practices that allow for the more effective use of program management tools to ensure risk is adequately managed to include Knowledge Points that assess Israel's development progress. The DoD U.S. Israeli Cooperative Program Office jointly manages the Upper Tier program with IMoD to ensure that all systems are delivered on time, on budget, and meet the needs of the warfighter. The program is equitably funded between the U.S. and Israel. A portion of the Israeli cost share comes from non-financial contributions such as previously completed work prior to joint program initiation. Contracts are awarded by IMoD or MDA dependent on what is most advantageous to the Joint Governments. In regard to the Upper Tier Interceptor, IMoD will contract with Israel Aerospace Industries (IAI). IAI subcontracts with Israeli companies, Boeing and other U.S. companies.</p>				
E. Performance Metrics				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Upper Tier Interceptor - Upper Tier Interceptor	C/CPFF	Israel Aerospace Industries (IAI) : Israel	319.548	74.707		74.550	Dec 2015	55.793	Dec 2016	-		55.793	Continuing	Continuing	Continuing
Subtotal			319.548	74.707		74.550		55.793		-		55.793	-	-	-

Remarks
N/A

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	319.548	74.707	74.550	55.793	-	55.793	-	-	-

Remarks
Contract cost reflect U.S. contribution only. Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>

Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity +
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ☆

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Israeli Cooperative Arrow 3 Intercept Test #1- FY 2016					+	+	+	+																				
Israeli Cooperative Arrow 3 Intercept Test #2- FY 2017									◆	◆	◆	◆																
Israeli Cooperative Arrow 3 Intercept Test #3 FY 2018													◆	◆	◆	◆												
Israeli Cooperative Arrow 3 Intercept Test #4- FY 2019																	◆	◆	◆	◆								
Israeli Cooperative Arrow 3 Intercept Test #5- FY 2020																					◆	◆	◆	◆				
Israeli Cooperative Arrow 3 Intercept Test #6 FY 2021																									◆	◆	◆	◆

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD20 / <i>Israeli Upper Tier</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Israeli Cooperative Arrow 3 Intercept Test #1- FY 2016	1	2016	4	2016
Israeli Cooperative Arrow 3 Intercept Test #2- FY 2017	1	2017	4	2017
Israeli Cooperative Arrow 3 Intercept Test #3 FY 2018	1	2018	4	2018
Israeli Cooperative Arrow 3 Intercept Test #4- FY 2019	1	2019	4	2019
Israeli Cooperative Arrow 3 Intercept Test #5- FY 2020	1	2020	4	2020
Israeli Cooperative Arrow 3 Intercept Test #6 FY 2021	1	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>
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COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MD26: <i>Israeli ARROW Program</i>	249.294	56.201	56.519	10.831	-	10.831	10.833	11.117	11.285	11.505	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

N/A

A. Mission Description and Budget Item Justification

This project includes funding for the Arrow Weapon Improvement System (ASIP), Israeli Test Bed (ITB) and the Israeli Systems Architecture and Integration (ISA&I).

The Arrow Weapon System (AWS) continues development of Block 4. Also included is the integration of Block 5 assets which consists of the Arrow-3 missile, launcher and the Long Range Detection Suite (LRDS). The LRDS consists of an unmanned aerial vehicle Airborne Early Warning System (ABEWS) and an S-Band Silver Oak radar for increased sensor range and early detection and enhanced salvo engagement capability. 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 Green Pine (SGP) Radars, and the Hazelnut Tree Launcher Control Center (LCC). The ASIP also ensures AWS interoperability via Joint Tactical Information Data System (JTIDS) Link-16 common communication architecture with the U.S. Ballistic Missile Defense System elements such as Terminal High Altitude Area Defense (THAAD), AEGIS, Command and Control, Battle Management, and Communications (C2BMC), Army Navy/Transportable Radar Surveillance and Control (AN/TPY-2), and Phased Array Tracking Intercept of Target (PATRIOT) through ground tests, flight tests, and operational exercises.

The Israeli Test Bed (ITB) provides experiments to evaluate Human Machine Interface (HMI) battle management. Israeli Systems Architecture and Integration (ISA&I) conducts studies to assess Israel's future 2025 Missile Defense Architecture. 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 2015	FY 2016	FY 2017
Title: Arrow System Improvement Program	49.839	50.157	4.469
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments:			
-Continued Block 5 Arrow Weapon System integration.			
-Continued Long Range Detection Suite Development.			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<p>-Conducted Lab and flight testing and analysis to demonstrate and complete Knowledge Points.</p> <p>FY 2016 Plans:</p> <p>-Continue Block 5 Arrow Weapon System integration. -Continue Long Range Detection Suite Development. -Conduct Lab and flight testing and analysis to demonstrate and complete Knowledge Points.</p> <p>FY 2017 Plans:</p> <p>-Continue Block 5 Arrow Weapon System integration.</p>				
<p>Title: Israeli Test Bed (ITB)</p> <p>Description: N/A</p> <p>FY 2015 Accomplishments:</p> <p>-Conducted HMI experiments with warfighters to integrate David's Sling Weapon System (DSWS) and Iron Dome into Lower Tier TTPs and CONOPS. -Conducted HMI experiments with warfighters to integrate Block 5 Arrow Weapon System TTPs and CONOPS.</p> <p>FY 2016 Plans:</p> <p>-Conduct HMI experiments with warfighters to integrate Block 5 Arrow Weapon System TTPs and CONOPS.</p> <p>FY 2017 Plans:</p> <p>-Conduct HMI experiments with warfighters to integrate Block 5 Arrow Weapon System TTPs and CONOPS.</p>		<p>3.535</p> <p>Articles: -</p>	<p>3.535</p> <p>-</p>	<p>3.535</p> <p>-</p>
<p>Title: Israeli Systems Architecture and Integration (ISA&I)</p> <p>Description: N/A</p> <p>FY 2015 Accomplishments:</p> <p>-Conducted studies and analysis to identify the preferred missile defense architecture and reference threat for 10-15 year future epoch and interoperability special studies on regional threats and growth path options.</p> <p>FY 2016 Plans:</p> <p>-Conduct studies and analysis to identify the preferred missile defense architecture and reference threat for 10-15 year future epoch and interoperability special studies on regional threats and growth path options.</p> <p>FY 2017 Plans:</p>		<p>2.827</p> <p>Articles: -</p>	<p>2.827</p> <p>-</p>	<p>2.827</p> <p>-</p>

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
-Conduct studies and analysis to identify the preferred missile defense architecture and reference threat for 10-15 year future epoch and interoperability special studies on regional threats and growth path options.				
Accomplishments/Planned Programs Subtotals		56.201	56.519	10.831
C. Other Program Funding Summary (\$ in Millions) N/A				
Remarks				
D. Acquisition Strategy 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. The program funding is equitably funded 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. Contracts are awarded by IMoD or MDA dependent on what is most advantageous to the Joint Governments. In regard to Arrow System Improvement Program (ASIP), IMoD contracts on behalf of U.S. government with Israel Aerospace Industries (IAI). IAI subcontracts with Israeli and U.S. companies. For the Israeli Test Bed, the Missile Defense Agency (MDA) contracts directly with Elbit Systems, Ltd. while IMoD provides an equitable share of the funding to the U.S. Finally, MDA contracts directly with WALES, Ltd for the Israeli System Architecture and Integration program.				
E. Performance Metrics N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>
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Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Arrow System Improvement Program - Arrow System Improvement Program (ASIP)	C/CPFF	Israel Aerospace Industries (IAI) : Israel	213.852	49.839		50.157	Dec 2015	4.469	Dec 2016	-		4.469	Continuing	Continuing	Continuing
Israeli Test Bed (ITB) - Israeli Test Bed	C/FFP	Elbit Systems : Israel	21.210	3.535		3.535	Oct 2015	3.535	Dec 2016	-		3.535	Continuing	Continuing	Continuing
Israeli Systems Architecture and Integration (ISA&I) - ISA&I	C/FFP	Wales LTD : Israel	14.232	2.827		2.827	Oct 2015	2.827	Dec 2016	-		2.827	Continuing	Continuing	Continuing
Subtotal			249.294	56.201		56.519		10.831		-		10.831	-	-	-

Remarks
N/A

Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			
Subtotal			-	-		-		-		-		-	-	-	-

Remarks
N/A

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	249.294	56.201	56.519	10.831	-	10.831	-	-	-

Remarks
Contract cost reflect U.S. contribution only.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>

Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity ✦
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity ✧

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2015	✦	✦	✦	✦																								
Israeli Test Bed Experiments FY 2015	✦	✦	✦	✦																								
Israeli Test Bed Exercise with Warfighter FY2015	✦	✦	✦	✦																								
Israeli Test Bed Human-Machine Interface Experiment with Warfighter FY2015	✦	✦	✦	✦																								
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2016					✦	✦	✦	✦																				
Israeli Test Bed Experiments FY 2016					✦	✦	✦	✦																				
Israeli Test Bed Exercise with Warfighter FY2016					✦	✦	✦	✦																				
Israeli Test Bed Human-Machine Interface Experiment with Warfighter FY2016					✦	✦	✦	✦																				
Israeli Test Bed Experiments FY 2017									✦	✦	✦	✦																
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2017									✦	✦	✦	✦																
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2018													✦	✦	✦	✦												
Israeli Test Bed Experiments FY 2018													✦	✦	✦	✦												
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2019																	✦	✦	✦	✦								
Israeli Test Bed Experiments FY 2019																	✦	✦	✦	✦								
Israeli Test Bed Experiments FY 2020																					✦	✦	✦	✦				
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2020																					✦	✦	✦	✦				
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2021																									✦	✦	✦	✦
Israeli Test Bed Experiments FY 2021																									✦	✦	✦	✦

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD26 / <i>Israeli ARROW Program</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2015	1	2015	4	2015
Israeli Test Bed Experiments FY 2015	1	2015	4	2015
Israeli Test Bed Exercise with Warfighter FY2015	1	2015	4	2015
Israeli Test Bed Human-Machine Interface Experiment with Warfighter FY2015	1	2015	4	2015
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2016	1	2016	4	2016
Israeli Test Bed Experiments FY 2016	1	2016	4	2016
Israeli Test Bed Exercise with Warfighter FY2016	1	2016	4	2016
Israeli Test Bed Human-Machine Interface Experiment with Warfighter FY2016	1	2016	4	2016
Israeli Test Bed Experiments FY 2017	1	2017	4	2017
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2017	1	2017	4	2017
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2018	1	2018	4	2018
Israeli Test Bed Experiments FY 2018	1	2018	4	2018
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2019	1	2019	4	2019
Israeli Test Bed Experiments FY 2019	1	2019	4	2019
Israeli Test Bed Experiments FY 2020	1	2020	4	2020
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2020	1	2020	4	2020
Israeli Test Bed Exercise to include Ground Test (GT) Support FY 2021	1	2021	4	2021
Israeli Test Bed Experiments FY 2021	1	2021	4	2021

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency										Date: February 2016		
Appropriation/Budget Activity 0400 / 4					R-1 Program Element (Number/Name) PE 0603913C / Israeli Cooperative Programs				Project (Number/Name) MD34 / Short Range Ballistic Missile Defense (SRBMD)			
COST (\$ in Millions)	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	FY 2018	FY 2019	FY 2020	FY 2021	Cost To Complete	Total Cost
MD34: Short Range Ballistic Missile Defense (SRBMD)	554.275	137.934	136.526	37.211	-	37.211	37.918	38.869	39.499	40.271	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

Funding in the All Prior Years column represents a summary of Prior Years Total Costs for active contracts, Military Interdepartmental Purchase Requests, and civilian salaries on the R-3.

A. Mission Description and Budget Item Justification

The goal of the Israeli Short Range Ballistic Missile Defense (SRBMD) program, also known as the David's Sling Weapon System (DSWS) is to provide an affordable SRBM, cruise missiles and large caliber rocket defense capability. The current Program Agreement utilizes Research, Development, Test, & Evaluation (RDT&E) funding to develop the capability against large caliber rockets, cruise missiles and short range ballistic missiles and procure material for Initial Lot Production (ILP). The DSWS is comprised of the Stunner Interceptor, Golden Almond Battle Management Center, the Multi-Mission Radar, Launch Site Controller and the Missile Firing Unit.

Under the U.S.-Israeli Project Agreement signed in September 2010, the DSWS Program is jointly managed by the U.S. Missile Defense Agency and the Israeli Missile Defense Organization. Responsibilities and cost share are specified in the Project Agreement. Development costs are equitably shared between the U.S. and Israel.

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

	FY 2015	FY 2016	FY 2017
Title: SRBMD Program	137.934	136.526	37.211
Articles:	-	-	-
Description: N/A			
FY 2015 Accomplishments:			
- Completed Initial Lot Production (ILP) delivery of first Battle Management Center.			
- Completed Block Two System Preliminary Design Review (PDR).			
- Conducted ground test and simulations to validate missile and system performance to complete four Knowledge points and provide data to assess subsystem and system design robustness.			
- Conducted 1 Block One system intercept test with production representative interceptor to validate the Block One system performance.			
FY 2016 Plans:			
-Deliver Initial Lot Production (ILP) Interceptors to the Israeli Air Force.			
-Conduct 1 Block One system intercept test with ILP Interceptor to demonstrate production stunner performance.			

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Exhibit R-2A, RDT&E Project Justification: PB 2017 Missile Defense Agency		Date: February 2016		
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD34 / <i>Short Range Ballistic Missile Defense (SRBMD)</i>		
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2015	FY 2016	FY 2017
<ul style="list-style-type: none"> -Continue Block 2 Development and conduct Critical Design Review. -Complete remaining Block One Knowledge Points and conduct final Performance Design Review -Conduct ground test and simulations to validate missile and system performance and provide data to assess subsystem and system design robustness. -Conduct ILP Production Readiness Review -Conduct Test Preliminary Design Reviews for FY2017 Block One and Two Flight Tests <p>FY 2017 Plans:</p> <ul style="list-style-type: none"> -Conduct 1 Block 2 System Intercept Test to demonstrate cruise missile defense performance -Deliver final Initial Lot Production (ILP) Interceptors to the Israeli Air Force 				
Accomplishments/Planned Programs Subtotals		137.934	136.526	37.211
C. Other Program Funding Summary (\$ in Millions)				
N/A				
Remarks				
D. Acquisition Strategy				
<p>The Short Range Ballistic Missile Defense (SRBMD), also known as the David's Sling Weapon System (DSWS) Project Agreement under the Research, Development, Test and Evaluation (RDT&E) Framework agreement between the U.S. and Israel creates a joint program office to manage this program. Missile Defense Agency (MDA) and the Israeli Ministry of Defense (IMoD) continue to implement management practices that allow for the more effective use of program management tools to ensure risk is adequately managed to include Knowledge Points that assess Israel's development progress. The DoD U.S. Israeli Cooperative Program Office jointly manages the SRBMD/DSWS program with IMoD to ensure that all systems are delivered in an effective manner, and meet the needs of the warfighter. The program is equitably funded between the U.S. and Israel. A portion of the Israeli cost share comes from non-financial contributions such as previously completed work prior to joint program initiation. Contracts are awarded by IMoD or MDA dependent on what is most advantageous to the Joint Governments. For the Stunner Interceptor, Rafael Advanced Systems (an Israeli company), subcontracts to Raytheon Missile Systems for Stunner interceptor components.</p>				
E. Performance Metrics				
N/A				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency												Date: February 2016			
Appropriation/Budget Activity				R-1 Program Element (Number/Name)				Project (Number/Name)							
0400 / 4				PE 0603913C / Israeli Cooperative Programs				MD34 / Short Range Ballistic Missile Defense (SRBMD)							
Product Development (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	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	554.275	137.934		136.526	Dec 2015	37.211	Dec 2016	-		37.211	Continuing	Continuing	Continuing
Subtotal			554.275	137.934		136.526		37.211		-		37.211	-	-	-
Remarks															
N/A															
Support (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Remarks															
N/A															
Test and Evaluation (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-
Remarks															
N/A															
Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			-	-		-		-		-		-	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2017 Missile Defense Agency **Date:** February 2016

Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD34 / <i>Short Range Ballistic Missile Defense (SRBMD)</i>
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Management Services (\$ in Millions)				FY 2015		FY 2016		FY 2017 Base		FY 2017 OCO		FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost			

Remarks
N/A

	Prior Years	FY 2015	FY 2016	FY 2017 Base	FY 2017 OCO	FY 2017 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	554.275	137.934	136.526	37.211	-	37.211	-	-	-

Remarks
Contract cost reflect U.S. contribution only.

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Exhibit R-4, RDT&E Schedule Profile: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD34 / <i>Short Range Ballistic Missile Defense (SRBMD)</i>

Significant Event Complete ▲ Milestone Decision Complete ★ Element Test Complete ◆ System Level Test Complete ● Complete Activity +
 Significant Event Planned △ Milestone Decision Planned ☆ Element Test Planned ◇ System Level Test Planned ○ Planned Activity +

	FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020				FY 2021			
	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
System Flight Test #3 FY 2015	+	+	+	+																								
System Flight Test #4 FY 2016					+	+	+	+																				
System Flight Test #5 FY 2017									+	+	+	+																
System Flight Test #6 FY 2018													+	+	+	+												
System Flight Test #7 FY 2019																	+	+	+	+								
System Flight Test #8 FY 2020																					+	+	+	+				
System Flight Test #9 FY 2021																									+	+	+	+

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Exhibit R-4A, RDT&E Schedule Details: PB 2017 Missile Defense Agency		Date: February 2016
Appropriation/Budget Activity 0400 / 4	R-1 Program Element (Number/Name) PE 0603913C / <i>Israeli Cooperative Programs</i>	Project (Number/Name) MD34 / <i>Short Range Ballistic Missile Defense (SRBMD)</i>

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
System Flight Test #3 FY 2015	1	2015	4	2015
System Flight Test #4 FY 2016	1	2016	4	2016
System Flight Test #5 FY 2017	1	2017	4	2017
System Flight Test #6 FY 2018	1	2018	4	2018
System Flight Test #7 FY 2019	1	2019	4	2019
System Flight Test #8 FY 2020	1	2020	4	2020
System Flight Test #9 FY 2021	1	2021	4	2021

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