



# MEADS

## *DoD Budget FY2013-FY2017*

### RDT&E | U.S. Army



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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				R-1 ITEM NOMENCLATURE PE 0604869A: <i>Patriot/MEADS Combined Aggregate Program (CAP)</i>							
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	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing

Note

FY 2011 - Congressional Reduction  
 FY 2012 - Congressional Reduction  
 FY 2013 - Congressional adjustment

A. Mission Description and Budget Item Justification

Medium Extended Air Defense System (MEADS) provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

MEADS is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (NATO) contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 2005 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 billion D&D definitized contract to MEADS International Inc. on May 31, 2005.

MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE)interceptor; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.



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The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.

The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.

<u>B. Program Change Summary (\$ in Millions)</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013 Base</u>	<u>FY 2013 OCO</u>	<u>FY 2013 Total</u>
Previous President's Budget	467.139	406.605	397.053	-	397.053
Current President's Budget	450.584	389.630	400.861	-	400.861
Total Adjustments	-16.555	-16.975	3.808	-	3.808
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-13.778	-			
• Adjustments to Budget Years	-	-	3.808	-	3.808
• Other Adjustments 1	-2.777	-16.975	-	-	-



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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
M06: <i>PATRIOT/MEADS COMBINED AGGREGATE PROGRAM (CAP)</i>	450.584	389.630	400.861	-	400.861	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											

A. Mission Description and Budget Item Justification

MEADS provides joint and coalition forces critical asset and defended area protection against multiple and simultaneous attacks by short-to-medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems, and tactical air-to-surface missiles. This system leverages current technology for an Integrated Air and Missile Defense Fire Control System/capability.

Medium Extended Air Defense System (MEADS) is a tri-national co-development program among the United States, Germany, and Italy to replace the PATRIOT and HAWK systems in Germany, and NIKE Hercules systems in Italy. The NATO MEADS Management Agency (NAMEADSMA) is the North Atlantic Treaty Organization (NATO) contracting authority providing management of the MEADS program on behalf of the participating nations and is responsible for managing the system acquisition. The U.S. and Italy signed the Design and Development (D&D) MOU on September 24, 2004, and September 27, 2004, respectively. The NAMEADSMA awarded the MEADS D&D letter contract to MEADS International Inc. on September 28, 2004, initiating the MEADS D&D phase. The MOU was amended in March 2005 by the U.S. and Italy to allow the German Parliament additional time for their signature decision and on April 22, 2005 Germany signed the MOU. NAMEADSMA awarded a \$3.4 billion D&D definitized contract to MEADS International Inc. on May 31, 2005.

MEADS is designed to provide joint and coalition forces, critical asset and defended area protection against multiple and simultaneous attacks by short to medium range ballistic missiles, cruise missiles, manned and unmanned aerial systems and tactical air-to-surface missiles. MEADS is being developed to have a netted and distributed architecture with modular components to increase survivability and flexibility of employment in a number of operational configurations. The objective MEADS Fire Unit, designed to be scalable and tailorable to operational requirements, will consist of: two Battle Management Command, Control, Communication, Computers and Intelligence (BMC4I) tactical operations center (TOC), enabling distributed system operations and Beyond-Line-of-Site (BLOS) engagements for maximum protection of supported forces by engaging at longer ranges; six near-vertical launchers capable of transporting and launching up to eight missiles; three launcher reloaders; the PAC-3 Missile Segment Enhancement (MSE)interceptor; an ultra-high frequency (UHF) Surveillance Radar (SR) that provides 360-degree coverage and near-range to long-range detection of low radar cross-section targets; and two X-band Multifunction Fire Control Radars (MFCR) that provide 360-degree coverage and are designed for high-precision handover to the in-flight missile, discrimination capabilities, and short-range target detection and horizon search.

The U.S. rendered a MEADS program decision in Feb 2011 to continue the D&D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract amendment on 31 October 2011.



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<p>The PAC-3 system is continuously being improved via hardware and software changes. The latest missile improvement is the MSE and has been accepted as the baseline missile for MEADS. It is being developed by the U.S. for PATRIOT to meet U.S. operational requirements. The MSE will provide a more agile and lethal interceptor that increases the engagement envelope/defended area of PATRIOT and the MEADS systems. The MSE improves upon the current PAC-3 missile capability with a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements. PAC-3 is reported under Program Element 0605456A.</p>					
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>			<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<i>Title:</i> Medium Extended Air Defense Missile System (MEADS) Design and Development (D&D)			393.542	340.500	328.200
			<i>Articles:</i>	0	0
<p><i>Description:</i> U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract.</p> <p><i>FY 2011 Accomplishments:</i> U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to implement a demonstration of capabilities effort.</p> <p><i>FY 2012 Plans:</i> Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to implement a demonstration of capabilities effort.</p> <p><i>FY 2013 Plans:</i> Continue the U.S. contribution to the North Atlantic Treaty Organization (NATO) MEADS Management Agency (NAMEADSMA) International Program Office operational (prime contract) and administrative (support contracts/personnel/travel) budgets to manage the Design and Development (D&amp;D) Phase Contract to implement a demonstration of capabilities effort.</p>					
<i>Title:</i> MEADS Design and Development Program Integration			30.954	25.536	46.387
			<i>Articles:</i>	0	0
<p><i>Description:</i> Implement program integration efforts focusing the remaining activities on a demonstration of capabilities effort.</p> <p><i>FY 2011 Accomplishments:</i> Implement program integration efforts focusing on activities to implement a demonstration of capabilities effort.</p> <p><i>FY 2012 Plans:</i></p>					



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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>		FY 2011	FY 2012	FY 2013
Continue to implement program integration efforts focusing on activities to implement a demonstration of capabilities effort. <i>FY 2013 Plans:</i> Continue to implement program integration efforts focusing on activities to implement a demonstration of capabilities effort.				
<i>Title:</i> National and International Program Office Support				
<i>Description:</i> Management, support and salaries for the MEADS National and International program offices.				
<i>FY 2011 Accomplishments:</i> Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort.				
<i>FY 2012 Plans:</i> Continue Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort.				
<i>FY 2013 Plans:</i> Continue Management, support and salaries for the MEADS National and International program offices, focusing on Design and Development (D&D) activities to implement a demonstration of capabilities effort.				
<i>Title:</i> MEADS US Only Efforts				
<i>Description:</i> US only efforts to support Exciter and Exportable Missile Model				
<i>FY 2011 Accomplishments:</i> Support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model.				
<i>FY 2012 Plans:</i> Continue support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model.				
<i>FY 2013 Plans:</i> Continue support for the U.S.-developed and technology-restricted Exciter and Exportable Missile Model.				
Accomplishments/Planned Programs Subtotals		8.588 0	12.808 0	14.749
Articles:		17.500 0	10.786 0	11.525
Articles:		450.584	389.630	400.861



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C. Other Program Funding Summary (\$ in Millions)

Line Item	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
• PE 0605456A: <i>Proj PA3, PAC-3/ MSE Missile</i>	121.475	88.909	69.209		69.209		130.348	63.975	65.771	Continuing	Continuing
• SSN C53101: <i>MSE Missile</i>		74.953	12.850		12.850		505.084	596.387	566.757	Continuing	Continuing
• PE 0102419A: <i>Proj E55, JLENS</i>	399.477	327.338	190.422		190.422		32.480	24.130	24.612	Continuing	Continuing
• PE 0605455A: <i>Proj S35 SLAMRAAM</i>	18.358	1.529								Continuing	Continuing
• SSN C81002: <i>SLAMRAAM Launcher</i>	2.355									Continuing	Continuing
• PE 0603305A: <i>Proj TR7, Protection Capability II - Intercept</i>	4.143	9.269	76.039		76.039		122.355	146.463	151.769	Continuing	Continuing
• SSN WK5053: <i>FAAD GBS</i>	258.413	3.958	7.980		7.980					Continuing	Continuing
• PE 0605457A: <i>PE 0605457A Proj S40, Army Integrated Air and Missile Defense (AIAMD)</i>	246.691	270.180	262.211		262.211		394.260	210.580	135.072	Continuing	Continuing
• SSN BZ5075: <i>Army IAMD Battle Command System (IBCS)</i>							103.453	281.828	426.582	Continuing	Continuing
• PE 0208053: <i>Proj 635, JOINT TACT GRD STATION-P31 (MIP)</i>	12.005	27.586	31.738		31.738		8.006	8.134	8.314	Continuing	Continuing
• SSN BZ8401: <i>Joint Tactical Ground Station (JTAGS)</i>	9.227	1.199	2.680		2.680		4.432	4.496	4.768	Continuing	Continuing
• PE 0604820A: <i>Proj E10, SENTINEL</i>		2.885	3.486		3.486		1.948	2.972	3.022	Continuing	Continuing
• PE 654741: <i>Project Numbers 126, 146 and 149</i>	34.209	83.010	72.611		72.611		18.246	18.456	20.049	Continuing	Continuing

D. Acquisition Strategy

On 1 July 2004, the Defense Acquisition Board approved the Acquisition Strategy (AS) for the PATRIOT/MEADS CAP Milestone B. On 6 April 2006, the Lower Tier Project Manager submitted a Program Deviation Report (PDR) to notify the Under Secretary of Defense for Acquisition, Technology, and Logistics, of changes affecting the 6 August 2004, approved PATRIOT/MEADS CAP Acquisition Program Baseline (APB). On 9 February 2006, the Army System Acquisition Review Council (ASARC) approved establishment of the Integrated Air and Missile Defense (IAMD) Project Office (PO) to lead development efforts for the Army IAMD. On 8 May 2006, the Army established the IAMD PO which will manage the U.S. Army's initiatives to implement the user's operational concept from a System-Centric focus to a Network-Centric, Component-Based (Plug and Fight) architecture. The PATRIOT/MEADS CAP Acquisition Program Baseline and Acquisition Strategy will be modified



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<p>to reflect these changes. The U.S. rendered a MEADS program decision on 11 Feb 2011 to continue the D&amp;D phase focusing remaining activities to implement a "demonstration of capabilities" through 2013 with the remaining MOU funds to provide a meaningful capability for Germany and Italy and a possible future option for the U.S. Based on this decision, NAMEADSMA developed a new D&amp;D detailed program schedule and the Board of Directors (BoD) approved it via a signed contract on 31 October 2011.</p>		
<p><b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		





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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army				PE 0604869A: Patriot/MEADS Combined				M06: PATRIOT/MEADS COMBINED					
BA 5: Development & Demonstration (SDD)				Aggregate Program (CAP)				AGGREGATE PROGRAM (CAP)					
Management Services (\$ in Millions)													
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Target Value of Contract	
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete		Total Cost
International Operating	Various	NAMEADSMA:Huntsville, AL	38.991	2.102		9.000		-		9.000	0.000	50.093	0.000
Gov't Program Services/Mgmt	Various	Lower Tier Project Office:Huntsville, AL	3.000	1.500		1.500		-		1.500	0.000	6.000	0.000
Subtotal			41.991	3.602		10.500		-		10.500	0.000	56.093	0.000
Product Development (\$ in Millions)													
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total		Target Value of Contract	
				Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete		Total Cost
Design and Development	Various	NAMEADSMA:Huntsville, AL	1,544.000	340.500		328.200		-		328.200	0.000	2,212.700	0.000
Program Integration	Various	Various:Huntsville, AL	143.890	13.361		27.698		-		27.698	0.000	184.949	0.000
Product Development Support	Various	Program Office:Huntsville, AL	51.082	6.406		6.400		-		6.400	0.000	63.888	0.000
U.S. Only Security / Exciter	SS/CPFF	Lockheed Martin:Syracuse, NY; Dallas, TX & Orlando, FL	73.035	7.500		7.276		-		7.276	0.000	87.811	0.000
U. S. Other Government Agencies (OGA's)	Various	Various:Huntsville, AL	42.120	5.132		5.972		-		5.972	0.000	53.224	0.000
International Program Office	Various	NAMEADSMA:Huntsville, AL	23.042	4.729		5.500		-		5.500	0.000	33.271	0.000
Systems Engineering	Various	AMRDEC:Huntsville, AL	30.667	3.200		3.600		-		3.600	0.000	37.467	0.000
U.S. Contracts	Various	Various:Huntsville, AL	61.947	5.200		5.715		-		5.715	0.000	72.862	0.000
Subtotal			1,969.783	386.028		390.361		-		390.361	0.000	2,746.172	0.000
			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			2,011.774	389.630		400.861		-		400.861	0.000	2,802.265	0.000



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	Total Prior Years Cost	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	Cost To Complete	Total Cost	Target Value of Contract	

Remarks



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