

**Missile Defense Agency**  
**President's Budget (PB) 2018-2022**  
**FY 2018- FY 2022 Appropriation Summary**  
**R-1 Exhibit**  
**(\$ Thousands)**

Line Number	Program Element	Budget Project	Program	Budget Activity	FY16 Actual	FY17	FY18	FY19	FY20	FY21	FY22	FY18-22
<b>O&amp;M</b>												
11A	0208866C		O&M	NA	422,950	467,275	504,058	495,950	522,599	544,281	574,889	2,641,777
		MD08	Ground Base Midcourse	NA	133,705	129,281	137,896	143,027	139,319	142,269	145,188	707,699
		MD07	THAAD	NA	57,925	72,099	78,761	87,478	92,082	91,832	93,716	443,869
		MD09	AEGIS	NA	43,500	73,039	96,346	86,784	109,209	107,246	117,367	516,952
		MD11	BMDS AN/TPY-2 Radars	NA	187,820	192,856	191,055	178,661	181,989	202,934	218,618	973,257
Budget Activity 00 Total					NA	422,950	467,275	504,058	495,950	522,599	544,281	2,641,777
O&M Total					NA	422,950	467,275	504,058	495,950	522,599	544,281	2,641,777
<b>Procurement</b>												
35	0208866C		PROCUREMENT	01	1,489,203	1,139,503	1,178,364	1,576,815	1,535,529	1,522,410	1,555,094	7,368,212
		MD07	THAAD	01	447,971	520,608	451,592	440,883	405,015	420,829	429,463	2,147,782
		MD09	AEGIS BMD	01	586,711	463,801	463,756	632,361	609,478	647,403	634,023	2,987,021
		MD26	Israeli Program	01	0	0	0	392,000	390,000	388,000	386,000	1,556,000
		MD11	BMDS AN/TPY-2 Radars	01	78,634	5,503	947	13,572	10,168	8,020	15,336	48,043
		MD73	Aegis Ashore Phase III	01	30,587	57,493	59,739	0	0	0	0	59,739
		MD34	David's Sling	01	150,000	0	0	0	0	0	0	0
		MD83	Iron Dome	01	55,000	42,000	42,000	0	0	0	0	42,000
		MD20	Arrow Upper Tier	01	15,000	0	0	0	0	0	0	0
		MD90	Aegis BMD Hardware and Software	01	125,300	50,098	160,330	97,999	120,868	58,158	90,272	527,627
Budget Activity 01 Total					01	1,489,203	1,139,503	1,178,364	1,576,815	1,535,529	1,522,410	7,368,212
Procurement Total					01	1,489,203	1,139,503	1,178,364	1,576,815	1,535,529	1,522,410	7,368,212
<b>RDT&amp;E</b>												
27	0603176C		Advanced Concepts and Performance Assessment	03	11,853	17,880	12,996	13,741	15,048	15,319	16,361	73,465
		MD71	Advanced Concepts and Performance Assessments	03	11,283	17,298	11,612	11,765	12,924	12,096	12,368	59,765
		MD40	Program-Wide Support	03	570	582	829	676	720	762	805	3,792
		MC71	Cyber Operations	03	0	0	555	1,300	2,404	2,461	3,188	9,908
28	0603177C		Discrimination Sensor Technology	03	27,981	0	0	0	0	0	0	0
		MD95	Discrimination Sensor Technology	03	23,141	0	0	0	0	0	0	0
		MT95	Discrimination Sensor Tech-Flight Test Execution	03	3,693	0	0	0	0	0	0	0
		MD40	Program-Wide Support	03	1,147	0	0	0	0	0	0	0
29	0603178C		Weapons Technology	03	50,263	71,843	5,495	0	0	0	0	5,495
		MD69	Directed Energy Research	03	25,314	47,691	5,495	0	0	0	0	5,495
		MD72	Interceptor Technology	03	22,818	22,000	0	0	0	0	0	0
		MD40	Program-Wide Support	03	2,131	2,152	0	0	0	0	0	0
30	0603179C		Advanced C4ISR	03	9,661	3,626	0	0	0	0	0	0
		MD73	Advanced C4ISR	03	9,197	3,462	0	0	0	0	0	0
		MD40	Program-Wide Support	03	464	164	0	0	0	0	0	0
31	0603180C		Advanced Research	03	16,987	27,733	20,184	20,695	21,555	21,936	22,361	106,731
		MD25	Advanced Technology Development	03	16,061	26,900	19,302	19,723	20,580	20,905	21,319	101,829
		MD40	Program-Wide Support	03	926	833	882	972	975	1,031	1,042	4,902
34	0603274C		Special Program - MDA Technology	03	9,650	83,745	0	0	0	0	0	0
		MD81	Special Programs - MDA Technology	03	9,650	83,745	0	0	0	0	0	0
40	0603294C		Common Kill Vehicle Technology	03	60,851	0	252,879	321,175	110,934	0	0	684,988
		MD85	Common Kill Vehicle Technology	03	58,656	0	249,915	315,619	107,734	0	0	673,268
		MD40	Program Wide Support	03	2,195	0	2,964	5,556	3,200	0	0	11,720
Budget Activity 03 Total					03	187,246	204,827	291,554	355,611	147,537	37,255	870,679
115	0305103C		Cyber Security Initiative	04	941	969	986	997	1,031	1,051	1,073	5,138
		MDCS	Cyber Security Initiative	04	941	969	986	997	1,031	1,051	1,073	5,138
74	0603881C		Ballistic Missile Defense Terminal Defense Segment	04	197,617	209,072	230,162	194,328	253,778	264,377	267,254	1,209,899
		MD07	THAAD	04	186,100	192,699	215,569	176,302	230,270	239,792	244,604	1,106,537
		MC07	Cyber Operations	04	572	5,605	3,325	7,563	10,595	10,686	8,698	40,867
		MD06	Patriot Advanced Capability-3 (PAC-3)	04	1,066	1,130	1,162	1,171	1,245	1,264	1,290	6,132
		MD40	Program-Wide Support	04	9,879	9,638	10,106	9,292	11,668	12,635	12,662	56,363
75	0603882C		Ballistic Missile Defense Midcourse Defense Segment	04	1,260,480	862,080	828,097	630,842	651,047	567,451	551,701	3,229,138
		MD08	Ground Based Midcourse	04	1,193,273	815,796	777,692	579,986	598,610	518,755	509,040	2,984,083

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			Cyber Operations	04	14,686	4,563	18,818	22,495	23,766	22,702	16,623	104,404
			Program-Wide Support	04	52,521	41,721	31,587	28,361	28,671	25,994	26,038	140,651
77	0603884C		Ballistic Missile Defense Sensors	04	233,020	230,077	247,345	247,643	362,850	401,267	497,503	1,756,608
			BMD Radars	04	221,705	219,503	213,532	211,357	241,261	299,852	260,420	1,226,422
			Pacific Radar	04	0	0	21,000	25,800	99,000	83,300	216,060	445,160
			Cyber Operations	04	1,196	1,045	3,636	1,089	8,950	4,410	1,156	19,241
			Program-Wide Support	04	10,119	9,529	9,177	9,397	13,639	13,705	19,867	65,785
78	0603890C		BMD Enabling Programs	04	406,326	408,594	449,442	466,760	540,409	629,864	501,915	2,588,390
			System Engineering & Integration	04	146,148	139,866	150,358	151,837	157,982	156,943	156,690	773,810
			Enabling - Test	04	16,043	17,749	22,767	20,811	20,735	22,008	21,751	108,072
			Intelligence & Security	04	39,085	41,254	44,708	44,557	47,744	48,732	49,477	235,218
			BMD Information Management Systems	04	90,685	92,628	84,499	81,337	89,036	91,592	95,019	441,483
			Cyber Operations	04	27,194	22,881	41,458	45,070	56,616	73,479	56,086	272,709
			Modeling & Simulation	04	39,972	44,458	49,824	63,465	97,374	140,616	51,374	402,653
			Engineering Cyber Operations	04	613	253	3,838	6,500	13,308	34,988	13,448	72,082
			Quality, Safety, and Mission Assurance	04	28,864	31,022	30,516	29,796	31,387	31,901	32,550	156,150
			Program-Wide Support	04	17,722	18,483	21,474	23,387	26,227	29,605	25,520	126,213
79	0603891C		Special Programs - MDA	04	390,264	323,607	320,190	273,713	254,407	265,119	270,417	1,383,846
			Special Programs	04	390,264	323,607	320,190	273,713	254,407	265,119	270,417	1,383,846
80	0603892C		AEgis BMD	04	804,211	959,066	852,052	805,051	789,217	656,164	695,306	3,797,790
			Aegis BMD	04	686,536	846,028	292,063	285,018	356,447	324,925	332,936	1,591,389
			Aegis BMD SM-3 Development Articles	04	0	0	253,276	166,129	73,523	18,291	0	488,954
			Aegis BMD SM-3 Development	04	0	0	93,414	121,268	125,305	74,922	111,278	548,452
			Cyber Operations	04	1,225	879	2,340	22,506	23,079	20,177	83,072	83,072
			Aegis BMD Development Support	04	80,312	68,283	169,325	177,360	174,101	182,794	197,100	900,680
			Program-Wide Support	04	36,138	43,876	41,634	40,306	37,335	32,153	33,815	185,243
81	0603893C		Space Tracking and Surveillance System	04	27,262	32,129	0	0	0	0	0	0
			Space Tracking and Surveillance System (STSS)	04	25,892	30,751	0	0	0	0	0	0
			Program-Wide Support	04	1,370	1,378	0	0	0	0	0	0
82	0603895C		Ballistic Missile Defense System Space Programs	04	21,040	20,690	0	0	0	0	0	0
			MD Space Exp Center (MDSEC)	04	20,031	19,755	0	0	0	0	0	0
			Program-Wide Support	04	1,009	935	0	0	0	0	0	0
83	0603896C		Ballistic Missile Defense Command and Control, Battle Management & Command & Control, Battle Management, Communications (C2BMC)	04	425,996	456,267	430,115	461,275	501,956	496,411	514,139	2,403,896
			Command & Control, Battle Management, Communications (C2BMC)	04	255,003	266,312	251,033	268,130	293,051	285,343	296,433	1,393,990
			Cyber Operations	04	4,256	905	5,305	11,021	15,706	15,684	19,530	67,246
			C2BMC Test	04	55,799	52,727	51,555	46,828	51,109	47,340	47,255	244,087
			Command & Control, Battle Management, Communications (C2BMC) L	04	96,140	116,552	103,440	114,132	120,070	125,220	127,736	590,598
			Program-Wide Support	04	14,798	19,771	18,782	21,164	22,020	22,824	23,185	107,975
84	0603898C		Ballistic Missile Defense Joint Warfighter Support	04	47,566	47,776	48,954	49,524	52,628	53,573	54,636	259,315
			Joint Warfighter Support	04	14,238	15,417	15,394	15,473	16,576	16,849	17,191	81,483
			Joint Warfighter Support Test	04	31,148	30,423	31,206	31,504	33,445	33,973	34,664	164,792
			Cyber Operations	04	0	0	152	155	157	160	162	786
			Program-Wide Support	04	2,180	1,936	2,202	2,392	2,450	2,591	2,619	12,254
85	0603904C		Missile Defense Integration and Operations Center (MDIOC)	04	46,191	54,750	53,265	54,505	57,588	58,574	59,738	283,670
			Missile Defense Integration and Operations Center (MDIOC)	04	43,587	51,773	50,261	51,261	54,269	55,090	56,210	267,091
			Cyber Operations	04	462	456	612	617	640	653	666	3,188
			Program-Wide Support	04	2,142	2,521	2,392	2,627	2,679	2,831	2,862	13,391
86	0603906C		Regarding Trench	04	8,918	8,785	9,113	17,100	18,798	12,377	12,721	70,109
			Regarding Trench	04	8,918	8,785	9,113	17,100	18,798	12,377	12,721	70,109
87	0603907C		Sea Based X-Band Radar (SBX)	04	81,265	93,287	130,695	114,545	126,250	97,666	97,659	566,815
			Sea Based X-Band Radar Development Support	04	78,108	90,178	126,737	110,449	120,400	92,966	93,001	543,553
			Program-Wide Support	04	3,157	3,109	3,958	4,096	5,850	4,700	4,658	23,262
88	0603913C		Israeli Cooperative Programs	04	267,595	103,835	105,354	108,002	109,742	111,901	114,219	549,218
			Israeli Upper Tier	04	74,550	55,793	56,861	58,285	59,225	60,392	61,631	296,394
			Israeli ARROW Program	04	56,519	10,831	10,841	11,125	11,288	11,508	11,761	56,523

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		MD34	Short Range Ballistic Missile Defense (SRBMD)	04	136,526	37,211	37,652	38,592	39,229	40,001	40,827	196,301
89	0603914C		Ballistic Missile Defense Test	04	290,267	293,441	305,791	295,042	351,626	336,137	334,678	1,623,274
		MD04	BMDS Test Development Program	04	0	0	0	0	17,500	28,900	22,600	69,000
		MT04	BMDS Test Program	04	276,311	277,851	288,516	278,141	315,226	288,333	293,327	1,463,543
		MC04	Cyber Operations	04	2,072	2,479	2,528	2,578	2,631	2,682	2,737	13,156
		MD40	Program Wide Support	04	11,884	13,111	14,747	14,323	16,269	16,222	16,014	77,575
90	0603915C		Ballistic Missile Defense Targets	04	517,589	563,576	410,425	373,203	407,909	405,458	427,508	2,024,503
		MC05	Cyber Operations	04	65	0	251	583	1,072	1,088	1,389	4,383
		MT05	BMDS Targets Program	04	503,325	539,837	391,957	354,629	388,179	385,097	405,953	1,925,815
		MD40	Program Wide Support	04	14,199	23,739	18,217	17,991	18,658	19,273	20,166	94,305
94	0604115C		Technology Maturation Initiatives	04	24,743	99,366	128,406	168,388	174,432	176,660	177,264	825,150
		MD98	Directed Energy Demonstrator Development	04	0	23,744	48,099	76,979	66,958	61,334	71,437	324,807
		MD99	Discrimination Sensor Demonstrator Development	04	18,362	57,382	73,295	76,985	93,876	103,683	95,845	443,684
		MT99	Technology Maturation Initiatives Test	04	2,070	13,508	220	4,476	4,327	1,857	0	10,880
		MC98	Cyber Operations	04	140	168	172	257	179	182	272	1,062
		MD40	Program Wide Support	04	4,171	4,564	6,620	9,691	9,092	9,604	9,710	44,717
96	0604181C		Hypersonic Defense	04	0	0	75,300	116,300	152,300	137,200	113,000	594,100
		MD29	Hypersonic Defense	04	0	0	75,300	116,300	152,300	137,200	113,000	594,100
105	0604873C		Long Range Discrimination Radar (LRDR)	04	132,278	173,162	357,659	135,187	52,218	50,843	119,803	715,710
		MC96	Cyber Operations	04	5,600	0	0	0	0	0	0	0
		MD96	Long Range Discrim Radar (LRDR)	04	115,619	161,353	341,638	128,689	49,792	48,388	114,071	682,578
		MD40	Program Wide Support	04	11,059	11,809	16,021	6,498	2,426	2,455	5,732	33,132
106	0604874C		Improved Homeland Defense (HLD) Interceptors	04	282,864	274,148	465,530	496,414	532,984	635,749	627,388	2,758,065
		MD97	Improved HD Interceptors	04	270,780	260,543	448,160	472,098	506,467	603,371	596,701	2,626,797
		MD40	Program Wide Support	04	12,084	13,605	17,370	24,316	26,517	32,378	30,687	131,268
107	0604876C		Ballistic Missile Defense Terminal Defense Segment Test	04	20,980	63,444	36,239	68,865	15,667	49,706	51,451	221,928
		MT07	THAAD Test	04	16,344	60,577	33,321	65,555	14,939	47,306	48,989	220,110
		MD40	Program Wide Support	04	4,636	2,867	2,918	3,310	728	2,400	2,462	11,818
108	0604878C		Aegis BMD Test	04	78,468	95,012	134,468	73,059	82,570	113,856	97,660	501,613
		MT09	AEgis BMD Test	04	76,043	90,953	128,776	69,548	78,734	108,359	92,987	478,404
		MD40	Program Wide Support	04	2,425	4,059	5,692	3,511	3,836	5,497	4,673	23,209
109	0604879C		Ballistic Missile Defense Sensor Test	04	83,597	83,250	84,239	65,886	76,218	68,231	56,579	351,153
		MT11	BMDS Radars Test	04	79,839	78,430	80,837	62,719	72,677	64,937	53,872	335,042
		MD40	Program Wide Support	04	3,758	4,820	3,402	3,167	3,541	3,294	2,707	16,111
110	0604880C		Land Based SM-3 (LBSM3)	04	29,288	43,293	30,486	31,816	33,024	31,707	30,924	157,957
		MD68	AEgis Ashore	04	27,773	41,548	26,477	29,787	30,990	29,676	28,944	145,874
		MC68	Cyber Operations	04	0	0	2,643	500	500	500	500	4,643
		MD40	Program-Wide Support	04	1,515	1,745	1,366	1,529	1,534	1,531	1,480	7,440
111	0604881C		AEgis SM-3 Block IIA Co-Development	04	165,456	106,038	9,739	0	0	0	0	9,739
		MD09	SM-3 Block IIA Co-Development	04	132,677	91,071	8,816	0	0	0	0	8,816
		MT09	SM-3 Block IIA Co-Development Test	04	25,186	12,208	0	0	0	0	0	0
		MD40	Program-Wide Support	04	7,593	2,759	923	0	0	0	0	923
112	0604887C		Ballistic Missile Defense Midcourse Defense Segment Test	04	54,619	56,481	76,757	74,205	69,713	77,826	79,094	377,595
		MT08	Midcourse Test	04	51,821	53,192	73,453	70,638	66,474	74,069	75,309	359,943
		MD40	Program Wide Support	04	2,798	3,289	3,304	3,567	3,239	3,757	3,785	17,652
113	0604894C		Multi Object Kill Vehicle	04	0	71,513	6,500	3,500	229,524	209,830	265,898	715,252
		MD85	Multi Object Kill Vehicle	04	0	68,201	6,500	3,500	225,755	205,048	261,062	701,865
		MD40	Program-Wide Support	04	0	3,312	0	0	3,769	4,782	4,836	13,387
116	1206893C		Space Tracking and Surveillance System (STSS)	04	0	0	34,907	39,453	37,583	36,893	37,726	186,562
		MD12	Space Tracking and Surveillance System (STSS)	04	0	0	32,015	32,597	34,256	34,780	35,489	169,137
		MC12	Cyber Operations	04	0	0	1,336	4,968	1,592	343	443	8,682
		MD40	Program-Wide Support	04	0	0	1,556	1,888	1,735	1,770	1,794	8,743
117	1206895C		Ballistic Missile Defense System Space Programs	04	0	0	16,994	13,348	14,395	17,278	17,726	79,741
		MD33	MD Space Exp Center (MDSEC)	04	0	0	16,233	12,706	13,726	16,444	16,878	75,987
		MD40	Program-Wide Support	04	0	0	761	642	669	834	848	3,754

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			Budget Activity 04 Total	04	5,898,841	5,733,708	5,879,210	5,378,951	5,949,864	5,963,169	6,074,980	29,246,174
155	0605502C		Small Business Innovation Research - MDA	06	88,694	0	0	0	0	0	0	0
		MD45	Small Business Innovation Research	06	88,694	0	0	0	0	0	0	0
184	0901598C		Management HQ - MDA	06	35,871	31,160	29,947	28,024	27,269	27,878	28,450	141,568
		MD38	Management Headquarters	06	35,871	31,160	29,947	28,024	27,269	27,878	28,450	141,568
			Budget Activity 06 Total	06	124,565	31,160	29,947	28,024	27,269	27,878	28,450	141,568
			RDT&E Total	06	6,210,652	5,969,695	6,200,711	5,762,586	6,124,670	6,028,302	6,142,152	30,258,421
MILCON												
	0603882C		MID-COURSE MILCON	NA	0	9,560	0	0	0	0	0	0
		MM08	Missile Defense Complex Switchgear Facility, Ft. Greely, AK	NA	0	9,560	0	0	0	0	0	0
	0603884C		SENSORS MILCON	NA	0	166,670	0	150,000	0	212,000	0	362,000
		MM04	Wake Island Air Base Test Support Facility, Wake Is	NA	0	11,670	0	0	0	0	0	0
		MM96	Long Range Discriminating Radar (LRDR)	NA	0	155,000	0	0	0	0	0	0
		MM41	MRDR Pacific Radar	NA	0	0	0	0	0	212,000	0	212,000
		MM11	Long Range Discrimination Radar Cmplx, Clear AFS, AK	NA	0	0	0	150,000	0	0	0	150,000
	0603888C		BMD TEST and TARG MILCON	NA	0	0	0	0	0	0	177,900	177,900
		MM44	BMDS Test Infrastructure Building (BTB)	NA	0	0	0	0	0	0	177,900	177,900
	0604880C		LAND-BASED SM-3 (LBSM3) - MILCON	NA	169,153	0	0	0	0	0	0	0
		MM68	AEGIS Ashore - MILCON	NA	169,153	0	0	0	0	0	0	0
	22299902		MINOR MILCON	NA	0	2,414	3,000	3,000	3,000	3,000	3,000	15,000
		MM14	Minor MILCON	NA	0	2,414	3,000	3,000	3,000	3,000	3,000	15,000
	31299903		MILCON PLANNING and DESIGN	NA	15,000	0	0	15,184	36,140	16,248	8,009	75,581
		MM32	MILCON Planning Design	NA	15,000	0	0	15,184	36,140	16,248	8,009	75,581
			Budget Activity 00 Total	NA	184,153	178,644	3,000	168,184	39,140	231,248	188,909	630,481
			MILCON Total	NA	184,153	178,644	3,000	168,184	39,140	231,248	188,909	630,481
Program Total					8,306,958	7,755,117	7,886,133	8,003,535	8,221,938	8,326,241	8,461,044	40,898,891