

**OFFICE OF THE UNDER SECRETARY OF DEFENSE
(COMPTROLLER)/CHIEF FINANCIAL OFFICER
MAY 2017**



**Program Acquisition
Cost By
Weapon System**

**UNITED STATES DEPARTMENT OF DEFENSE
FISCAL YEAR 2018 BUDGET REQUEST**

The estimated cost of this report or study for the Department of Defense is approximately \$32,000 for the 2017 Fiscal Year. This includes \$13,000 in expenses and \$19,000 in DoD labor.

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Major Weapon Systems

OVERVIEW

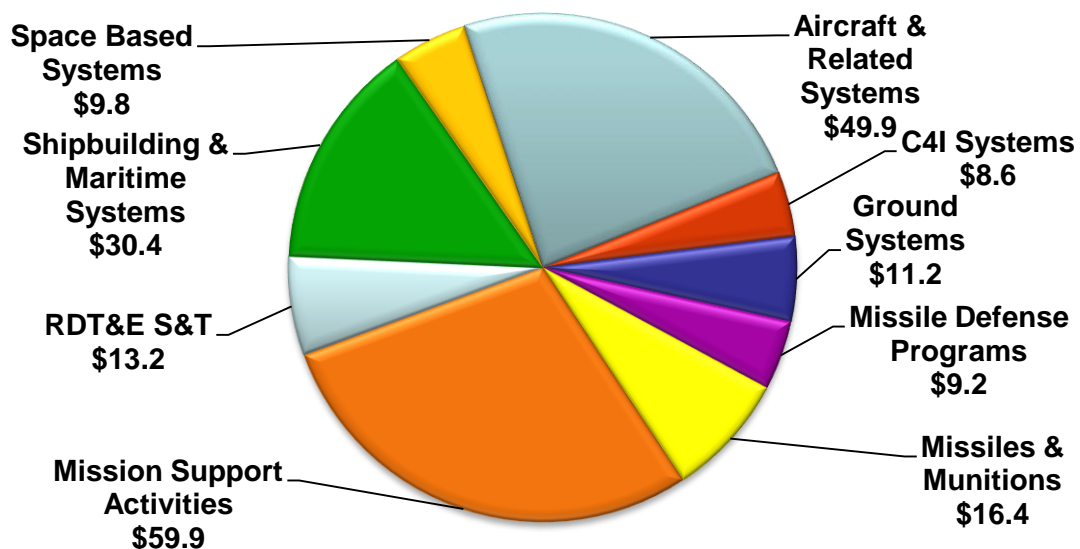
The combined capabilities and performance of United States (U.S.) weapon systems are unmatched throughout the world, ensuring that U.S. military forces have the advantage over any adversary. The Fiscal Year (FY) 2018 acquisition funding request for the Department of Defense (DoD) budget totals \$208.6 billion, which includes base funding and Overseas Contingency Operations (OCO) funding; \$125.2 billion for Procurement funded programs and \$83.3 billion for Research, Development, Test, and Evaluation (RDT&E) funded programs. Of the \$208.6 billion, \$94.9 billion is for programs that have been designated as Major Defense Acquisition Programs (MDAPs). This book focuses on all funding for the key MDAP programs. To simplify the display of the various weapon systems, this book is organized by the following mission area categories:

Mission Area Categories

- Aircraft & Related Systems
- Command, Control, Communications, Computers, and Intelligence (C4I) Systems
- Ground Systems
- Missile Defense Programs
- Missiles and Munitions
- Mission Support Activities
- RDT&E Science & Technology
- Shipbuilding and Maritime Systems
- Space Based Systems

FY 2018 Modernization – Total: \$208.6 Billion

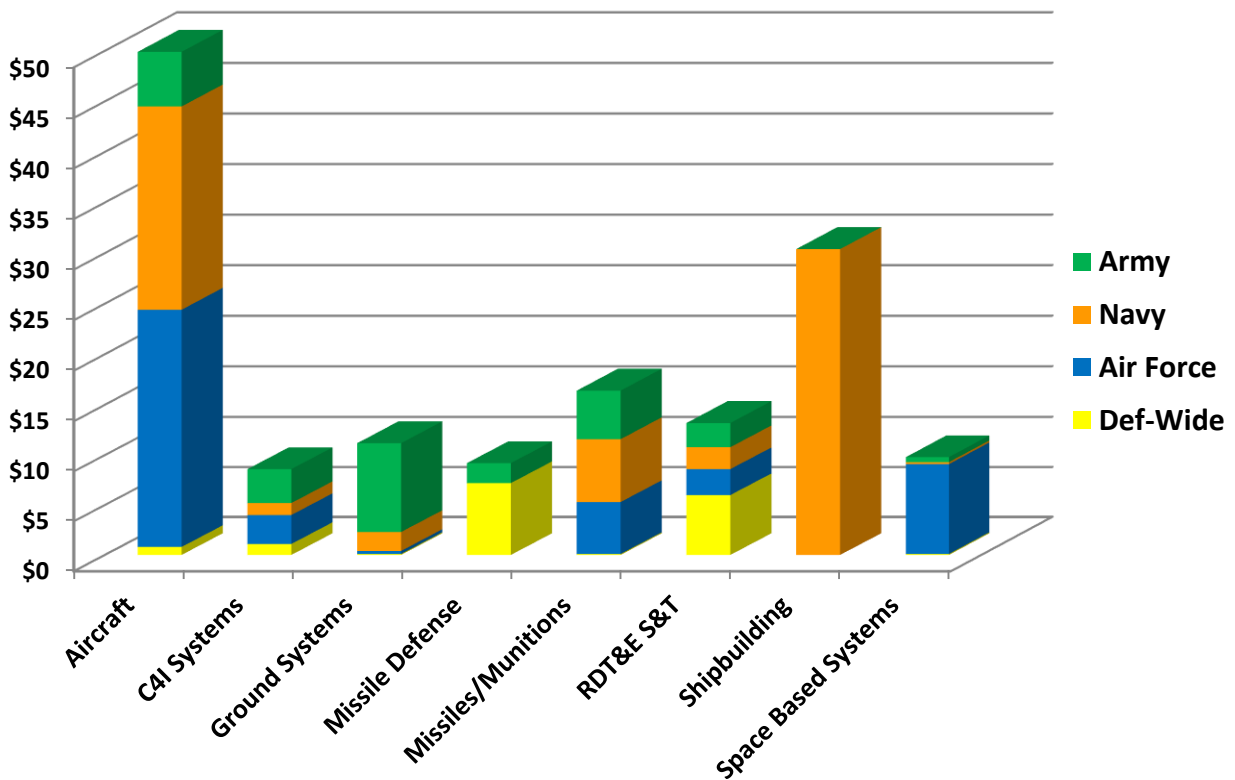
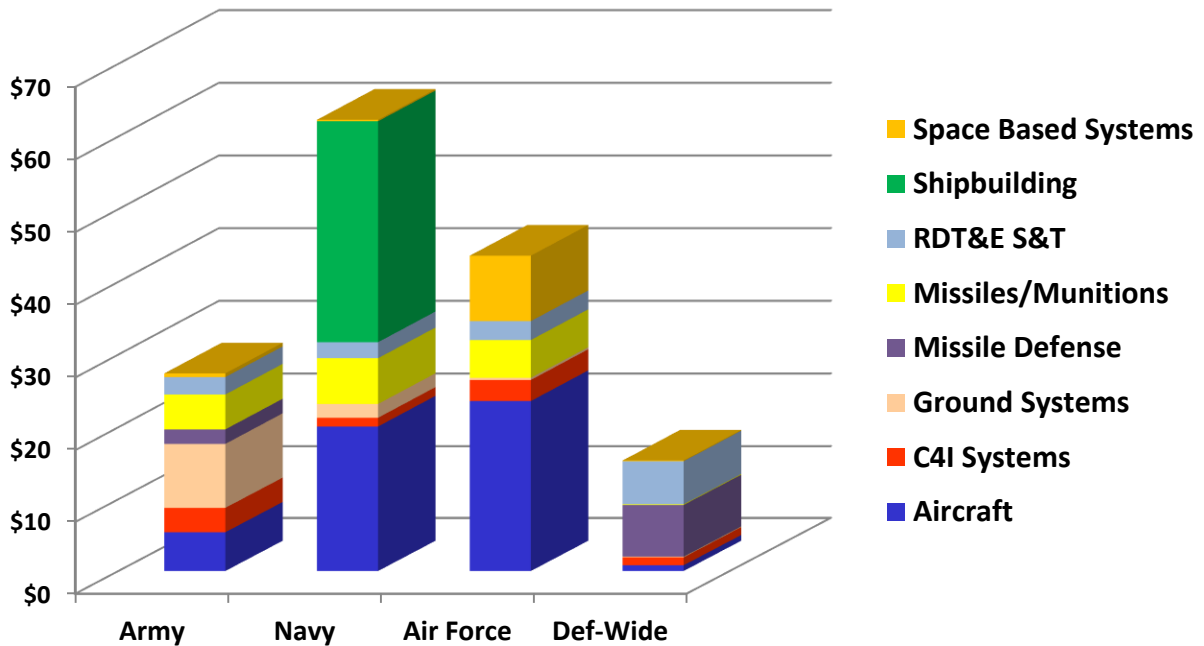
(\$ in Billions)



Numbers may not add due to rounding

FY 2018 Program Acquisition Cost by Weapon System

THE DISTRIBUTION OF FUNDING IN FY 2018 FOR PROCUREMENT AND RDT&E, BY COMPONENT AND BY CATEGORY *
(Dollars in Billions)

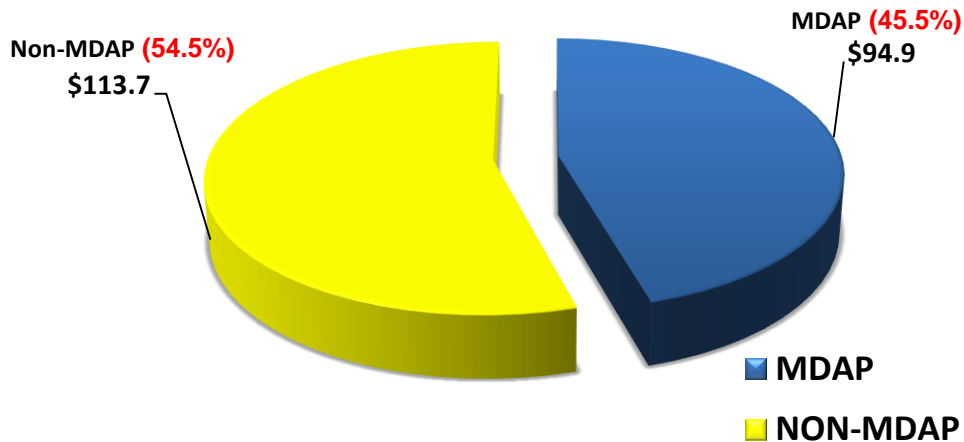


* Does not include Mission Support costs

Numbers may not add due to rounding

FY 2018 Program Acquisition Cost by Weapon System

TOTAL REQUESTED PROCUREMENT AND RDT&E FUNDING DURING FY 2018, FOR MDAP AND NON-MDAP PROGRAMS (Dollars in Billions)

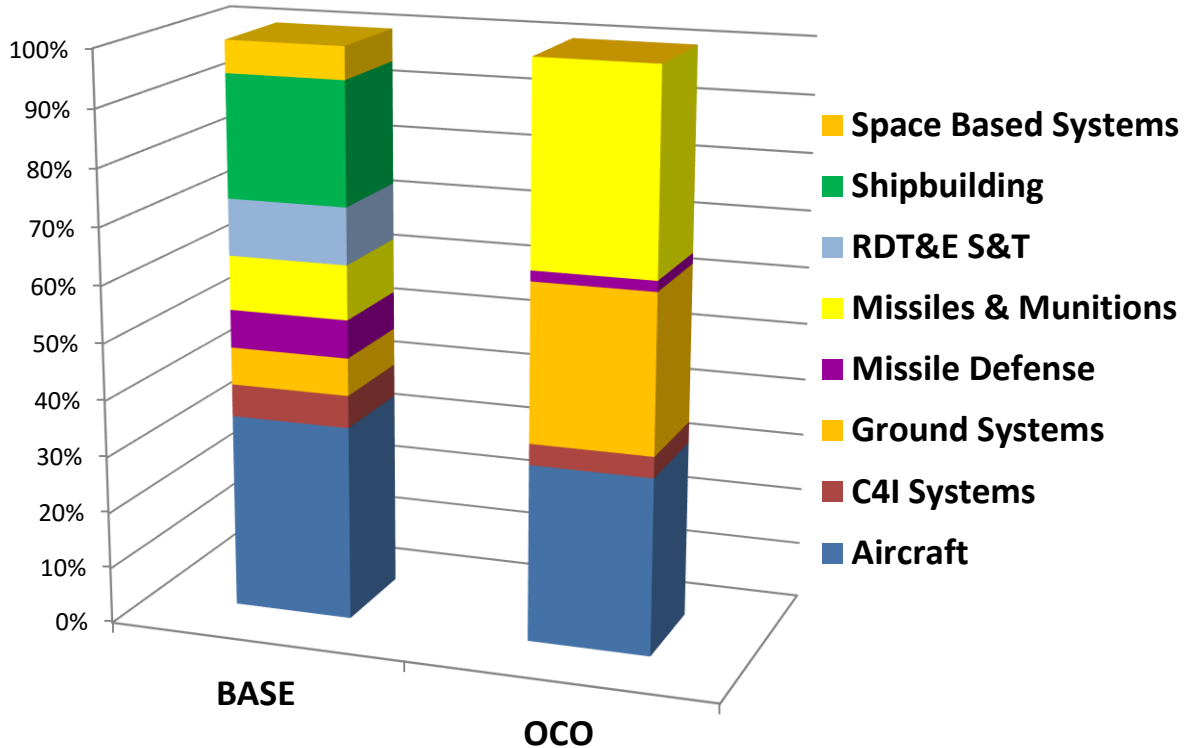


The FY 2018 President's budget request for modernization in the RDT&E and Procurement titles is comprised of 1,927 Program, Project, and Activity (PPA) line items, a portion of which finances the development and procurement of Major Defense Acquisition Programs (MDAPs). Many MDAP programs (Acquisition Category (ACAT) I) are not represented in this booklet because they fall below reporting criteria.

The purpose of the above chart is to illustrate the share in funding allotted to the MDAP, and the non-MDAP efforts. While non-MDAP individual programs are smaller in dollar value, they are essential to developing future technologies and procuring a wide assortment of equipment, munitions, vehicles, and weapons. The MDAP programs consume approximately \$94.9 billion, or 46 percent of the FY 2018 modernization funding (\$208.6 billion).

FY 2018 Program Acquisition Cost by Weapon System

FY 2018 FUNDING REQUEST FOR BASE BUDGET & OVERSEAS CONTINGENCY OPERATIONS (OCO)* (Dollars Represented by Percent)



The FY 2018 President's Budget for Investment accounts (Research, Development, Test, and Evaluation (RDT&E) and Procurement) totals \$208.6 billion, of which \$197.7 billion is requested in the Base budget, and \$10.9 billion is requested in the OCO.

The above graph illustrates the differences in content between the Base and OCO budget requests as a percent of funding in each request. Not surprisingly, the OCO finances a larger percent of missiles and munitions (yellow) and ground systems (orange) than the Base request (63 percent vs. 17 percent). These OCO funds will be used to replenish munitions that were expended in training or combat operations, or to replace military equipment that, due to combat operations, were damaged or not economical to repair. Also these funds procure critical preferred munitions, which are required to increase inventories that are low due to sustained combat operations.

In the OCO budget the Department is requesting \$397.4 million for the procurement of 45 aircraft that were lost or damaged beyond repair in combat operations. In contrast, in the Base budget the Department is procuring various aircraft for modernization.

* Totals exclude funding in the FY 2017 PB for Mission Support activities

Major Weapon Systems Summary				2018			Page
		FY 2016	FY 2017	Base Budget	OCO Budget	Total Request	
(\$ in Millions)							
Aircraft and Related Systems – Joint Service							
MQ-1B / MQ-1C	Predator/Gray Eagle	490.1	308.1	45.7	128.7	174.4	1-2
MQ-9	Reaper	1,034.5	1,053.1	662.5	347.3	1,009.8	1-3
RQ-4 / MQ-4C	Global Hawk/Triton/NATO AGS	1,448.2	1,213.6	1,282.3	-	1,282.3	1-4
RQ-7/RQ-11 / RQ-20/RQ-21	Shadow, Raven, Puma, and Blackjack	281.9	522.4	117.4	12.3	129.7	1-5
C-130J	Hercules	2,361.9	1,839.1	886.1	-	886.1	1-6
F-35	Joint Strike Fighter	11,560.4	11,323.9	10,837.9	-	10,837.9	1-7
V-22	Osprey	1,667.6	1,822.4	961.8	-	961.8	1-8
Aircraft and Related Systems – US Army (USA)							
AH-64E	Apache: Remanufacture/New Build	1416.0	1840.4	1402.9	39	1441.9	1-9
CH-47	Chinook	1,135.0	656.8	415.0	-	415.0	1-10
UH-60	Black Hawk	1,765.8	1,352.3	1,059.0	-	1,059.0	1-11
Aircraft and Related Systems – US Navy (USN) / US Marine Corps (USMC)							
E-2D	Advanced Hawkeye	1,244.0	1,399.6	1,116.4	-	1,116.4	1-12
H-1	AH-1Z Viper/ UH-1Y Venom	866.9	844.4	781.8	-	781.8	1-13
P-8A	Poseidon	3,458.8	3,267.4	1,609.4	-	1,609.4	1-14
CH-53K	Heavy Lift Replacement Helicopter	604.5	841.8	1,055.5	-	1,055.5	1-15
VH-92A	Presidential Helicopter	490.8	338.4	451.9	-	451.9	1-16
F/A-18	Super Hornet	350.0	2,504.9	1,253.1	-	1,253.1	1-17
Aircraft and Related Systems – US Air Force (USAF)							
PAR	Presidential Aircraft Recapitalization	82.4	351.2	434.1	-	434.1	1-18
LRS	Long Range Strike	1,455.6	2,241.7	2,945.4	-	2,945.4	1-19
F-22	Raptor	518.5	704.4	915.5	-	915.5	1-20
KC-46A	Tanker	2,959.7	3,318.5	3,052.9	-	3,052.9	1-21
F-15	Eagle	1,002.5	768.5	963.1	-	963.1	1-22
CRH	Combat Rescue Helicopter	150.3	319.3	354.5	-	354.5	1-23
C4I Systems – USA							
WIN-T	Warfighter Information Network – Tactical	778.1	461.9	449.1	-	449.1	2-2
HMS	Handheld, Manpack, and Small Form Fit Radios	59.1	292.4	375.5	-	375.5	2-3
Ground Systems – Joint Service							
JLTV	Joint Light Tactical Vehicle	366.2	775.8	1,141.6	1.1	1,142.7	3-2
Ground Systems – USA							
AMPV	Armored Multi-Purpose Vehicle	213.0	184.2	393.5	253.9	647.4	3-3
FHTV	Family Of Heavy Tactical Vehicles	30.8	57.1	92.1	25.9	118.0	3-4
M-1	Abrams Tank Modification/Upgrades	504.7	898.7	632.4	581.5	1,213.9	3-5
PIM	Paladin Integrated Management	410.3	636.0	652.5	125.7	778.2	3-6
FMTV	Family of Medium Tactical Vehicles	334.0	352.8	84.7	-	84.7	3-7
Stryker	Stryker	1,191.0	735.4	178.2	-	178.2	3-8
Ground Systems – USMC							
ACV	Amphibious Combat Vehicle	197.0	158.7	340.5	-	340.5	3-9
Missile Defense Programs – Joint Service							
AEGIS	AEGIS Ballistic Missile Defense	1,594.7	1,568.0	1,610.6	-	1,610.6	4-2
THAAD	Terminal High Altitude Area Defense	666.6	793.1	718.0	-	718.0	4-3
GMD	Ground-based Midcourse Defense	1,598.0	1,192.7	1,370.4	-	1,370.4	4-4

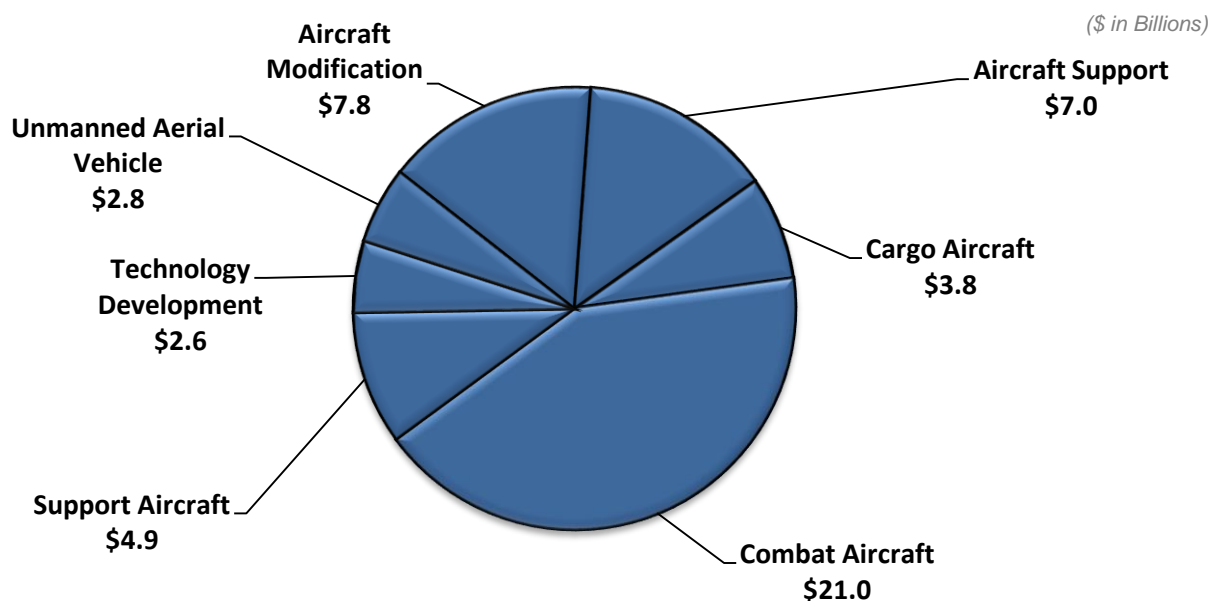
Major Weapon Systems Summary				2018			Page
				Base	OCO	Total	
(\$ in Millions)		FY 2016	FY 2017	Budget	Budget	Request	
Missile Defense Programs – USA							
Patriot/PAC-3	Patriot Advanced Capability	363.0	543.0	515.1	-	515.1	4-5
PAC-3/MSE Missile	PAC-3/Missile Segment Enhancement Missile	517.1	702.0	459.0	-	459.0	4-6
Missiles and Munitions – Joint Service							
AMRAAM	Advanced Medium Range Air-to-Air Missile	645.4	661.7	594.4	-	594.4	5-2
AIM-9X	Air Intercept Missile - 9X	396.2	326.3	296.2	-	296.2	5-3
Chem-Demil	Chemical Demilitarization	699.8	825.5	961.7	-	961.7	5-4
JASSM	Joint Air-to-Surface Standoff Missile	435.6	462.0	471.7	-	471.7	5-5
JDAM	Joint Direct Attack Munition	565.3	778.9	376.8	497.5	874.3	5-6
SDB	Small Diameter Bomb	222.1	423.2	413.2	90.9	504.1	5-7
Hellfire	Hellfire Missiles	784.0	685.5	129.7	584.2	713.9	5-8
Missiles and Munitions – USA							
Javelin	Javelin Advanced Anti-Tank Weapon	231.1	292.9	172.4	10.9	183.3	5-9
GMLRS	Guided Multiple Launch Rocket System	287.1	440.6	698.0	191.5	889.5	5-10
Missiles and Munitions – USN							
RAM	Rolling Airframe Missile	99.2	113.7	99.8	-	99.8	5-11
Standard	Standard Family of Missiles	545.7	669.2	684.5	35.2	719.7	5-12
Tomahawk	Tactical Tomahawk Cruise Missile	299.3	403.1	281.5	100.1	381.6	5-13
Trident II	Trident II Ballistic Missile Modification	1,182.5	1,237.1	1,270.0	-	1,270.0	5-14
OASUW	Offensive Anti-Surface Weapon	348.7	341.5	432.5	-	432.5	5-15
Missiles and Munitions – USAF							
GBSD	Ground Based Strategic Deterrent	65.0	113.9	215.7	-	215.7	5-16
LRSO	Long Range Stand-Off Missile	16.1	95.6	451.3	-	451.3	5-17
B61	B61 Tail Kit Assembly	204.4	137.9	179.5	-	179.5	5-18
Shipbuilding and Maritime Systems – USN							
T-AO 205	John Lewis Class Fleet Replenishment Oiler	674.1	74.2	543.1	-	543.1	6-2
CVN 78	Gerald R. Ford Class Nuclear Aircraft Carrier	2,768.7	2,791.1	4,638.1	-	4,638.1	6-3
DDG 51	Arleigh Burke Class Destroyer	4,540.5	3,498.3	4,013.7	-	4,013.7	6-4
LCS	Littoral Combat Ship	1,816.7	1,598.9	1,152.6	-	1,152.6	6-5
SSN 774	Virginia Class Submarine	5,729.5	5,322.3	5,546.3	-	5,546.3	6-6
SSC	Ship to Shore Connector	218.4	139.2	245.1	-	245.1	6-7
SSBN 826	Columbia Class Submarine	1,367.1	1,864.3	1,884.5	-	1,884.5	6-8
CVN	Refueling Complex Overhaul	672.6	1,991.8	1,680.8	-	1,680.8	6-9
LHA	America Class Amphibious Assault Ship	497.5	1,648.2	1,748.3	-	1,748.3	6-10
Space Based Systems – USAF							
AEHF	Advanced Extremely High Frequency	535.5	904.7	202.6	-	202.6	7-2
EELV	Evolved Expendable Launch Vehicle	1,475.8	1,803.0	1,861.5	-	1,861.5	7-3
GPS	Global Positioning System	833.1	1,004.7	1,104.2	-	1,104.2	7-4
SBIRS	Space Based Infrared System	834.2	581.3	1,425.3	-	1,425.3	7-5

Aircraft & Related Systems

Aviation forces - including fighter/attack, bomber, mobility (cargo/tanker), and specialized support aircraft, and unmanned aircraft systems — provide a versatile strike force capable of rapid deployment worldwide. These forces can quickly gain and sustain air dominance over regional aggressors, permitting rapid attacks on enemy targets while providing security to exploit the air for logistics, command and control, intelligence, and other functions. Fighter/attack aircraft operate from both land bases and aircraft carriers to provide air superiority to combat enemy fighters and attack ground and ship targets. Bombers provide an intercontinental capability to rapidly strike surface targets. The specialized aircraft supporting conventional operations perform functions such as intelligence, surveillance, and reconnaissance; airborne warning and control; air battle management; suppression of enemy air defenses; and combat search and rescue. In addition to these forces, the U.S. military operates a variety of air mobility forces including cargo, aerial-refueling aircraft, helicopters, and support aircraft.

The FY 2018 Base and OCO funding provides for the procurement of 70 F-35 jets, 29 logistics support aircraft, 198 helicopters, and 50 Unmanned Aerial Vehicles (UAV). In addition, the funding in this category provides for the development of aircraft related technology, the procurement of aerospace equipment and systems, various modifications to existing aircraft, and the procurement of initial spares.

FY 2018 Aircraft & Related Systems – Total: \$49.9 Billion



Numbers may not add due to rounding

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

MQ-1B Predator / MQ-1C Gray Eagle

DOD - JOINT

The U.S. Air Force (USAF) MQ-1B Predator and the Army MQ-1C Gray Eagle Unmanned Aircraft Systems (UAS) are comprised of aircraft configured with a multi-spectral targeting systems (electro-optical, infra-red (IR), laser designator, and IR illuminator) providing real-time full motion video, weapons, data links, and ground control stations with communications equipment providing line-of-sight and beyond-line-of-sight control. Both systems include single-engine, propeller-driven unmanned aircraft. Special Operations Command (SOCOM) divested the MQ-1 UAS in FY 2015, and the Air Force is in the process of divesting the MQ-1 and replacing all aircraft with MQ-9 Reapers. The MQ-1C Gray Eagle includes the Gray Eagle Extended Range Engineering Change Proposal (ECP), which extends the range and endurance of the aircraft.



US Army Photo

Mission: Operates over-the-horizon at medium altitude for long endurance and provides real-time intelligence, surveillance, reconnaissance (ISR), target acquisition, and strike capability to aggressively prosecute time-sensitive targets. The Army MQ-1C Gray Eagle also adds a Synthetic Aperture Radar (SAR) Ground Moving Target Indicator (GMTI), a communications relay capability, a heavy fuel engine, encrypted tactical common data link, and greater weapons capability.

FY 2018 Program: Funds Test & Evaluation efforts associated with the MQ-1 Gray Eagle Extended Range ECP. The Army plans to procure 11 UAS in FY 2018, which is the last planned year of procurement for the MQ-1C Gray Eagle.

Prime Contractor: General Atomics–Aeronautical Systems Incorporated; San Diego, CA

MQ-1B Predator / MQ-1C Gray Eagle										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
Gray Eagle USA	22.3	-	31.0	-	9.6	-	-	-	9.6	-
Procurement										
Predator USAF	3.2	-	-	-	-	-	-	-	-	-
Gray Eagle USA	462.7	20	277.1	13	36.1	2	128.7	9	164.8	11
SOCOM	1.9	-	-	-					-	-
Subtotal	467.8	20	277.1	13	36.1	2	128.7	9	164.8	11
Total	490.1	20	308.1	13	45.7	2	128.7	9	174.4	11

Note: Funding includes air vehicles, payloads and modifications

Numbers may not add due to rounding

* FY 2016 includes actuals for Base and OCO

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

MQ-9 Reaper

DOD - JOINT

The U.S. Air Force MQ-9 Reaper Unmanned Aircraft System (UAS) Program is comprised of an aircraft segment consisting of aircraft configured with an array of sensors to include day/night Full Motion Video (FMV), Signals Intelligence (SIGINT), and Synthetic



Aperture Radar (SAR) sensor payloads, avionics, data links and weapons; a Ground control segment consisting of a Launch and Recovery Element, and a Mission Control Element with embedded Line-of-Sight and Beyond-Line-of-Sight communications equipment. The Reaper is a single-engine, turbo-prop, remotely piloted armed reconnaissance aircraft designed to operate over-the-horizon at medium altitude for long endurance. Funding for U.S. Special Operations Command (USSOCOM) procures Special Operations Force (SOF)-unique kits, payloads and modifications.

Mission: Provides reconnaissance and embedded strike capability against time-critical targets.

FY 2018 Program: Funds the continued development, transformation and fielding of Reaper aircraft and ground stations. The base request includes the procurement of 10 dual ground control stations, and continues the modification of MQ-9s to the extended range configuration. The OCO request includes the procurement of 32 additional aircraft, updated multi-spectral sensors, and payload modifications.

Prime Contractor: General Atomics–Aeronautical Systems Incorporated; San Diego, CA

MQ-9 Reaper										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
USAF	124.7	-	151.4	-	201.4	-	-	-	201.4	-
SOCOM	21.4	-	17.8	-	37.9	-	-	-	37.9	-
Subtotal	146.1	-	169.2	-	239.3	-	-	-	239.3	-
Procurement										
USAF	871.2	33	829.6	24	381.8	-	327.5	16	709.3	16
SOCOM	17.2	-	54.3	-	41.4	-	19.8	-	61.2	-
Subtotal	888.4	33	883.9	24	423.2	-	347.3	16	770.5	16
Total	1,034.5	33	1,053.1	24	662.5	-	347.3	16	1,009.8	16

Note: Procurement funding includes mods, spares and other

Numbers may not add due to rounding

* FY 2016 includes actuals for Base and OCO

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

RQ-4 Global Hawk / MQ-4C Triton / NATO AGS

DOD - JOINT

The U.S. Air Force (USAF) RQ-4 Global Hawk, Navy MQ-4C Triton, and NATO Alliance Ground Surveillance (AGS) Unmanned Aircraft System programs provide high altitude long endurance Intelligence, Surveillance, and Reconnaissance (ISR)



capabilities. The RQ-4 Block 30 includes a multi-intelligence suite for imagery and signals intelligence collection, and the Block 40 includes multi-platform radar technology for synthetic aperture radar (SAR) imaging and moving target detection. The final three RQ-4 Block 30 aircraft will be delivered in FY 2017 and the production line is scheduled to shut down in FY 2018. The MQ-4C will provide the Navy with a persistent maritime ISR capability. Mission systems include inverse SAR, Electro-optical/Infra-red Full Motion Video (FMV), maritime moving target detection, Electronic Support Measures (ESM), Automatic Identification System (AIS), a basic communications relay capability, and Link-16. Five NATO AGS aircraft are being procured with development funding; two will deliver in FY 2017 and deliveries will complete in FY 2018.

Mission: The USAF and NATO AGS RQ-4 systems perform high-altitude, near-real-time, high-resolution ISR collection, while the MQ-4C provides persistent maritime ISR. Both USAF and Navy systems support Combatant Commander requirements, while the MQ-4C also supports the numbered Fleet commanders from five worldwide sites.

FY 2018 Program: RQ-4: Funds the development and modification efforts for the Block 30, Block 40, Airborne Signals Intelligence Payload (ASIP) Increment II, various sensor enhancements; and the U.S. contribution to the NATO AGS. MQ-4C: Funds the procurement of three Low Rate Initial Production (LRIP) systems, and continues to fund development activities associated with software upgrades and the multi-intelligence effort.

Prime Contractor: Northrop Grumman; Rancho Bernardo, CA

RQ-4 Global Hawk / MQ-4C Triton / NATO AGS										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
RQ-4, USAF	180.5	-	256.3	-	214.9	-	-	-	214.9	-
RQ-4, NATO	131.9	-	38.9	-	44.7	-	-	-	44.7	-
MQ-4, USN	357.0	-	293.0	-	313.5	-	-	-	313.5	-
Subtotal	669.4	-	588.2	-	573.1	-	-	-	573.1	-
Procurement										
RQ-4, USAF	55.1	-	46.2	-	72.9	-	-	-	72.9	-
MQ-4, USN	723.7	4	579.2	2	636.3	3	-	-	636.3	3
Subtotal	778.8	4	625.4	2	709.2	3	-	-	709.2	3
Total	1,448.2	4	1,213.6	2	1,282.3	3	-	-	1,282.3	3

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Small Tactical Unmanned Aircraft Systems

DOD - JOINT

The RQ-7 Shadow, RQ-11 Raven, RQ-20 Puma, and RQ-21 Blackjack Unmanned Aircraft Systems (UAS) provide organic Reconnaissance, Surveillance, Target Acquisition (RSTA) capabilities and are embedded in maneuver formations capable of providing crucial information to the ground commander.



Mission: The Army/USMC RQ-7 Shadow and Navy/USMC RQ-21 Blackjack provide the tactical maneuver commander near real-time RSTA and force protection during day/night and limited adverse weather conditions. The Army/USMC/SOCOM multi-sensor RQ-11 Raven and USMC/SOCOM RQ-20 Puma provides an “over-the-hill,” rucksack-portable, day/night, limited adverse weather, remotely-operated capability that supports selected combat and combat support units. The multi-sensor RQ-21 Blackjack is runway independent, requiring minimal space for takeoff and recovery from an unimproved expeditionary/urban environment, as well as from the decks of Navy ships.

FY 2018 Program: Funds upgrades to system hardware and payloads for the RQ-7 Shadow. Procures upgrades and provides training and contractor logistics support for the RQ-11 Raven. Procures RQ-20 Puma systems for the USMC and SOCOM. Procures a total of 4 systems and provides contractor logistics support for the RQ-21 Blackjack.

Prime Contractors: RQ-7: Textron Systems Unmanned Systems; Hunt Valley, MD
RQ-20/RQ-11: AeroVironment, Incorporated; Simi Valley, CA
RQ-21: INSITU, Incorporated; Bingen, WA

RQ-7 Shadow / RQ-11 Raven / RQ-20 Puma / RQ-21 Blackjack										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	24.8	-	23.3	-	28.5	-	-	-	28.5	-
Procurement										
Shadow/Raven (Army)	87.2	-	320.6	-	-	-	-	-	-	-
Shadow/Puma (USMC)	13.4	-	19.3	-	10.2	-	-	-	10.2	-
Puma (SOCOM)	21.3	-	-	-	-	-	-	-	-	-
Blackjack (Navy)	57.3	3	70.0	4	0.9	-	3.9	-	4.8	-
Blackjack (USMC)	77.9	3	89.2	4	77.8	4	8.4	-	86.2	4
Subtotal	257.1	6	499.1	8	88.9	4	12.3	-	101.2	4
Total	281.9	6	522.4	8	117.4	4	12.3	-	129.7	4

Note: RDT&E funding is for all three systems across the Army, USMC and SOCOM

Numbers may not add due to rounding

* FY 2016 includes actuals for Base and OCO funding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

C-130J Hercules

DOD - JOINT

The C-130J Hercules is a medium-sized tactical transport airlift aircraft that is modernizing the U.S. tactical airlift capability. It is capable of performing a variety of combat delivery (tactical airlift) operations across a broad range of mission environments including deployment and redeployment of troops and/or supplies within/between command areas in a theater of operation, aeromedical evacuation, air logistics support, and augmentation of strategic airlift forces. The C-130J aircraft, with its extended fuselage, provides additional cargo carrying capacity for the Air Force combat delivery mission compared to the legacy C-130E/H and the C-130J (short) aircraft. Special mission variants of the C-130J conduct airborne psychological operations (EC-130J), weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). The KC-130J provides the Marine Corps with air-to-air refueling/tactical transport capability; airborne radio relay; intelligence, surveillance, and reconnaissance; and close air support to replace the KC-130 F/R/T aircraft.



Mission: Provides responsive air movement and delivery of combat troops/supplies directly into objective areas through air landing, extraction, and airdrop, and the air logistic support of theater forces.

FY 2018 Program: Continues the Multiyear Procurement (MYP) for C-130J aircraft from FY 2014 to FY 2018, procuring 9 aircraft in FY 2018.

Prime Contractor: Lockheed Martin Corporation; Marietta, GA

C-130J Hercules										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
HC/MC-130	8.6	-	14.0	-	38.6	-	-	-	38.6	-
C-130J	31.4	-	16.8	-	26.8				26.8	-
Subtotal	40.1	-	30.8	-	65.4	-	-	-	65.4	-
Procurement										
C-130J	850.6	14	218.7	3	57.7	-	-	-	57.7	-
HC/MC-130	1,261.8	13	1,435.9	14	607.9	7			607.9	7
Subtotal	2,112.4	27	1,654.6	17	665.6	7	-	-	665.6	7
Procurement										
KC-130J	209.5	2	153.7	2	155.1	2	-	-	155.1	2
Subtotal	209.5	2	153.7	2	155.1	2	-	-	155.1	2
Total	2,361.9	29	1,839.1	19	886.1	9	-	-	886.1	9

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

F-35 Joint Strike Fighter

DOD - JOINT

The F-35 Joint Strike Fighter (JSF) is the next-generation strike fighter for the Navy, Marine Corps, Air Force, and U.S. Allies. The F-35 consists of three variants:

the F-35A Conventional Take-Off and Landing (CTOL), the F-35B Short Take-Off and Vertical Landing (STOVL), and the F-35C Carrier variant (CV). The F-35A CTOL

replaces the Air Force F-16 and A-10 aircraft and complements

the F-22 aircraft; the F-35B STOVL aircraft replaces the Marine Corps AV-8B aircraft and F/A-18A/C/D aircraft; the F-35C CV aircraft complements the F/A-18E/F aircraft for the Navy, and will also be flown by the Marine Corps. The F-35 program is a joint, multi-national program among the United States (U.S.) Navy and Marine Corps, the U.S. Air Force, and eight cooperative international partners, as well as three Foreign Military Sales (FMS) countries. The Marine Corps and the Air Force declared Initial Operational Capability in July 2015 and August 2016, respectively. The final assembly of F-35 aircraft for the U.S. is at Air Force Plant 4, Fort Worth, Texas.



Mission: Provides all-weather, precision, stealthy, air-to-air, and ground strike capability, including direct attack on the most lethal surface-to-air missiles and air defenses.

FY 2018 Program: Continues development of the air system, F135 single engine propulsion system, and conducts systems engineering, development and operational testing, and supports Follow-on Modernization. Procures a total of 70 aircraft: 46 CTOL for the Air Force, 20 STOVL for the Marine Corps, and 4 CV for the Navy in FY 2018.

Prime Contractors: Lockheed Martin Corporation; Fort Worth, TX
Pratt & Whitney; Hartford, CT

F-35 Joint Strike Fighter										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
USN	1,055.7	-	1,197.8	-	550.7	-	-	-	550.7	-
USAF	627.9	-	603.5	-	627.5	-	-	-	627.5	-
Subtotal	1,683.6	-	1,801.3	-	1,178.2	-	-	-	1,178.2	-
Procurement										
USN	3,685.5	21	3,306.8	20	3,723.7	24	-	-	3,723.7	24
USAF	5,790.2	47	5,577.7	48	5,393.3	46	-	-	5,393.3	46
Subtotal	9,475.8	68	8,884.5	68	9,116.9	70	-	-	9,116.9	70
Spares										
	401.1	-	638.1	-	542.8	-	-	-	542.8	-
Total	11,560.4	68	11,323.9	68	10,837.9	70	-	-	10,837.9	70

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

V-22 Osprey

DOD - JOINT

The V-22 Osprey is a tilt-rotor, vertical takeoff and landing aircraft designed to meet the amphibious/vertical assault needs of the Marine Corps, the strike rescue and Carrier Onboard Delivery (COD) needs of the Navy, and the long range special operations forces (SOF) missions for U.S. Special Operations Command (SOCOM). The aircraft is designed to fly 2,100 miles with one in-flight refueling, giving the Services the advantage of a vertical and/or short takeoff and landing aircraft that can rapidly self-deploy to any location in the world.



Mission: Conducts airborne assault, vertical lift, combat search and rescue, and special operations missions. The new CMV-22 variant will replace the Navy's C-2A Greyhound for the COD mission.

FY 2018 Program: Funds the first year of a follow-on 7-year multiyear procurement contract (FY 2018 to 2024), procuring 6 CMV-22 aircraft for the Navy.

Prime Contractors: Bell Helicopter Textron, Incorporated; Fort Worth, TX
The Boeing Company; Philadelphia, PA

V-22 Osprey										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
USN	74.3	-	189.4	-	171.4	-	-	-	171.4	-
USAF	26.8	-	28.7	-	22.5	-	-	-	22.5	-
Subtotal	101.1	-	218.1	-	193.9	-	-	-	193.9	-
Procurement										
USN	1,440.7	19	1,540.0	19	706.7	6	-	-	706.7	6
USAF	125.8	1	64.3	-	61.2	-	-	-	61.2	-
Subtotal	1,567	20	1,604.3	19	767.9	6	-	-	767.9	6
USN Subtotal	1,515.0	19	1,729.4	19	878.1	6	-	-	878.1	6
USAF Subtotal	152.6	1	93.0	-	83.7	-	-	-	83.7	-
Total	1,667.6	20	1,822.4	19	961.8	6	-	-	961.8	6

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

AH-64E Apache

USA

The AH-64E Apache program is a parallel new build and remanufacture effort, which integrates a mast-mounted fire control radar into an upgraded and enhanced AH-64 airframe.

The remanufacture effort results in a zero-time Longbow Apache, which restarts its service life and upgrades the aircraft with updated technologies and performance enhancements to keep the Apache viable throughout its lifecycle. The AH-64E program also installs the Target Acquisition



US Army Photo

Designation Sight and Pilot Night Vision Sensors, plus other safety and reliability enhancements.

Mission: Conducts armed reconnaissance, close combat, mobile strike, and vertical maneuver missions in day, night, obscured battlefield, and adverse weather conditions.

FY 2018 Program: Funds the remanufacture of 48 AH-64D aircraft to the AH-64E configuration and 13 New Build AH-64Es in the second year of a 5-year multiyear procurement (MYP) contract (FY 2017 – FY 2021) and continued development of upgrades to enhance operational capabilities. Procures two AH-64E aircraft in the Overseas Contingency Operations request.

Prime Contractors: Apache: The Boeing Company; Mesa, AZ

Integration: Northrop Grumman Corporation; Baltimore, MD

Lockheed Martin Corporation; Oswego, NY

AH-64E Apache										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	63.0	-	66.4	-	60.0	-	-	-	60.0	-
Procurement										
AH-64E New Build	-	-	707.8	20	446.0	13	-	-	446.0	13
AH-64E Reman	1,353.0	64	1,066.2	52	896.9	48	39.0	2	935.9	50
Total	1,416.0	64	1,840.4	72	1,402.9	61	39.0	2	1,441.9	63

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

CH-47 Chinook

USA

The CH-47F Improved Cargo Helicopter program procures new and remanufactured Service Life Extension Program (SLEP) CH-47F helicopters.

The aircraft includes an upgraded digital cockpit and modifications to the airframe to reduce vibration. The upgraded cockpit includes a digital data bus that permits installation of enhanced communications and navigation equipment

for improved situational awareness, mission performance, and survivability. The new aircraft uses more powerful T55-GA-714A engines that improve fuel efficiency and enhance lift performance. These aircraft are fielded to heavy helicopter companies (CH-47F) and Special Operations Aviation (MH-47G). The CH-47F is expected to remain the Army's heavy lift helicopter until the late 2030s. Recapitalization of the MH-47G airframes is required to extend the useful life of legacy aircraft. The CH-47F Block II development effort entered Engineering and Manufacturing Development in FY 2017. Improvements include increased lift, improved engine control, upgraded drive train components and advanced flight controls. New Build CH-47Fs will continue at a low rate until production of the CH-47F Block II in FY 2021.



US Army Photo

Mission: Transports ground forces, supplies, ammunition, and other battle-critical cargo in support of worldwide combat and contingency operations.

FY 2018 Program: Funds the procurement of four ReNew/SLEP MH-47G and two New Build CH-47F helicopters.

Prime Contractor: The Boeing Company; Philadelphia, PA

CH-47 Chinook										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	31.1	-	91.8	-	194.6	-	-	-	194.6	-
Procurement	1,103.9	39	565.0	22	220.4	6	-	-	220.4	6
Total	1,135.0	39	656.8	22	415.0	6	-	-	415.0	6

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

UH-60 Black Hawk

USA

The UH-60 Black Hawk is a twin engine, single-rotor, four bladed utility helicopter that is designed to carry a crew of 4 and a combat equipped squad of 11 or an external load up to 9,000 lbs. The UH-60 comes in many variants and with many different modifications. Variants may have different capabilities and equipment in order to fulfill different roles. The Army variants can be fitted with stub wings to carry additional fuel tanks or weapons.



The UH-60M Black Hawk is a digital networked platform with greater range and lift to support operational Commanders through air assault, general support command and control, and aeromedical evacuation. An HH-60M is a UH-60M Black Hawk integrated with the Medical Evacuation (MEDEVAC) Mission Equipment Package (MEP) kit, which provides day/night and adverse weather emergency evacuation of casualties.

Mission: Provides a highly maneuverable, air transportable, troop carrying helicopter for all intensities of conflict, without regard to geographical location or environmental conditions. It moves troops, equipment, and supplies into combat and performs aeromedical evacuation and multiple functions in support of the Army's air mobility doctrine for employment of ground forces.

FY 2018 Program: Funds the procurement of 48 UH-60M aircraft in the second year of a follow-on 5-year multiyear procurement (MYP) contract (FY 2017 – FY 2021). Also funds the continued development of upgrades to the UH-60L Digital, now designated as the UH-60V.

Prime Contractor: Sikorsky Aircraft; Stratford, CT

UH-60 Black Hawk										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	64.0	-	46.8	-	34.4	-	-	-	34.4	-
Procurement	1,701.8	107	1,305.5	53	1,024.6	48	-	-	1,024.6	48
Total	1,765.8	107	1,352.3	53	1,059.0	48	-	-	1,059.0	48

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

E-2D Advanced Hawkeye

The E-2D Advanced Hawkeye is an airborne early warning, all weather, twin-engine, carrier-based aircraft designed to extend task force defense perimeters. The Advanced Hawkeye provides improved battlespace target detection and situational awareness, especially in the littorals; supports the Theater Air and Missile Defense operations; and improves operational availability for the radar system. Relative to the E-2C aircraft, the E-2D aircraft provides increased electrical power, a strengthened fuselage, and upgraded radar system, communications suite, and mission computer.



Mission: Provides theater air and missile sensing and early warning; battlefield management command and control; acquisition tracking and targeting of surface warfare contacts; surveillance of littoral area objectives and targets; and tracking of strike warfare assets.

FY 2018 Program: Funds five E-2D aircraft in the fifth year of a multiyear procurement contract, associated support, continued development of systems, and advance procurement for additional aircraft in FY 2019.

Prime Contractors: Airframe: Northrop Grumman Corporation; Bethpage, NY (Engineering) and St. Augustine, FL (Manufacturing)
 Engine: Rolls-Royce Corporation; Indianapolis, IN
 Radar: Lockheed Martin Corporation; Syracuse, NY

E-2D Advanced Hawkeye										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	211.1	-	363.8	-	292.5	-	-	-	292.5	-
Procurement	1,021.6	5	1,015.5	6	809.5	5	-	-	809.5	5
Spares	11.3	-	20.4	-	14.3	-	-	-	14.3	-
Total	1,244.0	5	1,399.6	6	1,116.4	5	-	-	1,116.4	5

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

H-I Program: AH-IZ Viper / UH-IY Venom



The H-I program replaces the AH-1W Super Cobra and the UH-1N Huey helicopters with the AH-IZ Viper and UH-IY Venom, the next generation of USMC Attack and Utility aircraft. Speed, range, and payload have been increased significantly, while supportability demands, training timelines, and total ownership cost have decreased.



The advanced cockpit is common to both aircraft, reduces operator workload, improves situational awareness, and provides growth potential for future weapons and joint digital interoperability enhancements. The cockpit systems assimilate onboard planning, communications, digital fire control, all weather navigation, day/night targeting, and weapons systems in mirror-imaged crew stations. The procurement strategy converts 37 AH-1W helicopters into AH-IZs, builds 152 new AH-IZs, remanufactures 10 H-1N helicopters into UH-IYs, and builds 150 new UH-IYs. Both aircraft are in full rate production. The UH-IY helicopter completed the program of record procurement of 160 UH-IY aircraft in FY 2016.

Mission: AH-IZ: Provides close air support, air interdiction, armed reconnaissance, strike coordination and reconnaissance, forward air control (airborne), and aerial escort during day/night operations in support of naval expeditionary operations or joint and combined operations. UH-IY: Provides combat assault transport, close air support, armed reconnaissance, strike coordination and reconnaissance, forward air control (airborne), air delivery, airborne command and control, aerial escort and air evacuation during day/night and reduced weather conditions.

FY 2018 Program: Funds the procurement of 22 new build AH-IZ aircraft. Funds developmental efforts to support follow-on improvements to sensors and weapons integration, avionics, and air vehicle components that will address deficiencies, systems safety, obsolescence, reliability, and cost growth issues for both the AH-IZ and UH-IY helicopters.

Prime Contractor: Bell Helicopter Textron, Incorporated; Fort Worth, TX

H-I Program (AH-IZ Viper / UH-IY Venom)										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	26.8	-	27.4	-	61.3	-	-	-	61.3	-
Procurement	840.1	29	817.0	24	720.5	22	-	-	720.5	22
Total	866.9	29	844.4	24	781.8	22	-	-	781.8	22

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

P-8A Poseidon

The P-8A Poseidon is an multi-mission platform designed to replace the P-3C Orion propeller driven aircraft. This derivative of the Boeing 737 aircraft is an all weather, twin engine, maritime patrol aircraft designed to sustain and improve armed maritime and littoral capabilities



in traditional, joint, and combined roles to counter changing and emerging threats. All sensors onboard contribute to a single fused tactical situation display, which is then shared over both military standard and internet protocol data links, allowing for seamless delivery of information between U.S. and allied forces. The P-8A will carry a new radar array, which is a modernized version of the Raytheon APS-149 Littoral Surveillance Radar System.

Mission: Provides Maritime Patrol Anti-Submarine Warfare (ASW), Anti-Surface Warfare (ASuW), and armed Intelligence, Surveillance and Reconnaissance (ISR) capabilities in maritime and littoral areas above, on, and below the surface of the ocean.

FY 2018 Program: Procures seven P-8A aircraft, support equipment, spares, and advance procurement for FY 2019 aircraft. Continues research and development on the P-8A capabilities to meet the ASW, ASuW, and ISR objectives that will be delivered incrementally while full rate production continues for the baseline aircraft.

Prime Contractors: Airframe: Boeing; Seattle, WA
Engine: CFM International; Cincinnati, OH

P-8A Poseidon										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	227.6	-	239.3	-	190.7	-	-	-	190.7	-
Procurement	3,224.3	17	2,983.4	17	1,385.6	7	-	-	1,385.6	7
Spares	6.9	-	44.7	-	33.1	-	-	-	33.1	-
Total	3,458.8	17	3,267.4	17	1,609.4	7	-	-	1,609.4	7.0

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

CH-53K Heavy Lift Replacement Helicopter



The CH-53K King Stallion is a marinized heavy-lift helicopter that replaces the U. S. Marine Corps CH-53E, which was introduced in 1980.



The CH-53K will provide improved lift and range capabilities, performance, commonality, cargo-handling,

reliability, maintainability, interoperability, ship integration, survivability, and force protection.

The CH-53K is designed to support Marine Air-Ground Task Force (MAGTF) heavy-lift requirements in the 21st century joint environment, and is the only heavy-lift platform that can lift the MAGTF ashore. It will provide an unparalleled high-altitude lift capability with nearly three times the external lift capacity of the CH-53E. A total of 194 aircraft are planned for procurement. The program achieved a Milestone C decision and will begin Low Rate Initial Production (LRIP) in FY 2017.

Mission: Conducts expeditionary heavy-lift assault transport of armored vehicles, equipment and personnel to support distributed operations deep inland from a sea-based center of operations.

FY 2018 Program: Funds the procurement of the 4 Low-Rate Initial Production (LRIP) aircraft. Development efforts continue flight tests of System Demonstration Test Article (SDTA) aircraft.

Prime Contractor: Sikorsky Aircraft Corporation; Stratford, CT

CH-53K Heavy Lift Replacement Helicopter										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	563.2	-	404.8	-	340.8	-	-	-	340.8	-
Procurement	41.3	-	437.0	2	714.7	4	-	-	714.7	4
Total	604.5	-	841.8	2	1,055.5	4	-	-	1,055.5	4

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

VH-92A Presidential Helicopter



The VH-92A replaces the legacy Presidential Helicopter fleet – the VH-3D, which was fielded in 1974, and the VH-60N, which was fielded in 1989. The VH-92A will be based on Sikorsky’s commercial S-92A helicopter. The VH-92A’s acquisition strategy involves the integration of mature government-defined mission systems and an executive interior into an existing air vehicle.



The program entered the Engineering and Manufacturing Development (EMD) phase in FY 2014. A total of 21 operational aircraft will be

procured. Two Engineering Development Model (EDM) and four System Demonstration Test Article (SDTA) aircraft have been delivered in EMD.

Mission: Provide safe, reliable and timely transportation for the President, Vice President, Foreign Heads of State, and other official parties as directed by the Director of the White House Military Office. Mission tasking includes administrative lift and contingency operations.

FY 2018 Program: Funds the continuing EMD effort, including: beginning Contractor Testing (CT) for airworthiness certification and commencing modification of EDM and SDTA aircraft to VH-92 configuration.

Prime Contractor: Sikorsky Aircraft Corporation; Stratford, CT

VH-92A Presidential Helicopter										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	490.8	-	338.4	-	451.9	-	-	-	451.9	-
Procurement	-	-	-	-	-	-	-	-	-	-
Total	490.8	-	338.4	-	451.9	-	-	-	451.9	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President’s Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

F/A-18 E/F Super Hornet

The F/A-18 E/F Super Hornet is a carrier-based multi-role tactical fighter and attack aircraft. Two versions are being produced: the single-seat E model and the two-seat F model. The Super Hornet is an attack aircraft as well as a fighter through selected use of external equipment and advanced networking capabilities to accomplish specific missions. This “force multiplier” capability gives the operational commander more flexibility in employing tactical aircraft in a rapidly changing battle scenario. In its fighter mode, the aircraft serves as escort and fleet air defense. In its attack mode, the aircraft provides force projection, interdiction, and close and deep air support.



Mission: Provides multi-role attack and strike fighter capability which includes the traditional applications, such as fighter escort and fleet air defense, combined with the attack applications, such as interdiction and close air support.

FY 2018 Program: Procures fourteen E/F model aircraft, which will lessen the shortfall in Naval combat aircraft.

Prime Contractors: Airframe: Boeing; St. Louis, MO
Engine: General Electric Company; Lynn, MA

F/A-18 E/F Super Hornet										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	-	-	-	-	-	-	-	-
Procurement	350.0	5	2,504.9	26	1,253.1	14	-	-	1,253.1	14
Total	350.0	5	2,504.9	26	1,253.1	14	-	-	1,253.1	14

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Presidential Aircraft Recapitalization (PAR)

The Presidential Aircraft Recapitalization (PAR) program will replace the current VC-25A (Boeing 747-200) “Air Force One” aircraft with a new, modified 747-8 to provide the President, staff, and guests with safe and reliable air transportation at the same level of security and communications capability available in the White House. Due to advancing age, the VC-25A is experiencing increasing out of service times – currently well over a year for heavy maintenance to maintain compliance with Federal Aeronautics Administration airworthiness standards. Boeing will be the sole source integrator responsible for modifying, testing, and fielding two PAR aircraft by 2024.



Mission: Provides safe, secure, worldwide transport to ensure the President can execute the constitutional roles of Commander-in-Chief, Head of State, and Chief Executive.

FY 2018 Program: Continues preliminary design and incremental funding of two commercial aircraft for future modification to the PAR configuration. Begins Engineering and Manufacturing Development of the PAR modifications to the commercial aircraft and required test activities.

Prime Contractor: The Boeing Company; Seattle, WA

Presidential Aircraft Recapitalization (PAR)										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	82.4	-	351.2	2	434.1	-	-	-	434.1	-
Procurement	-	-	-	-	-	-	-	-	-	-
Total	82.4	-	351.2	2	434.1	-	-	-	434.1	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Long Range Strike



Long Range Strike (LRS) is intended to counter post-2020 challenges to DoD's power projection capabilities. The LRS initiatives, collectively termed "Family of Systems" (FoS), will provide a synergistic, more cost-effective force multiplier power projection capability in the post-2020 threat environment. The LRS program includes the next Generation and legacy bombers. Current bombers in the Air Force inventory are the B-1, B-2, and B-52 aircraft. The B-21 (Long Range Strike Bomber) is a new, high-tech long range bomber that will eventually replace the Air Force's aging bomber fleet. The B-21 will be a key component of the joint portfolio of conventional and nuclear deep-strike capabilities.



Mission: Flies into enemy territory to destroy strategic targets such as major military installations, factories and cities to debilitate an adversary's capacity to wage war. The B-1 bomber can perform a variety of missions, including that of conventional carrier for theater operations and can rapidly deliver massive quantities of precision and non-precision weapons against any adversary, worldwide, at any time. The B-2 aircraft delivers both conventional and nuclear munitions, capable of massive firepower in short time anywhere. The B-52 aircraft maintains nuclear or conventional missions. Mission details of the B-21 are currently classified.

FY 2018 Program: Continues engineering and manufacturing development of the next generation B-21 and upgrades to modernize legacy strategic bombers.

Prime Contractors: Northrop Grumman Aerospace Systems; Palmdale, CA

Long Range Strike										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	1,149.8	-	1,920.5	-	2,565.6	-	-	-	2,565.6	-
Procurement	281.8	-	306.1	-	361.7	-	-	-	361.7	-
Spares	24.0	-	15.1	-	18.1	-	-	-	18.1	-
Total	1,455.6	-	2,241.7	-	2,945.4	-	-	-	2,945.4	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

F-22 Raptor

The F-22 Raptor is a fifth generation air superiority aircraft fighter. The Raptor is designed to penetrate enemy airspace and achieve first-look, first-kill capability against multiple targets. It has unprecedented survivability and lethality, ensuring the Joint Forces have freedom from attack, freedom to maneuver, and freedom to attack.



Mission: Provides the U.S. Enhanced air superiority/global strike capability to counter and defeat air-air and air-ground threats in a highly contested environment by conducting counter air, Destruction of Enemy Air Defenses (DEAD) and cruise missile defense missions.

FY 2018 Program: Continues critical planned modernization for F-22 aircraft via incremental capability upgrades and key reliability and maintainability improvements. Continues development and testing of advanced air superiority capabilities to include integration of AIM-120D and AIM-9X, additional electronic protection, and improved geolocation. Completes fielding of Increment 3.1, enhancing Global Strike capabilities such as Small Diameter Bomb I, Synthetic Aperture Radar and Geolocation.

Prime Contractors: Lockheed Martin; Marietta, GA and Fort Worth, TX
Pratt & Whitney; Hartford, CT

F-22 Raptor										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	340.2	-	457.9	-	624.5	-	-	-	624.5	-
Procurement	175.4	-	241.4	-	282.4	-	-	-	282.4	-
Spares	2.9	-	5.2	-	8.5	-	-	-	8.5	-
Total	518.5	-	704.4	-	915.5	-	-	-	915.5	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

KC-46A Tanker

The KC-46, an aerial refueling tanker, will provide aerial refueling support to the Air Force, Navy, and Marine Corps aircraft. The aircraft Provides increased refueling capacity, improved efficiency, and increased cargo and aeromedical evacuation capability over the current KC-135 Stratotanker, which is more than 50 years old.



The first phase of aerial refueling tanker recapitalization will procure 179 aircraft, approximately one-third of the current KC-135 tanker fleet. Envisioned KC-Y and KC-Z programs will ultimately recapitalize the entire tanker fleet over a period of more than 30 years. The KC-46 aircraft is assembled on the existing commercial 767 production line and militarized in the Everett Modification Center, both of which are located in Everett, Washington.

Mission: Provides the capability to refuel joint and coalition receivers via a boom or drogue system and will augment the airlift fleet with cargo, passenger and aeromedical evacuation capabilities. Aerial refueling forces perform these missions at the strategic, operational, and tactical level across the entire spectrum of military operations. The KC-46 aircraft will operate in day/night and adverse weather to enable deployment, employment, sustainment, and redeployment of U.S. and Coalition forces.

FY 2018 Program: Continues the Air Force's development efforts of a militarized variant of the Boeing 767-2C aircraft, the building and integration of military capabilities into four development aircraft, the completion of developmental testing and the start of Initial Operational Test and Evaluation. Also includes funding for the continued development of technical manuals, continued Type I training, and collection of simulator and maintenance data. Continues a fourth year of Low Rate Initial Production (LRIP), procuring 15 aircraft in FY 2018.

Prime Contractor: The Boeing Company; Seattle, WA

KC-46A Tanker										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	572.1	-	261.7	-	93.8	-	-	-	93.8	-
Procurement	2,334.6	12	2,884.6	15	2,545.7	15	-	-	2,545.7	15
Spares	53.0	-	172.2	-	413.4	-	-	-	413	-
Total	2,959.7	12	3,318.5	15	3,052.9	15	-	-	3,052.9	15

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

F-15 Eagle

The F-15C/D is a twin engine, single seat, supersonic, all-weather, day/night, air superiority fighter. The F-15E is a twin engine, two seat, supersonic dual-role, day/night, all-weather, deep interdiction fighter with multi-role air-to-air capabilities.



Mission: Provides the Air Force with the capability to gain and maintain air supremacy over the battlefield.

FY 2018 Program: Continues the F-15E Radar Modernization Program (RMP), which replaces the legacy radar using existing technology from other aviation platforms and solves parts obsolescence problems to provide improved reliability and performance (increased synthetic aperture radar range and resolution), including air-to-air and air-to-ground modes. Continues the F-15 C/D radar upgrade program, which replaces the mechanically-scanned antenna on F-15C/D aircraft with an active electronically scanned array (AESA). Continues development of the Eagle Passive/Active Warning Survivability System, which is intended to improve F-15E survivability by enhancing the ability to detect, deny, or defeat air and ground threats.

Prime Contractor: Boeing; St Louis, MO

F-15 Eagle										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	384.5	-	613.4	-	530.1	-	-	-	530.1	-
Procurement	596.9	-	105.7	-	417.2	-	-	-	417.2	-
Spares	21.1	-	49.5	-	15.8	-	-	-	15.8	-
Total	1,002.5	-	768.5	-	963.1	-	-	-	963.1	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Combat Rescue Helicopter (CRH)



The Combat Rescue Helicopter (CRH) Program, formerly referred to as HH-60 Recapitalization, will replace the aging HH-60G helicopter. The HH-60 Pave Hawk is the U.S. Air Force version of the U.S. Army's UH-60 Black Hawk, modified for Combat Search and Rescue (CSAR) in all weather situations. The CRH program will leverage in-service production



air vehicles and training systems and then integrate existing technologies and missions systems to acquire a new system. Onboard defensive capabilities will permit the CRH system to operate in an increased threat environment. An in-flight refueling capability will provide an airborne ready alert capability and extend its combat mission range. The CRH program plans to procure a total of 112 aircraft.

Mission: Conduct day and night marginal weather CSAR in order to recover downed aircrew and isolated personnel in hostile environments. The CRH will perform a wide array of collateral missions, including casualty evacuation (CASEVAC), medical evacuation (MEDEVAC), non-combat evacuation operations, civil search and rescue, international aid, disaster humanitarian relief, and insertion/extraction of combat forces.

FY 2018 Program: Funds Engineering and Manufacturing Development (EMD) activities, including development and testing efforts on the System Demonstration Test Article (SDTA) aircraft, missions systems, training systems and associated product support.

Prime Contractor: Sikorsky Aircraft Corporation; Stratford, CT

Combat Rescue Helicopter										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	150.3	-	319.3	-	354.5	-	-	-	354.5	-
Procurement	-	-	-	-	-	-	-	-	-	-
Total	150.3	-	319.3	-	354.5	-	-	-	354.5	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

AIRCRAFT & RELATED SYSTEMS



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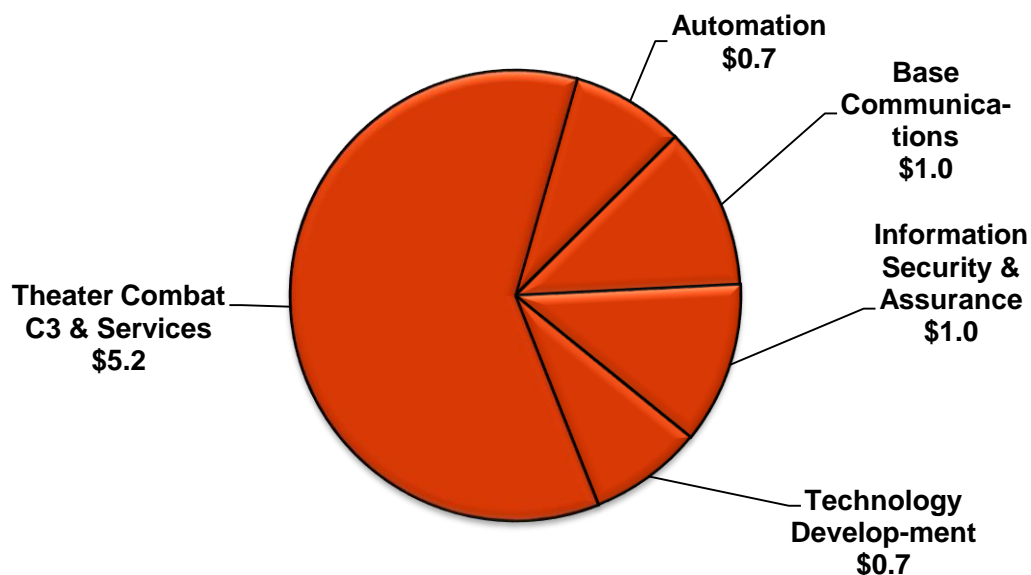
Command, Control, Communications, Computers, and Intelligence (C4I) Systems

The Department is well underway in transforming and developing new concepts for the conduct of future joint military operations to achieve full spectrum dominance. This overarching goal to defeat any adversary or control any situation across the full range of military operations is achieved through a broad array of capabilities enabled by an interconnected network of sensors, shooters, command, control, and intelligence. Net-centricity transformed the way that information is managed to accelerate decision making, improve joint warfighting, and create intelligence advantages. U.S. forces are heavily-networked and require reliable secure trusted access to information and depend upon network-based interconnectivity for increased operational effectiveness. By enhancing information sharing, dispersed forces are able to communicate, maneuver, share a common user - defined operating picture, and successfully complete assigned missions more efficiently.

The FY 2018 budget request supports the net-centricity service-based architecture pattern for information sharing. It is being implemented by the C4I community via building joint architectures and roadmaps for integrating joint airborne networking capabilities with the evolving ground, maritime, and space networks. It encompasses the development of technologies like gateways, waveforms, network management, and information assurance.

FY 2018 Command, Control, Communications, Computers, and Intelligence (C4I) Systems – Total: **\$8.6 Billion**

(\$ in Billions)



Numbers may not add due to rounding

C4I SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Warfighter Information Network - Tactical

The Warfighter Information Network-Tactical (WIN-T) is the cornerstone for Army's high speed, high capability backbone communications network, linking Warfighters in the battlefield with the Global Information Grid. The network is intended to provide command, control, communications, computers, intelligence, surveillance, and reconnaissance. The system is developed as a network for reliable, secure, and seamless video, data, imagery, and voice services for the Warfighters in theater to enable decisive combat actions. Increment 1 provides

"networking at the halt" by upgrading the Joint Network Node (JNN) satellite capability to access the Wideband Global Satellite. Increment 2 (Inc 2) provides networking on-the-move to the company level. Tactical Cyber and Network Operations (TCNO) develops the Network Operations (NetOps) software to meet the Army's network convergence goals. The TCNO provides the fully integrated NetOps capability to allow seamless integration of tactical network planning, management, monitoring, and defense for the Signal Staff.



Mission: Provides the Army with a transformational modernized network. Using satellite and ground layers, it delivers fully mobile, flexible, dynamic networking capability enabling Joint land forces to engage enemy forces deeper and more effectively. The WIN-T Inc 2 introduces a mobile, ad-hoc, self-configuring, self-healing network using satellite on-the-move capabilities, robust network management, and high-bandwidth radio systems to keep mobile forces connected, communicating, and synchronized.

FY 2018 Program: Funds the procurement of 61 WIN-T Inc 2 communication nodes and 846 other configuration items for fielding to 3 Brigade Combat Teams, 1 Division, and 3 Infantry Brigade Combat Teams.

Prime Contractors: General Dynamics Corporation; Taunton, MA
Lockheed Martin Corporation; Gaithersburg, MD

Warfighter Information Network-Tactical										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	43.5	-	4.9	-	4.7	-	-	-	4.7	-
Procurement	695.1	-	437.2	-	420.5	-	-	-	420.5	-
Spares	39.5	-	19.8	-	23.9	-	-	-	23.9	-
Total	778.1	-	461.9	-	449.1	-	-	-	449.1	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Handheld, Manpack, and Small Form Fit Radio DOD - JOINT

The Handheld, Manpack, and Small Form Fit (HMS) program procures radios that are software reprogrammable, networkable, multi-mode systems capable of simultaneous voice and data communications. The HMS encompasses the Handheld Radios (one-channel Rifleman Radio (RR) and two-channel Leader Radio (LR), Manpack Radio (MP), and Small Form Fit (SFF) radios. The RR is a handheld radio that connects Soldiers at the lowest echelon of the Army network by providing one-channel secure voice and data communications using Soldier Radio Waveform (SRW). The LR is a Multiband two-channel handheld radio to be used at the Team, Squad, and Platoon level. The LR will simultaneously support Single Channel Ground and Airborne Radio System (SINCGARS) voice interoperability and Soldier Radio Waveform (SRW) data and voice communications in one radio with both handheld and mounted configurations. The MP radio is a certified Type I radio used for transmission of up to Secret information. The MP is capable of providing two simultaneous channels of secure voice and data communications using SINCGARS, SRW, and Demand Assigned Multiple Access Satellite Communication. The embedded SFF radios may be used for Unmanned Vehicles and other platform applications.



Mission: Provides voice and data communications to the tactical edge/most disadvantaged Warfighter with an on-the-move, at-the-halt, and stationary Line of Sight/Beyond Line of Sight capability for both dismounted personnel and mounted platforms. The MP and the RR extend the network down to the Squad/Team leader. These networking tactical radio systems meet requirements for the Army, Navy, Marine Corps, and Special Operations Command and are interoperable with specified radios in the current forces.

FY 2018 Program: Funds the required full and open competition contract strategy for the RR and the MP radios. Conducts testing for the MP and the RR candidate products to demonstrate compliance with program requirements to assess effectiveness, suitability, and survivability and to obtain material release for Full Rate Production. Funds support safety, spectrum supportability, and additional certifications necessary to prepare the products for fielding. Procures 506 RR and 3,152 MP, support equipment, fielding, non-recurring engineering, and platform vehicle integration.

Prime Contractors: General Dynamics C4 Systems Incorporated; Scottsdale, AZ
 Harris Radio Corporation; Rochester, NY
 Thales Communications Incorporated; Clarksburg, MD

Handheld, Manpack, and Small Form Fit										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	4.5	-	18.8	-	20.1	-	-	-	20.1	-
Procurement	54.6	-	273.6	5,656	355.4	-	-	-	355.4	-
Total	59.1	-	292.4	5,656	375.5	-	-	-	375.5	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)



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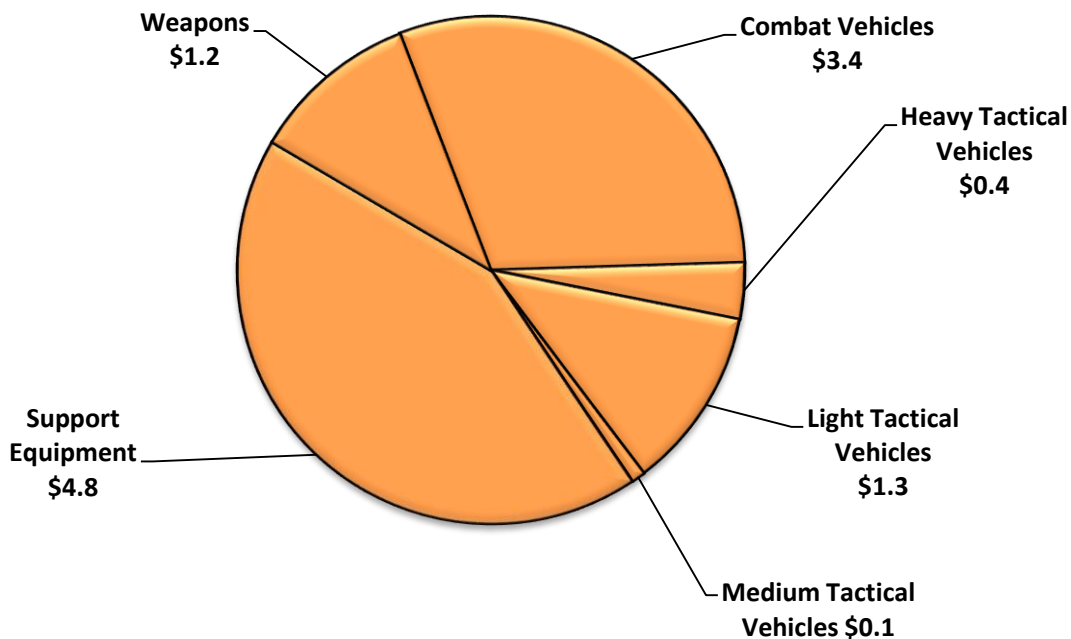
Ground Systems

The Department is modernizing its ground force capabilities to ensure the United States remains a dominant force capable of operating in all environments across the full spectrum of conflict. The Army and Marine Corps equip each soldier and Marine with the best equipment available to succeed in both today's and tomorrow's operations. Ongoing technology research and concept exploration will benefit future Army and Marine Corps combat portfolios.

The Army continues to modernize and upgrade select Major Defense Acquisition Programs in FY 2018, including Stryker vehicles, Abrams Tanks, Bradley Fighting Vehicles, and Paladin 155mm Howitzers. The Marine's ground force focus in FY 2018 is on the Amphibious Combat Vehicle (ACV). The ACV will deliver shore and sea-based infantry to the battlefield in vehicles designed for future operational environments. All the Services will procure the Joint Light Tactical Vehicle (JLTV) as part of the Low Rate Initial Production (LRIP).

FY 2018 Ground Systems – Total: \$11.2 Billion

(\$ in Billions)



Numbers may not add due to rounding

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Joint Light Tactical Vehicle

DOD - JOINT

The Joint Light Tactical Vehicle (JLTV) is a joint program currently in development for the Army and Marine Corps. The JLTV is intended to replace the High Mobility Multipurpose Wheeled Vehicle (HMMWV), which is the current light tactical vehicle. The JLTV concept is based on a family of vehicles focused on scalable armor protection and vehicle agility, and mobility required of the light tactical vehicle fleet. The JLTV will provide defensive measures to protect troops while in transport, increase payload capability, and achieve commonality of parts and components to reduce the overall life cycle cost of the vehicle. The JLTV project seeks to optimize performance, payload, and protection of the crew and vehicle while ensuring a design that is transportable by CH-47, CH-53, and C-130 aircraft. The program achieved Milestone C in October 2015.



Mission: Provides a light tactical vehicle capable of performing multiple mission roles, and providing protected, sustained, networked mobility for personnel and payloads across the full range of military operations. There are two variants planned: Combat Support Vehicles (3,500 lb) and Combat Tactical Vehicles (5,100 lb).

FY 2018 Program: Funds the third and final year of Low Rate Initial Production (LRIP), procuring 2,777 trucks. Continues Full Up System Level (FUSL) test, Multi-Service Operational Test and Evaluation (MOT&E), Automatic Fire Extinguishing System (AFES) test, and Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) test.

Prime Contractor: Oshkosh Corporation; Oshkosh, WI

Joint Light Tactical Vehicle										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E USA	31.2	-	11.5	-	23.5	-	-	-	23.5	-
RDT&E USMC	24.8	-	23.2	-	20.7	-	-	-	20.7	-
Procurement USA	249.9	686	587.5	1,828	804.4	2,110	-	-	804.4	2,110
Procurement AF	1.7	-	40.4	-	59.4	138	1.1	2	60.5	140
Procurement USMC	58.6	119	113.2	192	233.6	527	-	-	233.6	527
Total	366.2	805	775.8	2,020	1,141.6	2,775	1.1	2	1,142.7	2,777

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Armored Multi-Purpose Vehicle (AMPV)

USA

The Armored Multi-Purpose Vehicle (AMPV) will replace the M113 Armored Personnel Carrier program that was terminated in 2007. The AMPV will have five mission roles: General Purpose, Medical Treatment, Medical Evacuation, Mortar Carrier and Mission Command. The current M113 Armored Personnel Carrier Mission Equipment Packages (MEPs) will be integrated onto a new hull structure based on the Bradley Fighting Vehicle design to give the Army its required capability at an affordable cost.



Mission: Enables the Armored Brigade Combat Team (ABCT) commander to control a relentless tempo that overwhelms the threat with synchronized and integrated assaults that transition rapidly to the next engagement.

FY 2018 Program: Funds Engineering and Manufacturing Development (EMD) prototype testing (including performance and reliability testing), completion of the Interim Design Review (IDR) and the Functional Configuration Audit (FCA), continued development of Logistics Support products, procurement of Live Fire Test Assets, and procurement of 107 Low Rate Initial Production vehicles.

Prime Contractor: BAE Systems; York, PA

Armored Multi-Purpose Vehicle (AMPV)										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	213.0	-	184.2	-	199.8	-	-	-	199.8	-
Procurement	-	-	-	-	193.7	42	253.9	65	447.6	107
Total	213.0	-	184.2	-	393.5	42	253.9	65	647.4	107

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Family of Heavy Tactical Vehicles

The Family of Heavy Tactical Vehicles (FHTV) consists of the Palletized Load System (PLS) and the Heavy Expanded Mobility Tactical Truck (HEMTT).

The PLS entered service in 1993 and consists of a 16.5 ton, 10 wheel tactical truck with self load/unload capability.

The PLS carry payload on flat rack cargo bed, trailer, or International Standards Organization (ISO) containers. The HEMTT is a 10 ton, 8 wheel (8x8) truck that comes in several configurations: Tanker to refuel tactical vehicles and helicopters, Tractor to tow the Patriot missile system and Multi-Launch Rocket System (MLRS), Wrecker to recover vehicles, and Cargo truck with a materiel handling crane. The HEMTT family entered service in 1982.



Mission: Provides transportation of heavy cargo to supply and re-supply combat vehicles and weapons systems. The PLS is fielded to transportation units, ammunition units, and to forward support battalions with the capability to self-load and transport a 20 ft. ISO container. The upgraded HEMTT A4 is an important truck to transport logistics behind quick-moving forces such as the M-1 Abrams and Stryker. The HEMTT family carries all types of cargo, especially ammunition and fuel, and is used for line haul, local haul, unit resupply, and other missions throughout the tactical environment to support modern and highly mobile combat units.

FY 2018 Program: Funds the procurement of 621 FHTVs, as well as trailers to modernize the heavy tactical vehicle fleet for the Active, National Guard, and Reserve units and to fill urgent theater requirements.

Prime Contractor: Oshkosh Corporation; Oshkosh, WI

Family of Heavy Tactical Vehicles										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	11.4	-	10.5	-	-	-	10.5	-
Procurement	30.8	345	45.7	481	81.6	359	25.9	262	107.5	621
Total	30.8	345	57.1	481	92.1	359	25.9	262	118.0	621

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

M-I Abrams Tank Modification/Upgrades

The M1A2 Abrams is the Army's main battle tank, which first entered service in 1980.

It was produced from 1978

until 1994. Since then, the

Army has modernized it with a series of upgrades to improve its capabilities, collectively known as

the System Enhancement Package (SEP) and the Tank Urban Survival Kit (TUSK). Current modifications to the M1 Abrams include Ammunition Data Link, Low Profile Commander's Remote Operated Weapon Station and Power Train Improvement & Integration Optimization, which provide more reliability, durability and fuel efficiency. Survivability enhancements include Active Protection System upgrades.

US Army Photo



Mission: Provides mobile and protected firepower for battlefield superiority against heavy armor forces.

FY 2018 Program: Funds ECP IA testing and continues Engineering Change Proposal (ECP) IB (lethality improvements) development. Funds the upgrade of 56 M1A1 vehicles variants to the M1A2 SEP v3 variant. Continues support of the ECP IA installation of M1A2SEP v3 production in FY 2018 and as well as numerous approved modifications to fielded M1A2 Abrams tanks, including the Ammunition Data Link (ADL) to enable firing of the Army's new smart 120mm ammunition, Low Profile Commander's Remote Operating Weapon Station (CROWS) and Active Protection System.

Prime Contractor: General Dynamics Corporation; Sterling Heights, MI

M-I Abrams Tank Modification/Upgrades										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	73.8	-	88.5	-	108.6	-	-	-	108.6	-
Procurement	430.9	-	810.2	27	523.8	20	581.5	36	1,105.3	56
Total	504.7	-	898.7	27	632.4	20	581.5	36	1,213.9	56

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Paladin Integrated Management (PIM)

The M109 Family of Vehicles (FOV) consists of the M109A6 Paladin 155mm Howitzer, the most advanced self-propelled cannon system in the Army, and the Field M992A2 Artillery Ammunition Support Vehicle (FAASV), an armored resupply vehicle. The Paladin Integrated Management (PIM) program addresses obsolescence, space, weight, and power concerns and Ensures sustainment of the M109 FOV through 2050. The PIM replaces the current M109A6 Paladin and M992A2 FAASV vehicles with a more robust platform, incorporating the M2 Bradley common drive train and suspension components. The PIM fills the capability gap created by cancellation of the Non-Line of Sight Cannon (NLOS-C) (a component of the Future Combat System program) in 2009. Begins Full Rate Production (FRP) in FY 2018.



Mission: Provides the primary indirect fire support for Armored Brigade Combat Teams, armored and mechanized infantry divisions as well as an armored resupply vehicle.

FY 2018 Program: Funds the close out of the Engineering Manufacturing Development (EMD) work, training devices for cannon system development, and procures 71 PIM systems.

Prime Contractor: BAE Systems; York, PA

Paladin Integrated Management (PIM)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	136.4	-	41.5	-	6.1	-	-	-	6.1	-
Procurement	273.9	30	594.5	48	646.4	59	125.7	12	772.1	71
Total	410.3	30	636.0	48	652.5	59	125.7	12	778.2	71

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Family of Medium Tactical Vehicles

USA

The Family of Medium Tactical Vehicles (FMTV) is a family of diesel powered trucks in the 2½-ton and 5-ton payload class. The vehicle first went into service in 1996. It capitalizes on the current state of automotive technology including a diesel engine, automatic transmission, and central tire inflation system (CTIS). The family of vehicles significantly reduces logistics burden and operating costs, taking advantage of over 80 percent parts commonality. Numerous models perform a wide variety of missions including cargo transport (cargo model), vehicle recovery operations (wrecker), construction (dump), line haul (tractor), airdrop missions, and civil disaster relief. The FMTV also serves as the platform for the High Mobility Artillery Rocket System (HIMARS) and support vehicle for the Patriot missile. It is strategically deployable in C-5, C-17, and C-130 aircraft. Incorporating Engineering Change Proposal in FY 2018 to increase suspension capacity, improved ride quality and mobility when inserting underbody protection.



DoD Photo

Mission: Provides unit mobility and resupply of equipment and personnel for rapidly deployable worldwide operations on primary and secondary roads, trails, cross-country terrain, and in all climatic conditions.

FY 2018 Program: Funds the procurement of 37 Medium Tactical Vehicles to support the Army modular transformation effort to modernize the tactical wheeled vehicle fleet for medium size trucks.

Prime Contractor: Oshkosh Corporation; Oshkosh, WI

Family of Medium Tactical Vehicles (FMTV)										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	-	-	6.0	-	-	-	6.0	-
Procurement	334.0	1,155	352.8	1,252	78.7	37	-	-	78.7	37
Total	334.0	1,155	352.8	1,252	84.7	37	-	-	84.7	37

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Stryker Family of Armored Vehicles

Stryker is a 19-ton wheeled armored vehicle that provides the Army with a family of 17 different vehicles (10 flat bottom and 7 Double V-Hull). The Stryker can be deployed by C-130 (flat bottom only), C-17, and C-5 aircraft and be combat-capable upon arrival in any contingency area. There are two basic versions, which include the Infantry Carrier Vehicle (ICV) and the Mobile Gun System (MGS) with eight different configurations, which



include the Reconnaissance Vehicle (RV); Anti-Tank Guided Missile (ATGM); Nuclear, Biological, Chemical, and Radiological Vehicle (NBCRV); Medical Evacuation Vehicle (MEV); Commander's Vehicle (CV); Fire Support Vehicle (FSV); Mortar Carrier (MC); and Engineer Squad Vehicle (ESV).

Mission: The Stryker vehicle is designed to enable the Brigade Combat Team to maneuver more easily in close and urban terrain while providing protection in open terrain. It fills the Army's current transformation goal to equip a strategically deployable brigade using a C-17 or C-5 and an operationally deployable brigade using a C-130 that is capable of rapid movement anywhere on the globe in a combat ready configuration. The Stryker enables the Army to respond immediately to urgent operational requirements.

FY 2018 Program: Funds ECP 1 testing, ECP 2 Lethality Upgrade and continues support of the application of multiple fleet-wide modifications. Modifications address the following areas: Training Devices; Command, Control, Communications, Computers, Intelligence (C4I) obsolescence; reliability, capability and performance degradation; safety; and operational-related issues. Provides for the fielding of a 30mm weapon system.

Prime Contractor: General Dynamics Corporation; Sterling Heights, MI

Stryker										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	215.1	-	136.5	-	80.6	-	-	-	80.6	-
Procurement	975.9	136	598.9	-	97.6	-	-	-	97.6	-
Total	1,191.0	136	735.4	-	178.2	-	-	-	178.2	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Amphibious Combat Vehicle (ACV)



The Amphibious Combat Vehicle (ACV) is a Major Defense Acquisition Program. The ACV will replace the aging Amphibious Assault Vehicle. The Marine Corps has refined its ACV strategy based on several factors, including knowledge gained through multi-year analysis and ongoing development of its Ground Combat Tactical Vehicle Strategy. The ACV program achieved Milestone B in November 2015.



Mission: The ACV will provide an armored personnel carrier balanced in performance, protection, and payload for employment with the Ground Combat Element across the range of military operations, including a swim capability. The program has been structured to provide a phased, incremental capability.

FY 2018 Program: Funds the purchase of 4 Full-Up System Level (FUSL) Test vehicles and continued Test and Evaluation efforts. Procures the Low Rate Initial Production (LRIP) of 26 vehicles, plus procurement of related items such as production support, systems engineering/program management, Engineering Change Orders (ECOs), Government Furnished Equipment (GFE), and integrated logistics support, and Initial Spares, which support the ACV Increment I.1 program. Milestone C is scheduled in FY 2018.

Prime Contractors: BAE Systems; York, PA
Science Applications International Corporation (SAIC); McClean, VA

Amphibious Combat Vehicle (ACV)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	197.0	-	158.7	-	179.0	-	-	-	179.0	-
Procurement	-	-	-	-	161.5	26	-	-	161.5	26
Total	197.0	-	158.7	-	340.5	26	-	-	340.5	26

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

GROUND SYSTEMS



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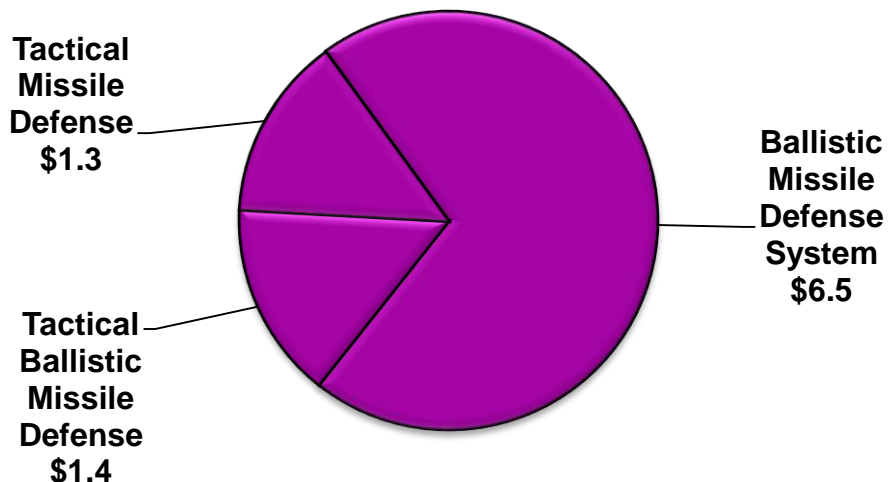
Missile Defense Programs

Missile Defense is a general term for air and missile defense. This category includes cruise missile, air and ballistic missile defense systems program development. The Missile Defense Agency, Army, and the Navy are the program developers. Missile Defense includes all components designed to defeat hostile ballistic missiles of various ranges. A missile defense system includes interceptor missiles, as well as the associated sensors and command, control, battle management, and communications. Other significant investments include construction; targets and countermeasures; and the research, development, testing, and evaluation activities. Encompassed in this category are all programs that are either critical to the functionality of missile defense or support missile defense as a primary mission. The Aegis Ballistic Missile Defense System (BMDS) is the naval element of the Ballistic Missile Defense (BMD) and provides an enduring, operationally effective and supportable BMD capability on Aegis cruisers, destroyers, and Ashore.

The FY 2018 budget request continues to invest and build inventories of air and missile defense capabilities, such as the Patriot Advanced Capability-3 (PAC-3) missiles, PAC-3 Missile Segment Enhancements (MSE) interceptors, Standard Missile-3 (SM-3) interceptors, Terminal High Altitude Area Defense (THAAD) interceptors, and the Army Navy/Transportable Radar Surveillance-2 (AN/TPY-2) radar. Further, the Department continues to seek expanded international efforts for missile defense with allies and partners to provide pragmatic and cost-effective missile defense capabilities.

FY 2018 Missile Defense Programs – Total: **\$9.2 Billion**

(\$ in Billions)



Note: \$9.2 billion does not include the Missile Defense Agency's (MDA) Science and Technology (\$292 million), Military Construction (\$3 million), or the Operation and Maintenance (\$504 million) funding. The total MDA funding is \$7.9 billion for the FY 2018 request.

Numbers may not add due to rounding

FY 2018 Program Acquisition Costs by Weapon System

Aegis Ballistic Missile Defense

DOD - JOINT

The Aegis Ballistic Missile Defense (BMD) is the naval element of the Ballistic Missile Defense System (BMDS) and provides an enduring, operationally effective and supportable BMD capability on Aegis cruisers, destroyers, and Ashore. The Aegis BMD builds upon the existing Navy Aegis Weapons System (AWS) and Standard Missile-3 (SM-3) design. Upgrades are being made to the weapon system and SM to expand capability through a series of incremental, evolutionary improvements to counter more sophisticated and longer range threats.



Mission: Provides a forward-deployable, mobile and Ashore capability to detect and track ballistic missiles of all ranges in all phases of flight with the ability to destroy short- through intermediate-range ballistic missiles in the midcourse and terminal phases. The Aegis BMD delivers an enduring, operationally effective and supportable capability on Aegis cruisers, destroyers, and Ashore to defend the U.S., deployed forces, and our allies.

FY 2018 Program: Supports procurement of 34 SM-3 Block IB missiles. Procures six SM-3 Block IIA missiles. Integrates SM-3 Block IIA into the BMD Weapon Systems. Continues development of the Aegis BMD 5.1 Weapon Systems and Aegis BMD 6.

Prime Contractors: Aegis Weapon System: Lockheed Martin Corporation; Moorestown, NJ
SM-3 Interceptor: Raytheon Company; Tucson, AZ and Huntsville, AL

AEGIS Ballistic Missile Defense										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	882.7	17	1,054.1	-	986.5	6	-	-	986.5	6
Procurement	712.0	46	513.9	35	624.1	34	-	-	624.1	34
Total	1,594.7	63	1,568.0	35	1,610.6	40	-	-	1,610.6	40

Note: The FY 2016 RDT&E includes 17 SM-3 Block IIA missiles. The FY 2018 RDT&E includes 6 SM-3 IIA missile. The FY 2016-2018 Procurement is comprised of SM-3 Block IB missiles.

Numbers may not add due to rounding

* FY 2016 includes actuals for Base and OCO

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILE DEFENSE PROGRAMS

FY 2018 Program Acquisition Costs by Weapon System

THAAD Ballistic Missile Defense

DOD - JOINT

The Terminal High Altitude Area Defense (THAAD) is a key element of the Ballistic Missile Defense System. The THAAD Battery will provide transportable interceptors, using “Hit-To-Kill” technology to destroy ballistic missiles inside and outside the atmosphere. A Battery consists of 6 truck-mounted launchers, 48 interceptors (8 per launcher), 1 AN/TPY-2 radar, and 1 Tactical Fire Control/Communications component.



Mission: Provides Combatant Commanders with a deployable, ground-based missile defense capability against short and medium-range ballistic missiles and asymmetric threats inside and outside the atmosphere.

FY 2018 Program: Supports the procurement of 34 interceptors and associated components, as well as support and training equipment. Continues fielding and sustainment activities for seven THAAD Batteries. Continues development of THAAD software upgrades to address threat packages, defense planning, improved capability to engage short-range ballistic missiles, medium-range ballistic missile, limited intermediate-range ballistic missile threats, and limited integration of the THAAD battery capability into the Integrated Air and Missile Defense Battle Command System (IBCS) planning process.

Prime Contractor: Lockheed Martin Corporation; Sunnyvale, CA

Terminal High Altitude Area Defense (THAAD)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	218.6	-	272.5	-	266.4	-	-	-	266.4	-
Procurement	448.0	34	520.6	36	451.6	34	-	-	451.6	34
Total	666.6	34	793.1	36	718.0	34	-	-	718.0	34

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILE DEFENSE PROGRAMS

FY 2018 Program Acquisition Costs by Weapon System

Ground-based Midcourse Defense

DOD - JOINT

The Ground-based Midcourse Defense (GMD) element is a Missile Defense Agency program and a key component of the Ballistic Missile Defense System (BMDS), providing Combatant Commanders with the capability to engage ballistic missiles in the midcourse phase of flight. This phase, compared to boost or terminal, allows significant time for sensor viewing from multiple platforms and, thus, provides multiple engagement opportunities for hit-to-kill interceptors. The Ground-based Interceptor (GBI) is made up of a three-stage, solid fuel booster and an exoatmospheric kill vehicle. When launched, the multi-stage, solid fuel booster missile carries the kill vehicle toward the target's predicted location in space. Once released from the booster, the kill vehicle uses data received in-flight from ground-based radars and its own on-board sensors to defeat the incoming missile by ramming the warhead with a closing speed of approximately 15,000 miles per hour. Interceptors are currently emplaced at Fort Greely, Alaska (AK), and Vandenberg Air Force Base (AFB), California (CA). The GMD fire control centers are established in Colorado and Alaska.



DoD Missile Defense Agency Photo

Mission: Provides the Combatant Commanders with the capability to defend the United States, including Hawaii and Alaska, against long-range ballistic missiles during the midcourse phase of flight.

FY 2018 Program: Continues to develop, operate, and sustain the GMD weapon system, which includes the planned deployment of 40 Ground Based Interceptors (GBIs) at Fort Greely, AK, and 4 GBIs at Vandenberg AFB, CA by CY 2017, for a total of 44 GBIs. Funds Ground and Flight testing (FTG-11) in support of the Integrated Master Test Plan (IMTP) requirements. Continues the development of the GMD Redesigned Kill Vehicle (RKV) to include buildup of RKV components and extensive testing in support of component level and system level Critical Design Reviews (CDR) as well as RKV Alternative Seeker development. Begins replacing aging ground system infrastructure: Command Launch Equipment, GMD Communications Network, and In-Flight Interceptor Communications System (IFICS) Data Terminals and upgrades fire control and kill vehicle (KV) software to improve discrimination capabilities.

Prime Contractor: Boeing Defense and Space; St. Louis, MO

Ground-based Midcourse Defense										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	1,598.0	-	1,192.7	-	1,370.4	-	-	-	1,370.4	-
Total	1,598.0	-	1,192.7	-	1,370.4	-	-	-	1,370.4	-

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

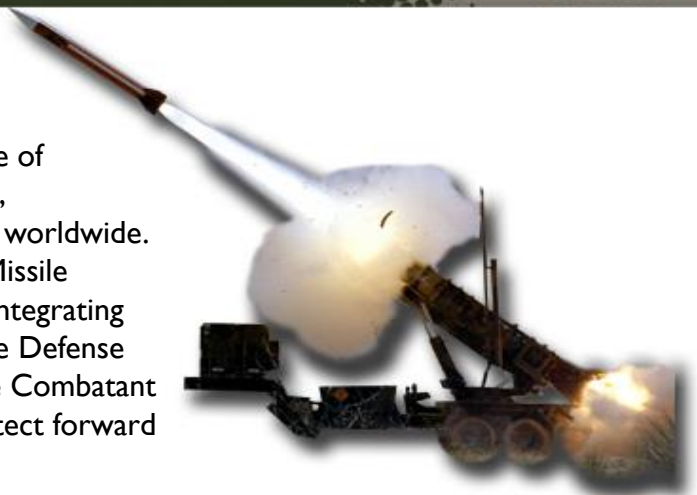
MISSILE DEFENSE PROGRAMS

FY 2018 Program Acquisition Costs by Weapon System

Patriot/PAC-3

USA

The Army's Patriot air and missile defense system, which includes the Advanced Capability (PAC-3) missile, is the only combat-proven system capable of defeating Tactical Ballistic Missiles (TBMs), Cruise Missiles, and Air-Breathing threats worldwide. Joint efforts between the Army and the Missile Defense Agency have been successful in integrating PAC-3 capabilities into the Ballistic Missile Defense System (BMDS). The PAC-3 units are the Combatant Commanders' most capable asset to protect forward deployed forces.



Mission: Contributes to the BMDS overall situational awareness for short range terminal ballistic missile threats. It can cue other systems while protecting Joint assets. The Patriot force is 15 battalions, and many remain forward stationed in multiple theaters of operation.

FY 2018 Program: Continues improvements in software for further reduction to probability of fratricide; improved communications, interoperability, supportability, electronic warfare capabilities; and supports transition to the Integrated Air and Missile Defense (IAMD) architecture.

Prime Contractors: Raytheon Integrated Defense Systems; Tewksbury, MA
Lockheed Martin Missiles and Fire Control; Dallas, TX

Patriot/PAC-3										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	88.0	-	84.0	-	167.0	-	-	-	167.0	-
Procurement	242.0	-	425.0	58	329.1	-	-	-	329.1	-
Spares	33.0	-	34.0	-	19.0	-	-	-	19.0	-
Total	363.0	-	543.0	58	515.1	-	-	-	515.1	-

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILE DEFENSE PROGRAMS

FY 2018 Program Acquisition Costs by Weapon System

PAC-3/MSE Missile



The Missile Segment Enhancement (MSE) is a performance improvement to the existing Patriot Advanced Capability (PAC-3) missile.

The MSE upgrade enhances the PAC-3 missile by adding a dual pulse, 11-inch diameter Solid Rocket Motor (SRM), improved lethality enhancer, a thermally hardened front-end, upgraded batteries, enlarged fixed fins, more responsive control surfaces, and upgraded guidance software. These improvements result in a more agile, lethal interceptor missile with enhanced Insensitive Munitions (IM) compliance. The PAC-3 MSE can be fired from a Patriot system.



Mission: Provides the Combatant Commanders with a hit-to-kill, surface-to-air missile that can intercept tactical ballistic missiles, cruise missiles, and air-breathing threats that have chemical, biological, radiological, nuclear, and conventional high explosive warheads. The MSE extends the PAC-3 range, filling a critical performance gap, and affords greater protection for U.S. and allied forces.

FY 2018 Program: Procures 93 MSE interceptors to increase range and altitude capability, meeting the ever-changing threat.

Prime Contractor: Lockheed Martin Missiles and Fire Control; Dallas, TX

PAC-3/MSE										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	2.2	-	-	-	-	-	-	-	-	-
Procurement	514.9	112	702.0	85	459.0	93	-	-	459.0	93
Total	517.1	112	702.0	85	459.0	93	-	-	459.0	93

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

** FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILE DEFENSE PROGRAMS

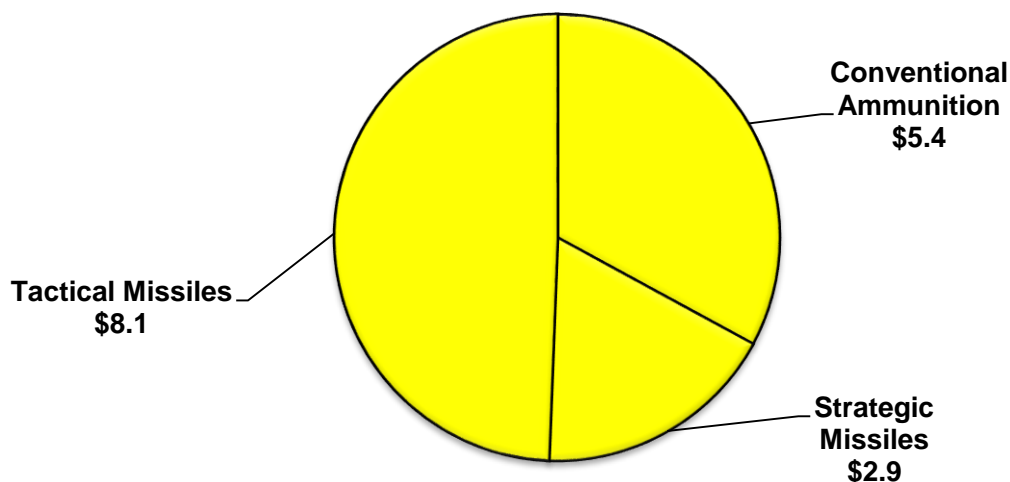
Missiles and Munitions

Munitions is a general term for ammunition and missiles. Ammunition are explosives consisting of all kinds of bombs, grenades, rockets, mines, projectiles, and other similar devices. There are conventional and nuclear missiles used for both tactical and strategic purposes. Many missiles are precision guided with the technical sophistication to allow guidance corrections during flight-to-target. Some programs include non-explosive articles that enhance the performance of other munitions. For example, the Joint Direct Attack Munitions (JDAM) adds guidance capability when attached to a gravity bomb, making it a “smart” bomb.

In FY 2018, the Department continues to execute a balanced munitions procurement strategy in response to both current operations and advanced, long-term threats. The Department is increasing procurement of JDAM, General Purpose Bombs, Small Diameter Bombs, Guided Multi-Launch Rocket System, and the Hellfire missile to ensure sufficiency for today’s warfighter, while expanding industrial capacity to meet increasing demands. In parallel, the Department continues to accelerate inventories of the next generation of standoff weapons for high value land attack targets such as the Joint Air-to-Surface Standoff Missile-Extended Range. Procurement of the Small Diameter Bomb II provides an all-weather capability against moving targets. The Navy will continue development of a Maritime Strike variant of Tactical Tomahawk to engage surface threats, which supplements the air-launched Long Range Anti-Ship Missile (LRASM), with the ability to engage heavily defended maritime targets at standoff ranges and increased survivability. Investment also continues in shipboard air defense missiles such as the Standard Missile-6 to enhance the ships survivability.

FY 2018 Missiles and Munitions – Total: \$16.4 Billion

(\$ in Billions)

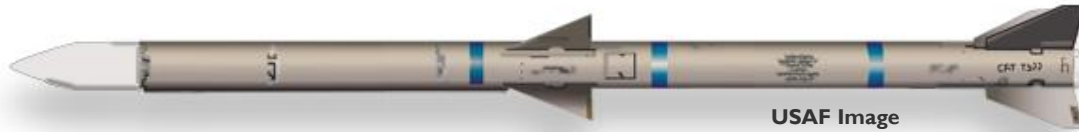


Numbers may not add due to rounding

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Advanced Medium Range Air-to-Air Missile **DOD - JOINT**



The Advanced Medium Range Air-to-Air Missile (AMRAAM) is an all-weather, all-environment radar guided missile developed to improve capabilities against very low-altitude and high-altitude, high-speed targets in an electronic countermeasures environment. The AMRAAM is a joint Navy/Air Force program led by the Air Force.

Mission: Destroys low and high altitude, high-speed enemy targets in an electronic countermeasures environment. The AMRAAM is a fire-and-forget air-to-air missile, and has replaced the AIM-7 Sparrow as the U.S. military's standard beyond visual range intercept missile. The missile has undergone various service life improvements. The current generation, AIM-120D, has a two-way data link, Global Position System-enhanced Inertial Measurement Unit, an expanded no-escape envelope, improved High-Angle Off-Boresight capability, and increased range over previous variants.

FY 2018 Program: Continues production as well as product improvements such as fuzing, guidance, and kinematics.

Prime Contractor: Raytheon Company; Tucson, AZ

Advanced Medium Range Air-to-Air Missile										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
Air Force	46.2	-	62.5	-	61.3	-	-	-	61.3	-
Navy	30.2	-	40.4	-	25.4	-	-	-	25.4	-
Subtotal	76.4	-	102.9	-	86.7	-	-	-	86.7	-
Procurement										
Air Force	362.0	281	350.1	256	304.3	205	-	-	304.3	205
Navy	202.8	158	204.7	163	197.1	120	-	-	197.1	120
Subtotal	564.8	439	554.8	419	501.4	325	-	-	501.4	325
Spares	4.2	-	4.0	-	6.3	-	-	-	6.3	-
Total	645.4	439	661.7	419	594.4	325	-	-	594.4	325

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Air Intercept Missile – 9X

DOD - JOINT



The Air Intercept Missile-9X (AIM-9X), also known as SIDEWINDER, is a short range air-to-air missile that provides launch-and-leave warfighting capability. The AIM-9X/Block II features a fifth generation staring focal plane array imaging infrared seeker with high off boresight capability. It is mounted on a highly maneuverable (thrust vectored) airframe, along with digital guidance and Infrared signal processing that results in enhanced acquisition ranges, improved IR counter-countermeasures capability, and robust engagement zones for first shot/first kill air-to-air performance. The AIM-9X is a joint Navy/Air Force program led by the Navy.

Mission: Destroys low and high altitude, high-speed enemy targets in an electronic countermeasures environment.

FY 2018 Program: Continues AIM-9X Block II full rate production and planning/research for future warfighting improvements.

Prime Contractor: Raytheon Missile Systems; Tucson, AZ

Air Intercept Missile – 9X										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
Air Force	33.6	-	52.9	-	35.0	-	-	-	35.0	-
Navy	59.1	-	56.3	-	42.9	-	-	-	42.9	-
Subtotal	92.7	-	109.2	-	77.9	-	-	-	77.9	-
Procurement										
Air Force	198.2	506	127.4	287	125.4	310	-	-	125.4	310
Navy	92.5	207	70.9	152	79.7	185	-	-	79.7	185
Subtotal	290.7	713	198.3	439	205.1	495	-	-	205.1	495
Spares	12.8	-	18.8	-	13.2	-	-	-	13.2	-
Total	396.2	713	326.3	439	296.2	495	-	-	296.2	495

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Chemical Demilitarization

DOD - JOINT

The Chemical Demilitarization Program (CDP) is composed of two Major Defense Acquisition Programs, which are the Assembled Chemical Weapons Alternatives (ACWA) Program and the U.S. Army Chemical Materials Activity, both with the goal of destroying a variety of United States chemical agents and weapons, including the destruction of former chemical weapon production facilities. The CDP is designed to eliminate the existing U.S. chemical weapons stockpile in compliance with the Chemical Weapons Convention signed



In 1997 and the congressionally mandated destruction deadline of December 31, 2023 - while ensuring the safety and security of the workers, the public, and the environment.

Mission: There are three mission areas within the Chemical Demilitarization Program:

1. Destroy the remaining 10 percent of the U.S. chemical weapons stockpile at the ACWA Program sites (Colorado and Kentucky);
2. Implement the Chemical Stockpile Emergency Preparedness Project (CSEPP) including emergency response planning;
3. Assess and destroy Recovered Chemical Warfare Material (RCWM) within the United States.

FY 2018 Program: Continues systemization activities and destruction operations at the ACWA Program sites. Continues the CSEPP efforts and the emergency response planning at Colorado and Kentucky. Sustains the crews, equipment, and management structure required to ensure that the Department of Defense retains the capability to assess and destroy the RCWM in the United States.

Prime Contractors: Bechtel National Incorporated; Pueblo, CO
Bechtel Parsons, Joint Venture; Richmond, KY

Chemical Demilitarization										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
Chemical Agents and Munitions Destruction	699.8	-	825.5	-	961.7	-	-	-	961.7	-
Total	699.8	-	825.5	-	961.7	-	-	-	961.7	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

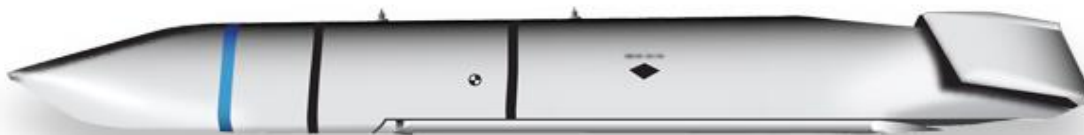
**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Joint Air to Surface Standoff Missile

DOD - JOINT



USAF Image

The Joint Air-to-Surface Standoff Missile (JASSM) Baseline provides a survivable, precision cruise missile to kill hard, medium, and soft targets. It is a 2,000-pound class weapon with a 1,000-pound multi-purpose, hardened (blast/frag/penetrator) warhead. The JASSM can cruise autonomously in adverse weather, day or night, to defeat high value targets even when protected by next generation defenses. The JASSM navigates to a pre-planned target using a Global Positioning System-aided Inertial Navigation System and transitions to automatic target correlation using an imaging infrared seeker in the terminal phase of flight. Maximum unclassified range for the baseline JASSM variant is greater than 200 nautical miles. The JASSM is integrated on the F-15E, F-16, B-52, B-1, and B-2 aircraft. Production of JASSM Baseline concluded in FY2016.

The JASSM-Extended Range (ER) increment is highly common with the JASSM Baseline variant, and offers a more fuel-efficient engine and greater fuel capacity. It also adds 2.5 times the standoff range at greater than 500nm. The JASSM-ER maintains the same outer mold line and low-observable properties as JASSM Baseline, but replaces the turbojet engine (Teledyne) with higher thrust, more fuel efficient turbofan engine (Williams International). The JASSM-ER is currently only integrated on the B-1 aircraft with integration on the F-15E, F-16, B-52, and B-2 aircraft by FY 2020.

Mission: Destroys targets from a long-range standoff position deliverable by fighter and bomber aircraft.

FY 2018 Program: Continues Full Rate Production for JASSM-ER.

Prime Contractor: Lockheed Martin Corporation; Troy, AL

Joint Air to Surface Standoff Missile										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	9.2	-	30.0	-	29.9	-	-	-	29.9	-
Procurement	425.6	340	431.6	360	441.4	360	-	-	441.4	360
Spares	0.8	-	0.4	-	0.4	-	-	-	0.4	-
Total	435.6	340	462.0	360	471.7	360	-	-	471.7	360

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

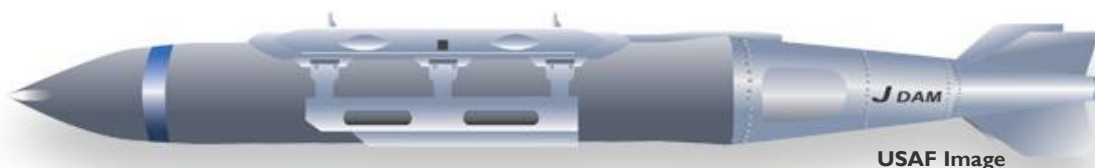
**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Joint Direct Attack Munition

DOD - JOINT



The Joint Direct Attack Munition (JDAM) is a joint Air Force and Navy program led by the Air Force. The JDAM improves the existing inventory of general purpose gravity bombs by integrating a Global Positioning System (GPS)/inertial navigation guidance capability that improves accuracy and adverse weather capability.

A Laser JDAM (LJDAM) variant increases operational flexibility for an expanded target set. The laser sensor kit added to the JDAM weapon kit provides the ability to attack targets of opportunity, including land-moving and maritime targets, when designated by an airborne or ground laser.

Mission: Enhances DoD conventional strike system capabilities by providing the ability to precisely attack time-critical, high value fixed or maritime targets under adverse environmental conditions and from all altitudes.

FY 2018 Program: Continues full-rate production of the system. The factory will operate at the maximum rate of production.

Prime Contractor: The Boeing Company; St. Charles, MO

Joint Direct Attack Munition										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	10.0	-	-	-	-	-	-	-
Procurement										
Air Force	534.0	22,478	707.1	30,664	319.5	10,330	390.6	16,990	710.1	27,320
Navy	31.3	1,437	61.8	2,779	57.3	2,492	106.9	4,717	164.2	7,209
Subtotal	565.3	23,915	768.9	33,443	376.8	12,822	497.5	21,707	874.3	34,529
Total	565.3	23,915	778.9	33,443	376.8	12,822	497.5	21,707	874.3	34,529

* FY 2016 includes actuals for Base and OCO funds

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Small Diameter Bomb (SDB)

DOD - JOINT

The Small Diameter Bomb (SDB) II is a joint Air Force and Navy program led by the Air Force to provide a conventional small sized, precision guided, standoff air-to-ground weapon that can be delivered from both fighter and bomber aircraft. The SDB I is a fixed target attack weapon. The SDB-II incorporates a seeker and data link, which expands the use to moving targets.



Mission: Destroys targets from a medium-range standoff position deliverable by both fighter and bomber aircraft, with higher load-out and less collateral damage compared to other weapons. SDB II integration and testing activities continue on the F-15E aircraft.

FY 2018 Program: Continues Engineering and Manufacturing Development (EMD) and Low Rate Initial Production of SDB II missiles for use against moving, relocatable, and fixed targets. The factory will operate at the maximum rate of production for SDB I.

Prime Contractor: Boeing Company; St. Charles, MO (SDB I)
Raytheon Missile Systems; Tucson, AZ (SDB II)

Small Diameter Bomb										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E										
Air Force	28.0	-	54.8	-	39.0	-	-	-	39.0	-
Navy	55.8	-	97.6	-	97.6	-	-	-	97.6	-
Subtotal	83.8	-	152.4	-	136.6	-	-	-	136.6	-
Procurement										
Air Force	135.1	3,494	260.2	4,507	266.0	5,039	90.9	2,273	356.9	7,312
Spares	3.2	-	10.6	-	10.6	-	-	-	10.6	-
Total	222.1	3,494	423.2	4,507	413.2	5,039	90.9	2,273	504.1	7,312

* FY 2016 includes actuals for Base and OCO.

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Hellfire Missiles **DOD - JOINT**

The Laser HELLFIRE II system family of air-to-ground missiles (all variants) provides attack helicopters and unmanned aircraft systems (UAS) with point-target precision strike capability to defeat heavy, advanced armor, individual hard point and non-traditional targets. HELLFIRE II missiles use a semi-active laser terminal guidance and are the primary armament of the AH-64 Apache, Army UAS and Special Operations aircraft. The HELLFIRE II AGM-114R is 64 inches in length and weighs 108 lbs. Weapons range is approximately 8 kilometers.



The HELLFIRE II missile includes Electro-Optical Countermeasure capability, warhead improvements and an updated electronic fuse.

The AGM-114R HELLFIRE II missile will be the single variant that replaces all other HELLFIRE II missile configurations (K/N/M/P).

Mission: Engages and defeats individual moving or stationary ground targets such as armor, mechanized, or vehicular targets, building, or bunkers.

FY 2018 Program: Continues at full-rate production. The factory will operate at the maximum rate of production .

Prime Contractor: Lockheed Martin; Orlando, FL

Hellfire Missiles										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	-	-	-	-	-	-	-	-
Procurement										
Army	86.3	383	497.8	4,210	94.8	998	278.1	2,927	372.9	3,925
Air Force	697.7	6,256	179.1	1,536	34.9	399	297.5	3,230	332.4	3,629
Navy	-	-	8.6	100	-	-	8.6	110	8.6	110
Total	784.0	6,639	685.5	5,846	129.7	1,397	584.2	6,267	713.9	7,664

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Javelin Advanced Anti-Tank Weapon System - Medium

USA

The Javelin is highly effective against a variety of targets at extended ranges under day/night, battlefield obscurants, adverse weather, and multiple counter-measure conditions. The system's soft-launch feature permits firing from enclosures commonly found in complex urban terrain. The system consists of a reusable command launch unit (CLU) and a modular missile encased in a disposable launch tube assembly. The CLU provides stand-alone all-weather and day/night surveillance capability.



USMC Photo

Javelin provides precision effects in either a top-attack or direct-attack mode to defeat armored vehicles, fortifications and soft targets in full spectrum operations. It uses an imaging infrared two-dimensional staring focal plane array seeker and a tandem warhead with two shaped charges: a precursor warhead to defeat reactive armor, and a primary warhead to penetrate base armor and other structures. It is effective against stationary and moving targets.

Mission: Provides the dismounted soldier with a man-portable, fire-and-forget system that is highly lethal against targets ranging from main battle tanks to fleeting targets of opportunity found in current threat environments.

FY 2018 Program: Begins procurement of FGM-148F (F model) Javelin missiles with a new Multi-Purpose Warhead, which improves lethality against exposed personnel. Continues development of a lightweight CLU to reduce soldier burden and bulk.

Prime Contractor: Raytheon Missile Systems/Lockheed Martin Javelin Joint Venture; Tucson, AZ and Orlando, FL

Javelin Advanced Anti-Tank Weapon System - Medium										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	4.0	-	20.0	-	21.1	-	-	-	21.1	-
Procurement										
Army	168.2	850	193.3	983	110.1	525	8.1	47	118.2	572
Navy	58.9	327	79.6	524	41.2	222	2.8	11	44.0	233
Subtotal	227.1	1,177	272.9	1,507	151.3	747	10.9	58	162.2	805
Total	231.1	1,177	292.9	1,507	172.4	747	10.9	58	183.3	805

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

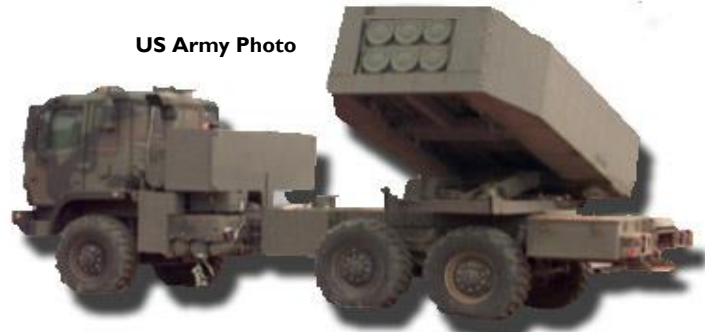
Guided Multiple Launch Rocket System

USA

The Guided Multiple Launch Rocket System (GMLRS) provides a persistent, responsive, all-weather, rapidly-deployable and long range precision strike capability.

The GMLRS is fired by the M142 High Mobility Artillery Rocket System (HIMARS) and the M270A1 Multiple

Launch Rocket System (MLRS) launchers. The GMLRS uses an on-board Inertial Measurement Unit (IMU) in combination with a Global Positioning System (GPS) guidance system to provide improved performance. The missile has a range of approximately 70 kilometers and can carry a variety of different warheads servicing point and area targets. The third GMLRS increment, GMLRS Alternative Warhead (AW), is in production and will replace GMLRS Dual Purpose Improved Conventional Munition to meet requirements outlined in the 2008 Department of Defense Cluster Munitions Policy. The GMLRS AW will be produced on a shared production line and is about 90% common with the GMLRS Unitary increment.



Mission: Neutralizes or suppresses enemy field artillery and air defense systems and supplements cannon artillery fires.

FY 2018 Program: Continues at full rate production of GMLRS (AW/Unitary) as well as product improvements such as insensitive munition development. The factory will operate at the maximum rate of production. Facilitation will increase production capacity by FY 2020.

Prime Contractor: Lockheed Martin Corporation; Dallas, TX

Guided Multiple Launch Rocket System										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	36.0	-	38.0	-	102.8	-	-	-	102.8	-
Procurement	251.1	1,866	402.6	2,954	595.2	4,458	191.5	1,542	786.7	6,000
Total	287.1	1,866	440.6	2,954	698.0	4,458	191.5	1,542	889.5	6,000

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Rolling Airframe Missile

The Rolling Airframe Missile (RAM) is a high firepower, lightweight complementary self-defense system to engage anti-ship cruise missiles.

The systems design is based upon the infra-red seeker of the Stinger (FIM-92) missile, and the warhead, rocket motor, and fuse from the Sidewinder (AIM-9) missile. The missile uses Radio Frequency (RF) for midcourse guidance, and transitions to Infrared (IR) guidance for terminal engagement. Currently there are two RIM-116 configurations: Block I (RIM-116B) and Block 2 (RIM-116C).



Mission: Provides high firepower close-in defense of combatant and auxiliary ships by utilizing a dual mode, passive radio frequency/infrared missile in a compact 21 missile launcher.

FY 2018 Program: Continues low rate of production for the Block II (RIM-116C) missile as well as operational testing.

Prime Contractor: Raytheon Missile Systems; Tucson, AZ

Rolling Airframe Missile										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	23.8	-	18.1	-	41.2	-	-	-	41.2	-
Procurement	75.4	90	95.6	120	58.6	60	-	-	58.6	60.0
Total	99.2	90	113.7	120	99.8	60	-	-	99.8	60

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Standard Family of Missiles



US Navy Photo



The Standard missile family consists of various air defense missiles including supersonic, medium and extended range; surface-to-air. The Standard Missile-6 is a surface Navy Anti-Air Warfare (AAW) missile that provides area and ship self defense. The missile is intended to project power and contribute to raid annihilation by destroying manned fixed and rotary wing aircraft, Unmanned Aerial Vehicles (UAV), Land Attack Cruise Missiles (LACM), and Anti-Ship Cruise Missiles (ASCM) in flight. It was designed to fulfill the need for a vertically launched, extended range missile compatible with the Aegis Weapon System (AWS) to be used against extended range threats at-sea, near land, and overland. The SM-6 combines the tested legacy of STANDARD Missile-2 (SM-2) propulsion and ordnance with an active Radio Frequency (RF) seeker modified from the AIM-120 Advanced Medium Range Air-to-Air Missile (AMRAAM), allowing for over-the-horizon engagements, enhanced capability at extended ranges, and increased firepower.

Mission: Provides all-weather, anti-aircraft armament for cruisers and destroyers. The most recent variant of Standard Missile is SM-6, which incorporates an AMRAAM seeker for increased performance, including overland capability.

FY 2018 Program: Continues production of the SM-6 variant.

Prime Contractor: Raytheon Missile Systems; Tucson, AZ

Standard Family of Missiles										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	111.3	-	120.6	-	158.6	-	-	-	158.6	-
Procurement	417.3	101	543.7	125	510.9	117	35.2	8	546.1	125
Spares	17.1	-	4.9	-	15.0	-	-	-	15.0	-
Total	545.7	101	669.2	125	684.5	117	35.2	8	719.7	125

* FY 2016 includes actuals for Base and OCO.

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Tactical Tomahawk Cruise Missile



Tomahawk is a long range cruise missile used for deep land-attack strike warfare that is launched from U.S. Navy surface combatants and submarines. Tomahawk Block IV features an improved navigation/guidance computer; robust anti-jam Global Positioning System (GPS) capabilities; increased responsiveness and flexibility via satellite communications for in-flight re-targeting; a loiter capability; and the ability to transmit a Battle Damage Indication (BDI) prior to impact.

Block IV Tomahawk delivers a 1,000 lb class unitary warhead at a range of 900 nm. Block IV Tomahawk employs inertial guidance or GPS over water to follow a preset course; once over land, the missile's guidance system is aided by Terrain Contour Matching (TERCOM). Terminal guidance is provided by the Digital Scene Matching Area Correlation (DSMAC) system or GPS, enabling highly accurate precision attack.

Mission: Provides precision strike against long and medium range tactical targets.

FY 2018 Program: Concludes production of Tomahawk Block IV missiles and continues preparation for mid-life recertification commencing in FY 2019. Funds the development of a maritime strike variant to engage surface targets.

Prime Contractor: Raytheon Missile Systems; Tucson, AZ

Tactical Tomahawk Cruise Missile										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	26.7	-	91.4	-	133.6	-	-	-	133.6	-
Procurement	202.3	149	271.9	196	134.4	34	100.1	66	234.5	100
Spares	70.3	-	39.8	-	13.5	-	-	-	13.5	-
Total	299.3	149	403.1	196	281.5	34	100.1	66	381.6	100

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

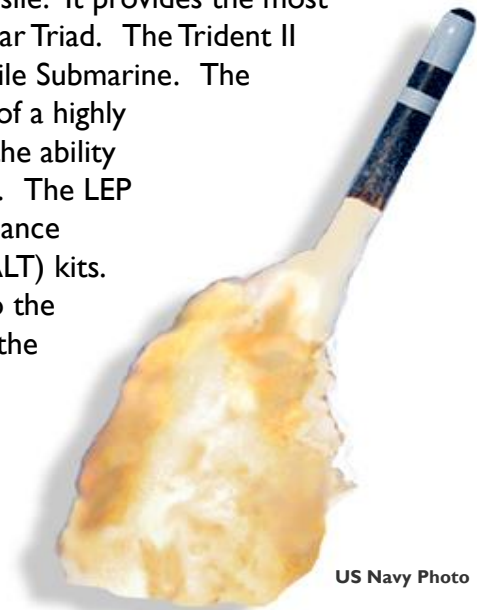
MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Trident II Ballistic Missile Modifications



The Trident II (D5) is a submarine launched ballistic missile. It provides the most survivable, second-strike capability in our nation's nuclear Triad. The Trident II missile is carried on the OHIO-class Fleet Ballistic Missile Submarine. The ongoing Life Extension Program (LEP) ensures viability of a highly survivable strategic deterrent through 2042, providing the ability to precisely attack time-critical, high value, fixed targets. The LEP includes the procurement of missile electronic and guidance Supportability Mods/Strategic Programs Alteration (SPALT) kits. The importance of this program as a key component to the sea-based leg of the nuclear triad was re-confirmed by the President and Congress with the ratification of the New START Treaty in 2011.



US Navy Photo

Mission: Aboard a virtually undetectable platform, the submarine launched fleet ballistic missile deters nuclear war by means of assured second-strike capability in response to a major attack on the United States or its allies.

FY 2018 Program: Funds the development of advanced components to improve the reliability, safety and security of Arming, Fuzing and Firing systems and studies to support the National Nuclear Security Administration W88 ALT 370. Funds the procurement of flight test instrumentation, 12 Solid Rocket Motor sets, 12 Post Boost Control System Gas Generators, various SPALT kits, support equipment, and spares.

Prime Contractor: Lockheed Martin Corporation; Sunnyvale, CA

Trident II Ballistic Missile Mods										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	93.4	-	134.0	-	126.4	-	-	-	126.4	-
Procurement	1,089.1	-	1,103.1	-	1,143.6	-	-	-	1,143.6	-
Total	1,182.5	-	1,237.1	-	1,270.0	-	-	-	1,270.0	-

*FY 2016 includes actuals for Base and OCO

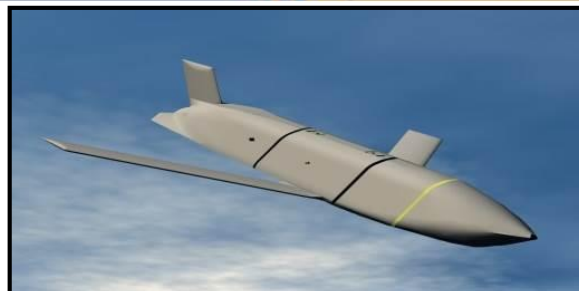
Numbers may not add due to rounding

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MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Offensive Anti-Ship Weapon (OASUW)



The Offensive Anti-Ship Warfare (OASuW) Increment I is an accelerated acquisition program to develop the Long-Range Anti-Surface Warfare Missile (LRASM). LRASM is a precision-guided anti-ship missile with semi-autonomous guidance, day/night and all-weather capability. LRASM integrates a multi-modal sensor suite, a weapons data-link, enhanced digital anti-jam Global Positioning System capabilities, and a 1,000lb penetrator/blast fragmentation warhead. Increment I provides Combatant Commanders the ability to conduct Anti-Ship Warfare operations against high value surface combatants protected by Integrated Air Defense System with long range surface-to-air missiles and denies the adversary sanctuary of maneuver. The Increment I program has completed transition from Defense Advanced Research Projects Agency to Navy leadership and is scheduled to field on the Air Force B-1 Bomber by the end of Fiscal Year 2018 and F/A-18E/F by the end of Fiscal Year 2019. The OASuW Increment I is a joint Navy/Air Force program led by the Navy.

Mission: Provide robust anti-surface warfare capability to ensure freedom of maneuver, maintain sea lines-of-communication, and extend joint warfighter combat reach in contested maritime environments.

FY 2018 Program: Continue low rate production, integration, and test phase of the air-launched OASuW Increment I (LRASM) program.

Prime Contractor: Lockheed Martin Missiles and Fire Control Strike Weapons; Orlando, FL

Offensive Anti-Ship Weapon (OASUW)										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	348.7	-	252.4	-	313.1	-	-	-	313.1	-
Procurement										
Navy	-	-	29.6	10	74.7	25	-	-	74.7	25
Air Force	-	-	59.5	20	44.7	15	-	-	44.7	15
Subtotal	-	-	89.1	30	119.4	40	-	-	119.4	40
Total	348.7	-	341.5	30	432.5	40	-	-	432.5	40

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

MISSILES AND MUNITIONS

FY 2018 Program Acquisition Costs by Weapon System

Ground Based Strategic Deterrent (GBSD)



The Ground Based Strategic Deterrent (GBSD) program is the Air Force effort to replace the aging LGM-30 Minuteman III intercontinental ballistic missile (ICBM). The Minuteman III missile fleet was fielded in the 1970s with an initial 10-year service life, while its launch and command and control systems date back to the 1960s. The new GBSD weapon system will meet existing user requirements, while having the adaptability and flexibility to affordably address changing technology and threat environments through 2075. Deployment is projected to begin in the late 2020s.



Mission: As a critical part of the nuclear triad, ICBMs provide land-based strategic nuclear deterrence, assurance, and stability by providing a responsive and resilient capability that assures allies they do not need to expand their own capability, dissuade proliferation, deter adversaries, and, should deterrence fail, decisively defeat adversary targets and retaliatory capabilities as authorized and directed by the President. GBSD will continue to maintain strategic stability at a reasonable cost, while hedging against potential problems or vulnerabilities in other portions of the triad.

FY 2018 Program: Funds technology maturation and risk reduction activities to deliver mature and integrated technologically to support the preliminary design of the weapon system.

Prime Contractors: Currently in Source Selection to award up to two Technology Maturation and Risk Reduction contracts.

Ground Based Strategic Deterrent (GBSD)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	65.0	-	113.9	-	215.7	-	-	-	215.7	-
Procurement	-	-	-	-	-	-	-	-	-	-
Total	65.0	-	113.9	-	215.7	-	-	-	215.7	-

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Long Range Stand-Off (LRSO) Missile



Long Range Stand-Off (LRSO) Missile is a nuclear cruise missile capable of penetrating and surviving complex advanced integrated air defense systems and GPS-denied environments from significant standoff ranges. LRSO replaces the Air Launched Cruise Missile (ALCM) which entered service in 1982 and is well past its original 10-year design service life. LRSO details are classified to protect critical program information.



Mission: The Long Range Stand Off cruise missile retains penetrating and survivable capabilities in advanced Integrated Air Defense Systems and GPS-denied environments from significant standoff ranges, ensuring we maintain a credible deterrent. Combined with nuclear capable bombers, LRSO provides the nuclear triad with a clear, visible, and tailorable deterrent to provide the President and U.S. Forces the ability to project power and hold at risk any target at any location on the globe. LRSO provides a hedge against future technological and geopolitical uncertainties. LRSO provides a reliable cost-effective force multiplier for the B-52, B-2 and the B-21 bomber.

FY 2018 Program: Funds the development, design, and planning for test, integration, qualification and nuclear certification activities. It continues funding for the Technology Maturation Risk Reduction (TMRR) efforts to include the first TMRR design reviews. The next major milestone after TMRR award is Milestone B and Engineering Manufacturing and Development contract award in FY 2022.

Prime Contractors: Currently in Source Selection to award up to two Technology Maturation and Risk Reduction contracts.

Long Range Stand-Off Missile (LRSO)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	16.1	-	95.6	-	451.3	-	-	-	451.3	-
Procurement	-	-	-	-	-	-	-	-	-	-
Total	16.1	-	95.6	-	451.3	-	-	-	451.3	-

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

B61 Tail Kit Assembly (TKA)

The B61 is a nuclear gravity bomb developed by the Department of Energy's National Nuclear Security Administration (DOE/NNSA) for the Department of Defense. Current versions in the inventory were fielded between 1978-1990 and require component refurbishment and replacement to maintain a safe, secure and effective capability.



Mission: Provides the strategic weapons for the airborne leg of the nuclear triad and are carried on the B-52, the B-2, and NATO dual-use aircraft today. The new variant consolidates four versions and will be carried by the B-2 and North Atlantic Treaty Organization (NATO) aircraft as well as the F-35 and the B-21 bomber. To extend the life of this weapon, DOE/NNSA and the Air Force are jointly implementing a Life Extension Program (LEP) to refurbish the B61 with a First Production Unit in 2020. The Air Force portion of the LEP is to provide the development, acquisition and delivery of a guided tail kit assembly and all up round technical integration, system qualification and fielding of the B61-12 variant.

FY 2018 Program: Funds the development, design, test, integration, qualification and nuclear certification activities in support of the B61-12 LEP through continued Phase II of engineering and manufacturing development and prepare for the Milestone C decision in early FY 2019. Continues software development and integration for the F-15E and F-16 aircraft and begins B-2 and PA-200 integration.

Prime Contractors: Boeing Company

B61 Tail Kit Assembly (TKA)										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	204.4	-	137.9	-	91.2	-	-	-	91.2	-
Procurement	-	-	-	-	88.3	30	-	-	88.3	30.0
Total	204.4	-	137.9	-	179.5	30.0	-	-	179.5	30.0

* FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

Shipbuilding and Maritime Systems

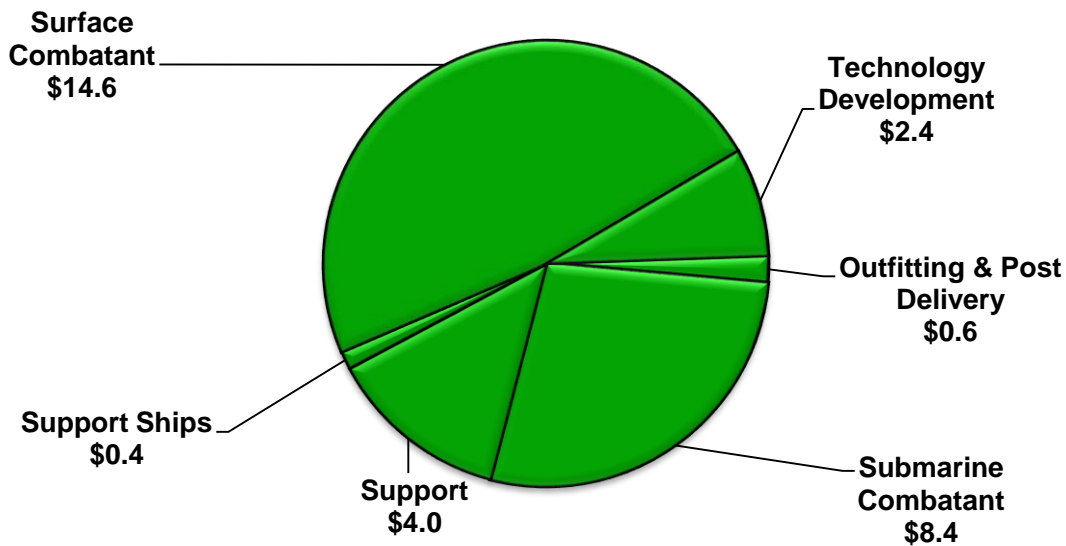
A central principle to the United States Maritime Strategy is forward presence, which promotes conflict deterrence by ensuring forces are in a position to expeditiously respond to conflict. Therefore, sea services must procure, build, and maintain maritime systems in accordance with mission need.

The Shipbuilding Portfolio for FY 2018 includes the funding for the construction of 12 ships (2 SSN 774 Virginia Class nuclear attack submarines; 1 CVN 78 Ford Class Aircraft Carrier; 2 DDG 51 Arleigh Burke Class destroyers; 1 Littoral Combat Ships (LCS); 1 Fleet Replenishment Oiler; 1 Towing, Salvage and Rescue (TATS(X) ship; 1 Landing Craft, and 3 Ship to Shore Connectors) and the second year of incremental construction funding for 1 Amphibious Assault ship, USS *Bougainville* (LHA 8). In addition, the FY 2018 request includes funding for Advance Procurement to support detail design activities and long lead items for the *Columbia* Class Fleet Ballistic Missile Submarine (SSBN) and long lead item for the Refueling and Complex Overhaul of USS *John C. Stennis* (CVN 74).

The funding in this category finances the developmental efforts, the equipment procurements, and the construction of ships that will allow the U.S. Navy to maintain maritime dominance and superiority well into the 21st century.

FY 2018 Shipbuilding and Maritime Systems – Total: **\$30.4 Billion**

(\$ in Billions)



Numbers may not add due to rounding

FY 2018 Program Acquisition Costs by Weapon System

John Lewis Class Fleet Replenishment Oiler



The Fleet Replenishment Oiler (T-AO) program will build a new class of fleet oilers for the Navy. The lead ship in the class is USNS *John Lewis* (T-AO 205). The T-AO will provide fuel and cargo delivery to support fleet operations. As compared to the previous class of Oilers, this class has increased space for dry cargo and a helicopter refueling capability. The *John Lewis* class will be built with a double-hull to guard against oil spills and to comply with international agreements concerning pollution from ships.



Mission: Transfers fuel and lubricants to Navy surface ships operating at sea to extend at-sea time for the ships and embarked aircraft.

FY 2018 Program: Funds construction of one T-AO, continued development of ship systems, and outfitting costs.

Prime Contractor: General Dynamics, National Steel and Shipbuilding Co.; San Diego, CA.

John Lewis Class Fleet Replenishment Oiler										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	1.1	-	2.0	-	-	-	2.0	-
Procurement	674.1	1	73.1	-	541.1	1	-	-	541.1	1
Total	674.1	1	74.2	-	543.1	1	-	-	543.1	1

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

CVN 78 *Gerald R. Ford* Class Nuclear Aircraft Carrier



Aircraft carriers are the centerpiece of U.S. Naval forces.

The CVN 78 class ships will include new technologies and improvements to improve efficiency and operating costs as well as reduced crew requirements. This new class brings improved warfighting capability, quality-of-life improvements for Sailors, and reduced total ownership costs. USS *Gerald R. Ford* is the first aircraft carrier designed with all electric utilities, eliminating steam service lines from the ship, reducing maintenance requirements and improving corrosion control. The new AIB reactor, Electromagnetic Aircraft Launch System (EMALS), Advanced Arresting Gear (AAG) and Dual Band Radar (DBR) all offer enhanced capability with reduced manning. The ship's systems and configuration are optimized to maximize the sortie generation rate (SGR) of attached strike aircraft.



US Navy Image

Mission: Provides the United States with the core capabilities for forward presence, deterrence, sea control, power projection, maritime security and humanitarian assistance. The *Gerald R. Ford* class will be the premier forward asset for crisis response and early decisive striking power in a major combat operation.

FY 2018 Program: Funds the first year of construction costs for USS *Enterprise* (CVN 80); the final year of construction costs for USS *John F. Kennedy* (CVN 79), outfitting, training, and continued development of ship systems.

Prime Contractor: Huntington Ingalls Industries; Newport News, VA

CVN 78 <i>Gerald R. Ford</i> Class Nuclear Aircraft Carrier										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	113.6	-	121.4	-	138.1	-	-	-	138.1	-
Procurement	2,655.2	-	2,669.6	-	4,500.0	1	-	-	4,500.0	1
Total	2,768.7	-	2,791.1	-	4,638.1	1	-	-	4,638.1	1

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

DDG 51 *Arleigh Burke* Class Destroyer



The DDG 51 class guided missile destroyers provide a wide range of warfighting capabilities in multi-threat air, surface, and subsurface environments. The DDG 51 class ship is armed with a vertical launching system, which accommodates 96 missiles, and a 5-inch gun that provides Naval Surface Fire Support to forces ashore and anti-ship gunnery capability against other ships.



This is the first class of destroyers with a ballistic missile defense capability. The *Arleigh Burke* class is comprised of four separate variants; DDG 51-71 represent the original design, designated Flight I ships, and are being modernized to current capability standards; DDG 72-78 are Flight II ships; DDG 79-123 ships are Flight IIA ships; DDG 124-136 will be constructed as Flight III ships with the Air and Missile Defense Radar (AMDR) capability.

Mission: Provides multi-mission offensive and defensive capabilities and can operate as part of a carrier strike group or independently. Conducts Anti-Air Warfare, Anti-Submarine Warfare, and Anti-Surface Warfare.

FY 2018 Program: Funds two Flight III DDG 51 class destroyers as part of a multiyear procurement for ten ships from FY 2018 – FY 2022, outfitting costs, and continued development of ship systems.

Prime Contractors: General Dynamics Corporation; Bath, ME
Huntington Ingalls Industries; Pascagoula, MS

DDG 51 <i>Arleigh Burke</i> Class Destroyer										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	273.7	-	149.4	-	288.2	-	-	-	288.2	-
Procurement	4,266.8	3	3,348.9	2	3,725.6	2	-	-	3,725.6	2
Total	4,540.5	3	3,498.3	2	4,013.7	2	-	-	4,013.7	2

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

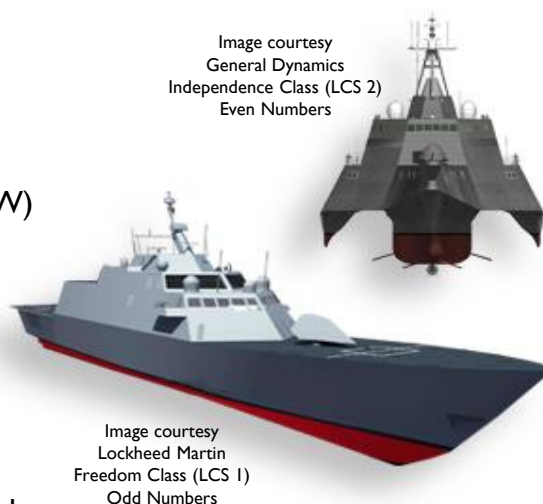
SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Littoral Combat Ship (LCS)



The Littoral Combat Ship (LCS) is a small surface combatant capable of operations close to shore. The design emphasizes speed, flexibility, and shallow draft. The LCS is designed for operations in three primary anti-access mission areas: Surface Warfare (SUW) operations emphasizing defeat of small boats, Mine Warfare (MIW), and Anti-Submarine Warfare (ASW). The ships are reconfigured for various operational roles by changing the mission module, each of which have mission area-specific equipment, vehicles, and crews. The modules are used to counter anti-access threats close to shore such as mines, quiet diesel submarines, and swarming small boats. The seaframe acquisition strategy procures two seaframe designs which are a separate and distinct acquisition program from the mission module program. The two programs are synchronized to ensure combined capability.



Mission: Defeats asymmetric threats and assures naval and joint forces access into contested littoral regions by prosecuting small boats and craft, conducting mine countermeasures, and performing anti-submarine warfare.

FY 2018 Program: Funds construction of one LCS seaframe, outfitting, trainers, and development costs for a new class of small surface combatant.

Prime Contractors: Lockheed Martin/Marinette Marine Corporation; Marinette, WI
Austal USA; Mobile, AL

Littoral Combat Ship										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	128.4	-	136.5	-	184.4	-	-	-	184.4	-
Procurement	1,688.3	3	1,462.4	2	968.1	1	-	-	968.1	1
Total	1,816.7	3	1,598.9	2	1,152.6	1	-	-	1,152.6	1

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

SSN 774 Virginia Class Submarine



The *Virginia* Class Submarine is a multi-mission nuclear-powered attack submarine that provides the Navy with the capabilities to maintain undersea supremacy in the 21st century. Characterized by advanced stealth and enhanced features for

Special Operations Forces, this submarine is able to operate in deep water and littoral environments. Equipped with vertical launchers and torpedo tubes, the submarine is able to launch Tomahawk cruise missiles as well as heavyweight torpedoes.



Mission: Seeks and destroys enemy ships and submarines across a wide spectrum of scenarios, working independently and in concert with a battle group, separate ships, and independent units. Provides theater commanders with time sensitive critical information for accurate knowledge of the battlefield.

FY 2018 Program: Funds two ships as part of a multiyear procurement contract, advance procurement for two ships in future years, and outfitting and support equipment. Continues funding the development of the *Virginia* Payload Module, technology, prototype components, and systems engineering required for design and construction.

Prime Contractors: General Dynamics Corporation; Groton, CT
Huntington Ingalls Industries; Newport News, VA

SSN 774 Virginia Class Submarine										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	305.1	-	208.5	-	190.3	-	-	-	190.3	-
Procurement	5,424.5	2	5,113.9	2	5,356.0	2	-	-	5,356.0	2
Total	5,729.5	2	5,322.3	2	5,546.3	2	-	-	5,546.3	2

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Ship to Shore Connector



The Ship to Shore Connector (SSC) is the functional replacement for the existing fleet of Landing Craft, Air Cushioned (LCAC) vehicles, which are nearing the end of their service life. The SSC is an air-cushioned landing craft intended to transport personnel, weapon systems, equipment, and cargo from amphibious vessels to shore. The vessel can rapidly move assault forces to conduct amphibious operations and operate over the high water mark to include movements over ice, mud, and swamps.

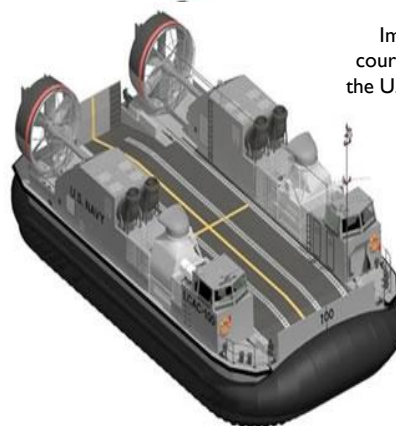


Image courtesy of the U.S. Navy

Mission: Transports vehicles, heavy equipment, and supplies through varied environmental conditions from amphibious ships to shore. Enhances the Navy and Marine Corps capability to execute a broad spectrum of missions from humanitarian assistance and disaster response to multidimensional amphibious assault.

FY 2018 Program: Procures three vessels and continues research, development, and testing.

Prime Contractor: Textron Incorporated; New Orleans, LA

Ship to Shore Connector										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	7.8	-	11.1	-	22.4	-	-	-	22.4	-
Procurement	210.6	5	128.1	2	222.7	3	-	-	222.7	3
Total	218.4	5	139.2	2	245.1	3	-	-	245.1	3

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

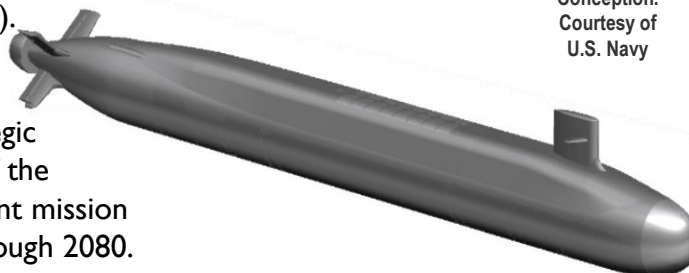
SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Columbia Class Ballistic Missile Submarine Program



The *Columbia* Class Ballistic Missile Submarine is designed to replace the current *Ohio* class of Fleet Ballistic Missile Submarine (SSBN). The USS *Columbia* program will deliver 12 SSBNs with the necessary capability and capacity to meet the sea based strategic deterrence mission beyond retirement of the current submarine force and with sufficient mission capability to counter credible threats through 2080.



Artist
Conception.
Courtesy of
U.S. Navy

Currently in the research and development stage, the *Columbia* class requirements and specifications are being refined. The ships will begin construction in FY 2021 for FY 2028 delivery when the first *Ohio* class ships are due to be decommissioned. The nuclear propulsion systems will be acquired from the nuclear industrial base under the direction of Naval Reactors, under U.S. Department of Energy authorities. The program includes the development and construction of a Common Missile Compartment (CMC) capable of hosting the existing TRIDENT II missile system, which is conducted jointly with the United Kingdom (UK) to support the SUCCESSOR class SSBN.

Mission: Provides a sea-based strategic nuclear force.

FY 2018 Program: Funds advance procurement for long-lead items, detail design, and research and development of nuclear technologies and ship systems such as the propulsion system, combat systems technology, and the common missile compartment.

Prime Contractor: Common Missile Compartment Design: General Dynamics; Groton, CT

Columbia Class Ballistic Missile Submarine Program										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	1,367.1	-	1,091.1	-	1,041.6	-	-	-	1,041.6	-
Procurement	-	-	773.1	-	842.9	-	-	-	842.9	-
Total	1,367.1	-	1,864.3	-	1,884.5	-	-	-	1,884.5	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

CVN Refueling Complex Overhaul



The CVN Refueling Complex Overhaul (RCOH) life extension program provides for the modernization of nuclear powered fleet aircraft carriers. During the RCOH, the nuclear fuel is replaced and major system modernization activities are implemented to extend the useful operational life of the ship. An RCOH is performed midway through the ship's lifespan, which,



Photo Courtesy of Northrop Grumman

for *Nimitz* class carriers, is approximately 25 years, and can take four years to complete.

Mission: Refuel and upgrade the *Nimitz* class aircraft carriers at mid-life to ensure reliable operations during the remaining ship life.

FY 2018 Program: Continues funding for the RCOH for USS *George Washington* (CVN 73) and procurement of long-lead items and long-lead efforts for USS *John C. Stennis* (CVN 74) scheduled to begin in FY 2020.

Prime Contractor: Huntington Ingalls Incorporated; Newport News, VA

CVN Refueling Complex Overhaul										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	-	-	-	-	-	-	-	-	-	-
Procurement	672.6	1	1,991.8	-	1,680.8	-	-	-	1,680.8	-
Total	672.6	1	1,991.8	-	1,680.8	-	-	-	1,680.8	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

LHA America Class Amphibious Assault Ship



USS America class ships are large-deck, amphibious assault ships designed to land and support ground forces.

This class can transport a combination of helicopters and vertical take off and landing aircraft.

The first two ships, America (LHA 6) and USS Tripoli (LHA 7), are designated as Flight 0 Variants and include

an enlarged hangar deck, enhanced aviation maintenance facilities, increased aviation fuel capacity, and additional aviation storerooms as compared to the previous Tarawa (LHA 1) class ships. USS Bougainville (LHA 8) will be designated the first Flight I ship and will reincorporate a well deck for operational flexibility. The well deck will enable surface operations while maintaining the aviation capabilities.



Mission: Provides forward presence and power projection as an integral part of joint, interagency, and multinational maritime expeditionary forces. Operates for sustained periods in transit to and operations in an Amphibious Objective Area to include the embarkation, deployment, and landing of a Marine Landing Force and supporting forces by helicopters and tilt rotors supported by Joint Strike Fighters F-35B.

FY 2018 Program: Continues construction funding of LHA 8, outfitting costs, and continuing research and development efforts.

Prime Contractor: Huntington Ingalls Industries Incorporated; Pascagoula, MS

LHA America Class Amphibious Assault Ship										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	8.3	-	9.5	-	8.2	-	-	-	8.2	-
Procurement	489.2	-	1,638.8	1	1,740.1	-	-	-	1,740.1	-
Total	497.5	-	1,648.2	1	1,748.3	-	-	-	1,748.3	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SHIPBUILDING AND MARITIME SYSTEMS

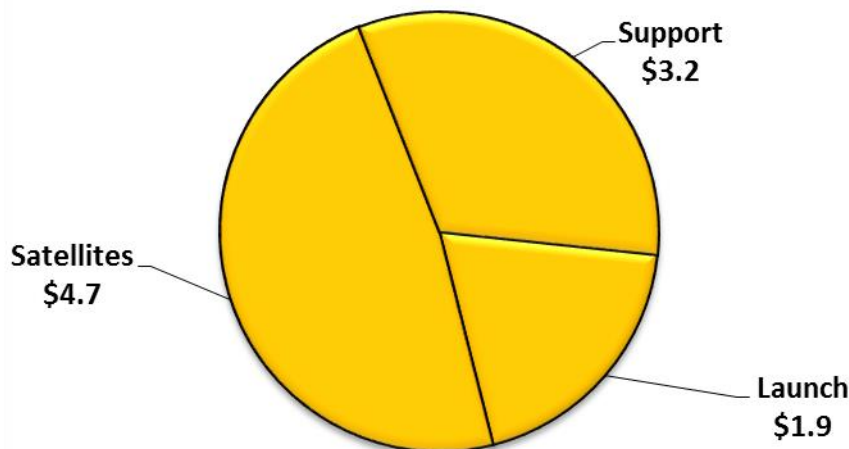
Space Based Systems

Space assets support deployed U.S. forces by providing communications services, navigation capabilities, and information collected by remote sensors such as weather satellites and intelligence collection systems. Space forces contribute to the overall effectiveness of U.S. military forces by acting as a force multiplier that enhances combat power. This investment addresses growing threats, complicating an adversary's ability to counter U.S. space superiority, while enhancing the Department's ability to identify, characterize, and attribute all threatening actions in space. The capability to control space contributes to achieving information superiority and battle space dominance. Procurement of launch vehicles and launch services are typically funded 2 years prior to launch. Generally speaking, the first two satellites of a new system are purchased with Research, Development, Test and Evaluation (RDT&E) funding and the remainder of the satellites are purchased with Procurement funding.

The FY 2018 budget highlights concludes incremental funding for procurement of the Space Based Infrared System (SBIRS) space vehicles Geosynchronous Earth Orbit (GEO)-5 and GEO-6, awarded June 2014; provides advance procurement for GEO-7 and GEO-8; continues funding for the production oversight of the Advanced Extremely High Frequency (AEHF) space vehicles AEHF-5 and AEHF-6, and continues the Space Modernization Initiative RDT&E activities. Also funds the procurement of Evolved Expendable Launch Vehicle (EELV) Launch Services, specifically three launch vehicles, and up to eight Launch Capability activities per year.

FY 2018 Space Based Systems – Total: \$9.8 Billion

(\$ in Billions)



Does not include MDA or S&T Space related funding

FY 2018 Program Acquisition Costs by Weapon System

Advanced Extremely High Frequency



The Advanced Extremely High Frequency (AEHF) system will be a four satellite constellation of communications satellites in geosynchronous orbit that will replenish the existing EHF system, Military Strategic Tactical Relay (MILSTAR), at a much higher capacity and data rate capability.



- 24-hour low, medium, and extended data rate satellite connectivity from 65 N to 65 S latitude worldwide
- 8 full-time spot beam antennas @ 75 bps to 8.192 Mbps data rate
- 24 time-shared spot beam coverages @ 75 bps to 2.048 Mbps data rate
- 2 crosslink antennas per satellite (60 Mbps)
- AEHF-1, AEHF-2, and AEHF-3 are in orbit and operational
- The launch of AEHF-4 is planned for 2017; AEHF-5 and AEHF-6 are scheduled to replace AEHF-1 and AEHF-2 at the end of their useful life

Mission: Provides survivable, anti-jam, low probability of detection/intercept, worldwide secure communications for tactical and strategic users and provides additional protection for strategic users against shocks from a nuclear attack. AEHF enables tactical users to obtain battlefield maps, share targeting data, and conduct voice calls. AEHF is a collaborative program that also includes resources for Canada, the United Kingdom, and the Netherlands.

FY 2018 Program: Continues funding for the production oversight of the space vehicles AEHF-5 and AEHF-6, and continues selected MILSATCOM Space Modernization Initiative (SMI) development activities which are focused on improving capabilities, to include AEHF system operational resiliency.

Prime Contractor: Lockheed Martin Corporation; Sunnyvale, CA

Advanced Extremely High Frequency										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	208.1	-	259.1	-	145.6	-	-	-	145.6	-
Procurement	327.4	-	645.6	-	57.0	-	-	-	57.0	-
Total	535.5	-	904.7	-	202.6	-	-	-	202.6	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SPACE BASED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Evolved Expendable Launch Vehicle



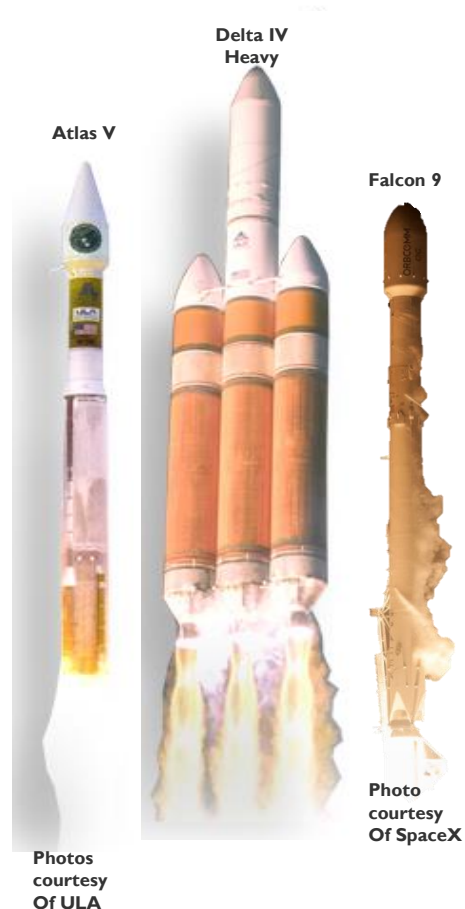
The Evolved Expendable Launch Vehicle (EELV) provides to the Air Force, Navy, and the National Reconnaissance Office (NRO), and other government and commercial purchasers of launch services medium to heavy lift class satellites.

- 70 consecutive successful national security space (NSS) operational launches (as of March 19, 2017).
- The Air Force certified SpaceX as an EELV provider on May 19, 2015.

Mission: Provides launch services and capability for medium to heavy class national security space satellites.

FY 2018 Program: Procures three Air Force launch services. All three are planned for competition and which are usually ordered no-later-than 24 months prior to the planned mission unless additional first time integration is needed; funds EELV Launch Capability (ELC) effort including mission assurance, program management, systems engineering, integration of the space vehicle with the launch vehicle, launch site and range operations, and launch infrastructure maintenance and sustainment. Continues EELV launch service investment to provide two commercially-viable, domestically-sourced space launch service providers with the objective of eliminating reliance on a foreign-made liquid rocket engine.

Prime Contractors: United Launch Alliance (ULA); Centennial, CO
SpaceX; Hawthorne, CA



Evolved Expendable Launch Vehicle										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	224.9	-	296.6	-	297.6	-	-	-	297.6	-
Procurement	1,250.9	4	1,506.4	5	1,563.9	3	-	-	1,563.9	3
Total	1,475.8	4	1,803.0	5	1,861.5	3	-	-	1,861.5	3

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

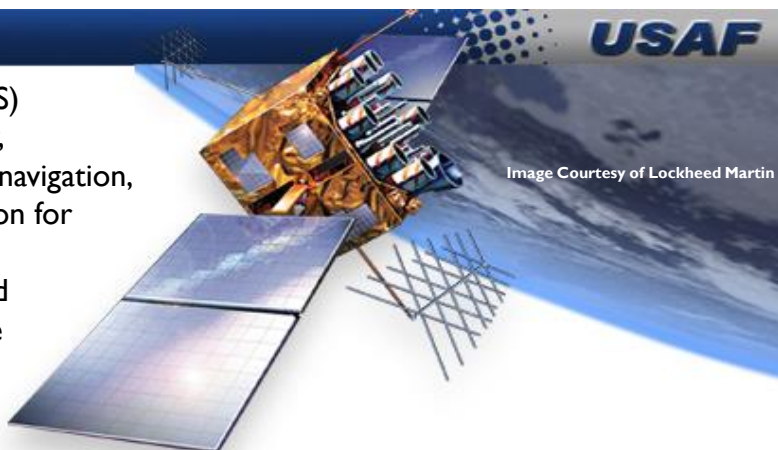
**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

FY 2018 Program Acquisition Costs by Weapon System

Global Positioning System

The Global Positioning System (GPS) provides world-wide, 24-hour a day, all weather 3-dimensional position, navigation, and precise timing (PNT) information for military and civil users. The GPS III space vehicles will be fully backward compatible with legacy signals while delivering new capabilities and enhancements to include a new Galileo-compatible signal (civil), a

more powerful M-code (military) signal, and the possibility to on-ramp future capabilities. The GPS Next Generation Operational Control System (OCX) will enable operational use of all modernized GPS signals, as well as enabling improved PNT performance.



Mission: Provides worldwide PNT to military and civilian users.

FY 2018 Program: Funds launch campaign for GPS III Space Vehicles (SVs) 01 and 02, and design maturation supporting SV 11+. Continues the development of GPS OCX Blocks 1 and 2, and enhancements to the legacy Operational Control System prior to OCX delivery. Funds the technology development and lead platform integration of Military GPS User Equipment (MGUE) Increment 1. Funds the GPS Program Office's responsibility as the Prime Integrator (Enterprise Integration) to synchronize space, control, and user segment programs and manage civil/military specifications and requirements.

Prime Contractors: GPS III: Lockheed Martin Corporation; Denver, CO
 GPS OCX: Raytheon Company; Aurora, CO
 GPS MGUE Inc 1: L3 Interstate Electronics Corporation; Anaheim, CA
 Rockwell Collins International; Cedar Rapids, IA
 Raytheon Company; El Segundo, CA

Global Positioning System										
	FY 2016*		FY 2017**		FY 2018					
					Base Budget		OCO Budget		Total Request	
	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	634.7	-	970.6	-	1,018.3	-	-	-	1,018.3	-
Procurement	198.4	1	34.1	-	85.9	-	-	-	85.9	-
Total	833.1	1	1,004.7	-	1,104.2	-	-	-	1,104.2	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SPACE BASED SYSTEMS

FY 2018 Program Acquisition Costs by Weapon System

Space Based Infrared System (SBIRS)

Space Based Infrared System (SBIRS) will field a four satellite constellation in Geosynchronous Earth Orbit (GEO) and a two hosted payload constellation in Highly Elliptical Orbit (HEO) with an integrated centralized ground station serving all SBIRS space elements. The SBIRS is the follow-on system to the Defense Support Program (DSP).



The GEO payload consists of a scanning infrared (IR) sensor, which provides a higher revisit rate, and a staring IR sensor, which provides a higher fidelity and persistent coverage for areas of interest. The HEO payload consists of a single IR sensor.

- The HEO-3 payload was delivered to the host satellite program in June 2013 and is now on orbit; the HEO-4 payload was delivered in May 2015.
- The GEO-3 satellite is expected to be delivered from storage for launch as early as November 2017 as SBIRS Flight 4 and the GEO-4 satellite was delivered directly from production and launched on January 20, 2017 as SBIRS Flight 3.
- The GEO-5 and GEO-6 satellites are scheduled to launch in 2021 and 2022 as replenishment satellites for GEO-1 and GEO-2 at the end of their useful lives.

Mission: Provides initial warning of strategic missile attack on the United States, its deployed forces, and its allies. Supports missile defense, battlespace awareness, and technical intelligence.

FY 2018 Program: Concludes incremental funding for procurement of the space vehicles GEO-5 and GEO-6, awarded June 2014; provides advance procurement for GEO-7 and GEO-8; and funds ground segment development, and continues the Space Modernization Initiative (SMI) development activities to reduce future production costs by improving insertion of new technologies to replace obsolete parts and materials.

Prime Contractor: Lockheed Martin Corporation; Sunnyvale, CA

Space Based Infrared System										
	FY 2016*		FY 2017**		FY 2018					
	\$M	Qty	\$M	Qty	Base Budget		OCO Budget		Total Request	
					\$M	Qty	\$M	Qty	\$M	Qty
RDT&E	291.5	-	218.8	-	311.8	-	-	-	311.8	-
Procurement	542.7	-	362.5	-	1,113.4	-	-	-	1,113.4	-
Total	834.2	-	581.3	-	1,425.3	-	-	-	1,425.3	-

*FY 2016 includes actuals for Base and OCO

Numbers may not add due to rounding

**FY 2017 includes the President's Budget request + Nov 2016 Amendment + Mar 2017 Request for Additional Appropriations (Base + OCO)

SPACE BASED SYSTEMS



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