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

MARCH 2023

Program Acquisition Cost by Weapon System

UNITED STATES DEPARTMENT OF DEFENSE FISCAL YEAR 2024 BUDGET REQUEST

The estimated cost of this report or study for the Department of Defense is approximately $39,000 for the 2023 Fiscal Year. This includes $13,000 in expenses and $26,000 in DoD labor.

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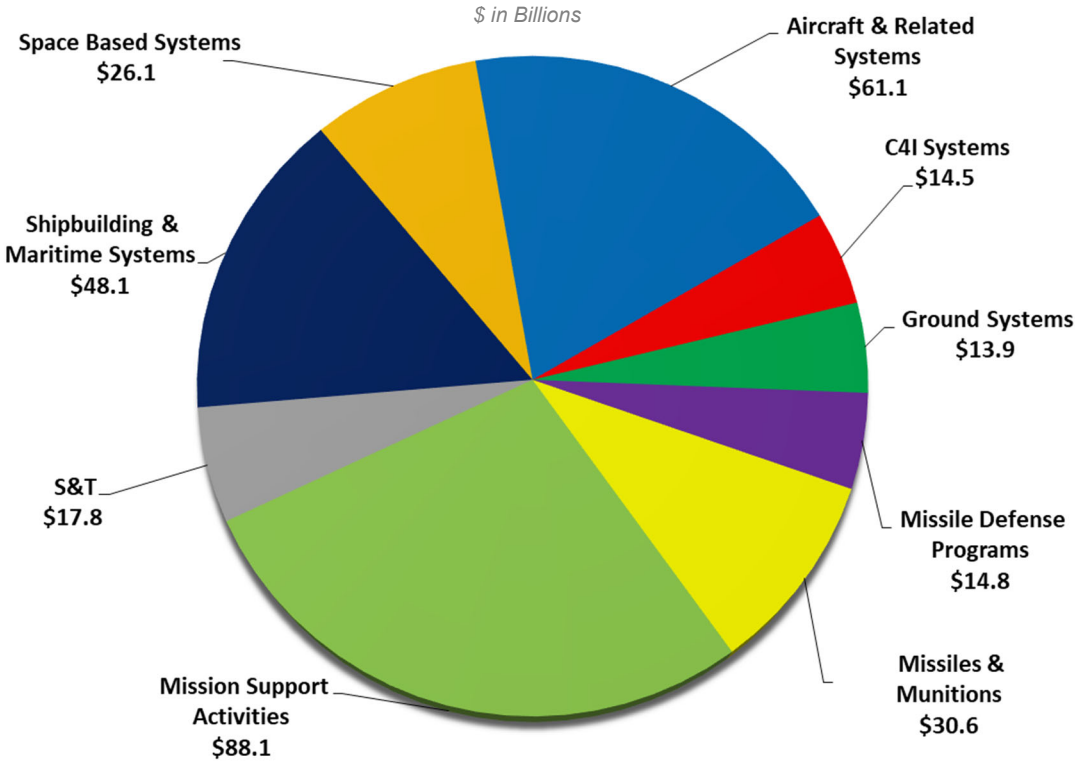
Major Weapon Systems

Overview

The performance of United States (U.S.) weapon systems are unmatched, ensuring that U.S. military forces have a tactical combat advantage over any adversary in any environmental situation. The Fiscal Year (FY) 2024 acquisition (Procurement and Research, Development, Test, and Evaluation (RDT&E)) funding requested by the Department of Defense (DoD) totals $315.0 billion, which includes funding totaling $170.0 billion for Procurement and $145.0 billion for RDT&E. The funding in the budget request represents a balanced portfolio approach to implement the National Defense Strategy (NDS). To simplify display of the various weapon systems being developed and procured, this book is organized by the following categories:

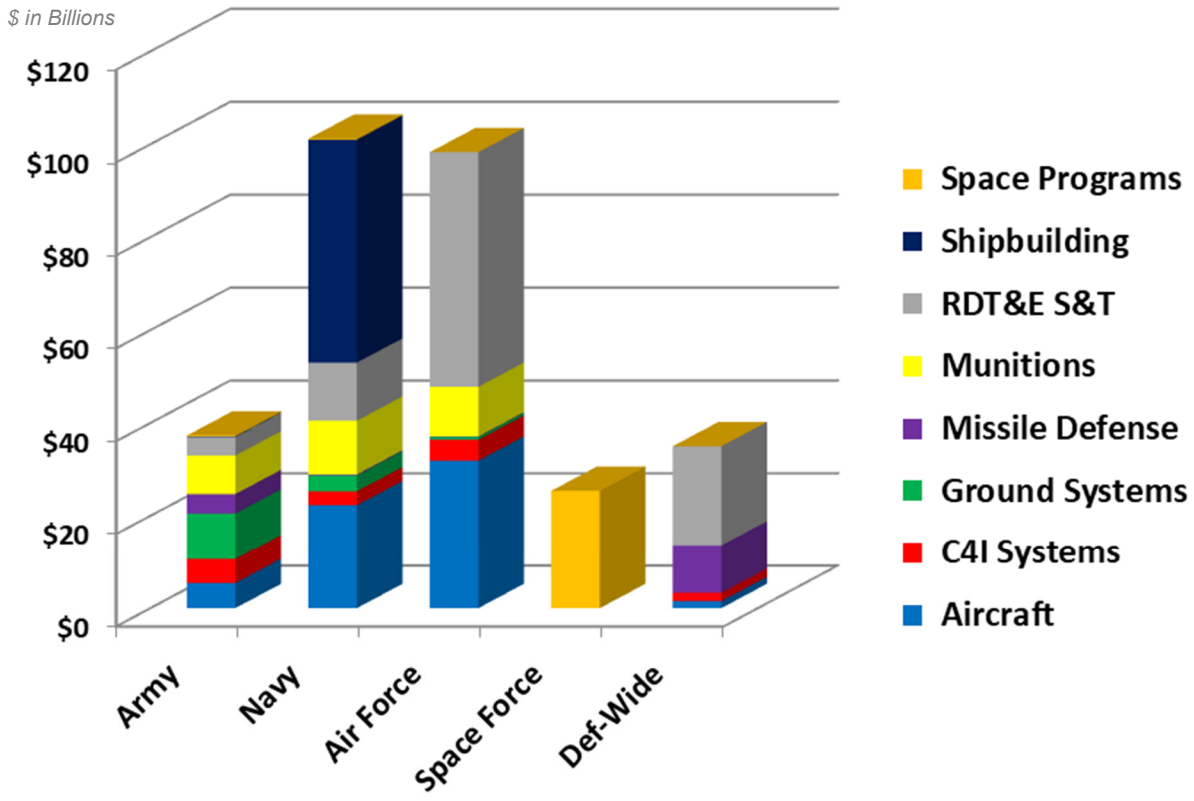
- Aircraft and Related Systems
- Command, Control, Communications, Computers, and Intelligence (C4I) Systems
- Ground Systems
- Missile Defense Programs
- Missiles and Munitions
- Shipbuilding and Maritime Systems
- Space Based Systems
- Science and Technology (S&T)
- Mission Support Activities

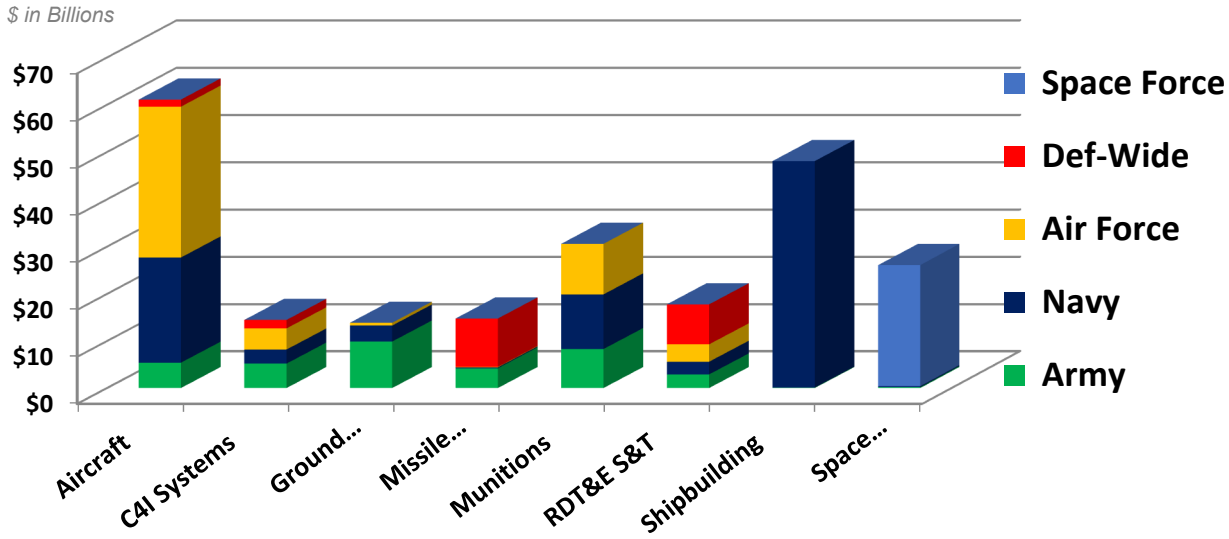
FY 2024 Investment Total: $315.0 Billion



Numbers may not add due to rounding

The Distribution of Funding in FY 2024 for Procurement and RDT&E by Component and Category*





** Funding in Mission Support activities are not represented in the above displays.*

Major Defense Acquisition Programs

The FY 2024 President's Budget request for modernization in the RDT&E and Procurement titles is comprised of 3,712 Program, Project, and Activity (PPA) line items. Within these lines, there are 75 Major Defense Acquisition Programs (MDAPs); 16 with the Army, 36 with the Navy, and 21 with the Air Force. The remaining 2 (Missile Defense and Chemical Demilitarization - Assembled Chemical Weapons Alternatives (ACWA) programs are under the Office of the Secretary of Defense.

Not all MDAPs (Acquisition Category (ACAT) I) are represented in this book because they fall below reporting criteria*. Furthermore, while non-MDAP individual programs are smaller in dollar value when compared to MDAPs, these ACAT II and ACAT III programs account for the majority of defense weapon expenditures.

** An MDAP is an acquisition program that is designated by the Under Secretary of Defense for Acquisition and Sustainment (USD (A&S); or is estimated to require an eventual total expenditure for Research, Development, Test, and Evaluation (RDT&E), including all planned increments, of more than $480 million in Fiscal Year (FY) 2014 constant dollars or, for Procurement, including all planned increments, of more than $2.79 billion in FY 2014 constant dollars.*

Large Lot Procurement (Pilot)

The FY 2024 President's Budget (PB) includes a new contract and financing strategy called Large Lot Procurement (LLP). The LLP concept expands on the existing Multiyear Procurement (MYP) strategy in that savings generated by the use of Economic Order Quantities (EOQ) financing are used to procure additional quantities of munitions in a "Buy-to-Budget" contract strategy. The FY 2024 LLP encompass four overlapping and concurrent MYP contracts, where production at the Original Equipment Manufacturer (OEM) and Tier II/III sub-contractors is structured to create synergy and production line efficiencies to maximize manufacturing capacity and accelerate delivery schedules. The LLP/MYP "Pilot" encompasses four key Precision Guided Missile programs: the RIM-174 Standard Missile (SM-6); the AIM-120D Advanced Medium Range Air-to-Air Missile (AMRAAM); the AGM-158C Long Range Anti-Ship Missile (LRASM) and the AGM-158B Joint Air-to-Surface Standoff Missile - Extended Range (JASSM-ER). The amount budgeted in the FY 2024 President's Budget for the LLP throughout the Future Year Defense Program (FYDP) totals approximately $15.1 billion and represents a commitment by the Department to address munitions requirements and implement decisive acquisition reforms. In summary, the FY 2024 LLP pilot concept includes the following elements:

- Commits the Department to a multiyear contract plan.
- Provides funding to expand the production capacity.
- Increases annual production quantities to the economic production rate.
- Provides upfront, approximately fifteen percent EOQ in FY 2024 for long-lead item procurements and to facilitate production line efficiencies.

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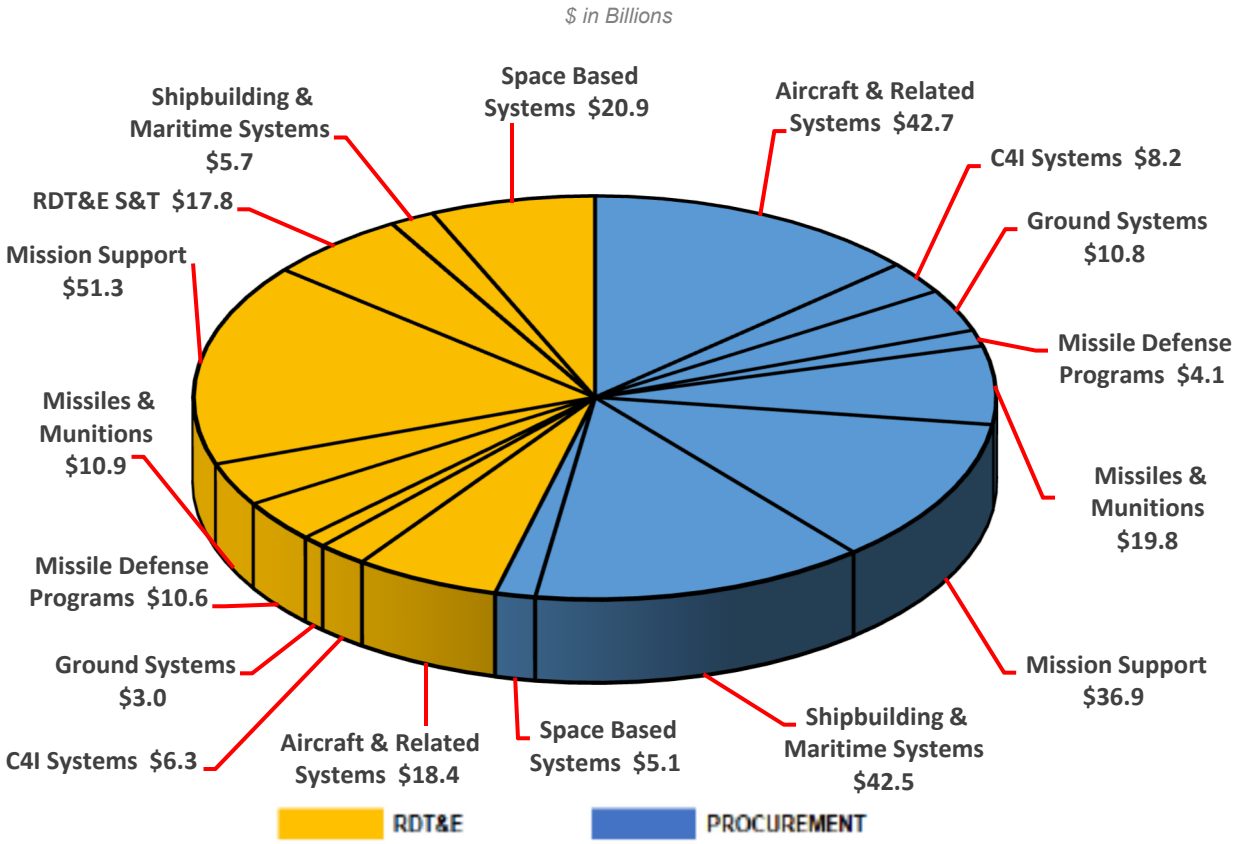
Mission Area Categories

This book shows the major weapon systems funded in the FY 2024 President's Budget, organized by Mission Area Categories. Mission Area Categories include funding from both the RDT&E and Procurement titles. The below chart illustrates the budget allocation between RDT&E and Procurement with the distribution by each Mission Area Category.



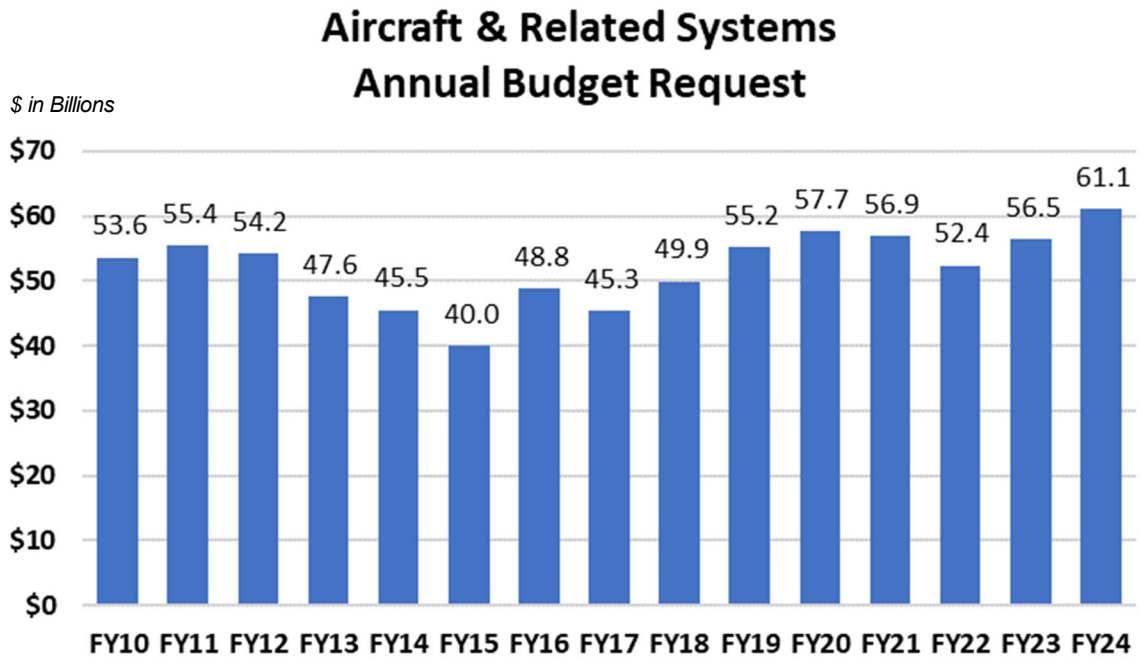
Each Mission Area Category chapter heading further breaks out the funding allocation in FY 2024 by subgroups and provides summary programmatic and financial details of the major weapon systems within each portfolio. The bar charts in the respective mission areas display the relative change in annual funding requested for every fiscal year since FY 2010 for the mission area.

Aircraft and Related Systems

$61.1 billion – 19 percent of the Investment budget request

Includes funding for aircraft research and development, aircraft procurement, initial spares, and aircraft support equipment. The single largest defense program, the 5th generation F-35 Joint Strike Fighter (JSF) request of $13.6 billion for 83 aircraft for the Navy (F-35C), Marine Corps (F-35B & C) and Air Force (F-35A). The program also includes the Continuous Capability Development and Delivery (C2D2) Block IV modification program, which aims to bring aircraft procured in prior fiscal years to the Block IV configuration. Also in the FY 2024 request are 24 - 4th generation F-15EX aircraft to supplement the Air Force Tactical Aviation (TACAIR) strike capability. The FY 2024 PB program also reflects the Department's strategy to layer capability to

address different threats; 5th generation F-35 jet fighters to address advance technology aircraft being deployed by Russia and China; a modernized 4th generation F-15EX aircraft to supplement the 5th generation systems, which nominally have lower operating costs when compared to 5th generation combat jets such as the F-22 and the F-35. Also in this category is the funding for attack and utility helicopters; Unmanned Aircraft Systems (UAS); manned reconnaissance platforms and systems; the incremental cost for the VC-25B Presidential Aircraft Recapitalization (PAR) aircraft; the KC-46A Pegasus tanker; as well as future platforms such as the B-21 Long Range Strike Bomber and the Next Generation Air Dominance (6th generation fighter).



For display purposes, the aircraft and related systems category includes the following subgroups:

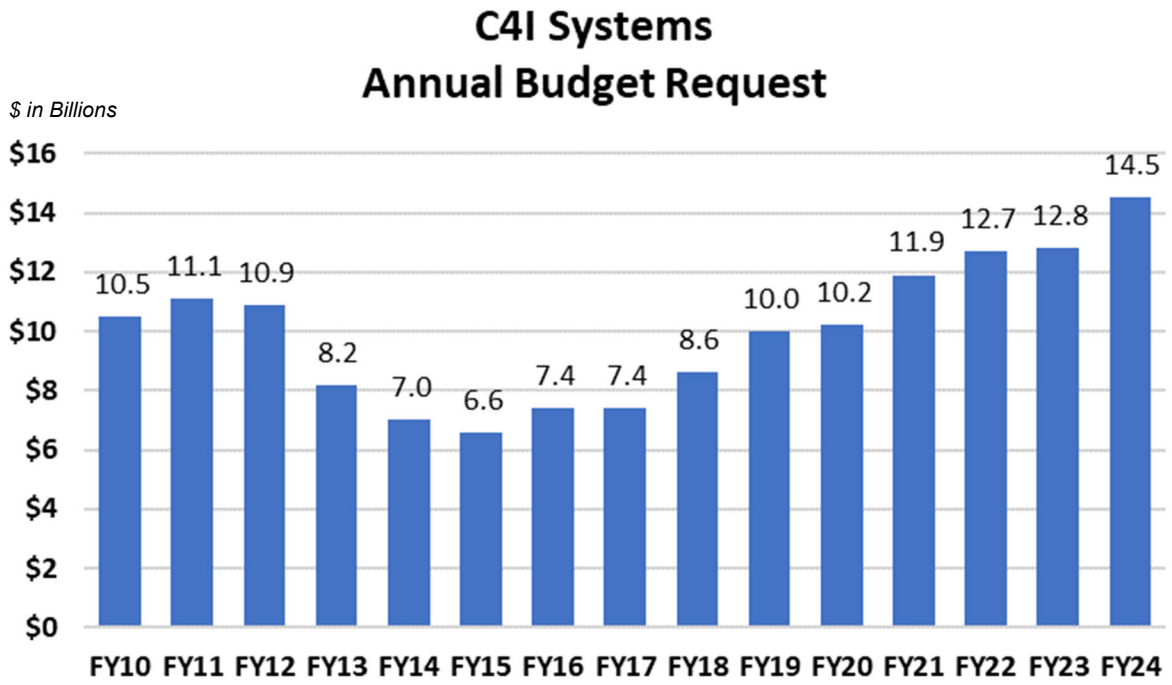
- Combat Aircraft ($25.6 billion)
- Cargo Aircraft ($5.2 billion)
- Support Aircraft ($4.5 billion)
- Unmanned Aircraft Systems ($2.6 billion)
- Aircraft Support ($9.6 billion)
- Technology Development ($4.4 billion)
- Aircraft Modifications ($9.2 billion)

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

$14.5 billion – 5 percent of the Investment budget request

Includes funding for various C4I systems, to include command centers; communications gear; air traffic control; night vision equipment; cyberspace activities (cybersecurity, cyberspace operations, and supporting research and development); data processing equipment; fire control systems; other information technology; and related systems. This category includes funding for a large number of programs such as Tactical Network Transport (TNT), Handheld Manpack Small Form Fit (HMS) radio, Joint Regional Security Stacks (JRSS), Information Systems Security Program (ISSP), Crypto devices and key management infrastructure, Nuclear Command and

Control, equipping the Cyber Mission Forces, the Air Force National Airborne Operations Center (NAOC) Recapitalization program, the Navy's Consolidated Afloat Networks and Enterprise Services (CANES), and the Integrated Personnel and Pay System-Army (IPPS-A). The FY 2024 funding is substantially higher than the amount requested in FY 2023, primarily because of increased funding for Cyberspace, Spectrum, Artificial Intelligence (AI), 5G, and other emerging technologies.



For display purposes, the C4I System category includes the following subgroups:

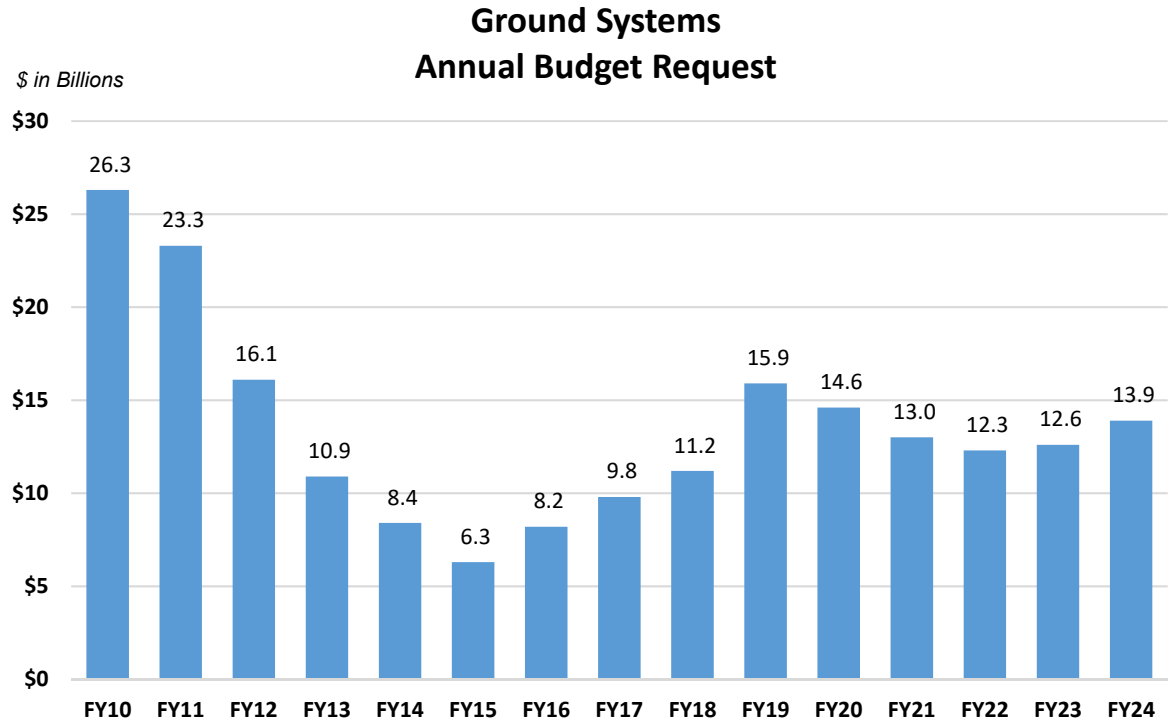
- Aviation Support Equipment ($0.2 billion)
- Base Communications ($3.1 billion)
- Communication & Electronic Equipment ($5.6 billion)
- Telecommunications Equipment ($1.8 million)
- Technology Development ($3.7 billion)
- Information Security ($0.1 billion)

Ground Systems

$13.9 billion – 4 percent of the Investment budget request

Includes funding for combat vehicles, artillery, infantry support weapons, tactical radar systems, tactical and non-tactical vehicles of all types, physical security equipment, logistics and engineering equipment, and research and development of various weapons equipment. This category includes funding for new tactical vehicles such as the Army's new Armored Multi-Purpose Vehicle (AMPV) which will replace the M-113 personnel carrier, and the Marine Corps' Amphibious Combat Vehicle (ACV) which will replace the Amphibious Assault Vehicle (AAV). The category also includes funding for upgrades to the M1A2 Abrams main battle tank to begin

bringing the force up to the M1A2C (System Enhancement Package (SEP) V3) configuration and upgrades to the M109A7 155mm Paladin Integrated Management (PIM) self-propelled artillery vehicle for improved force protection, survivability, and mobility. In addition, the Army is modernizing the tactical wheeled vehicle fleet through new procurement Joint Light Tactical Vehicles (JLTV), engineering changes to Family of Medium Tactical Vehicles (FMTVs) and recapitalizing the Family of Heavy Tactical Vehicles (FHTVs) to continue affordability initiatives.



For display purposes, the Ground Systems category includes the following subgroups:

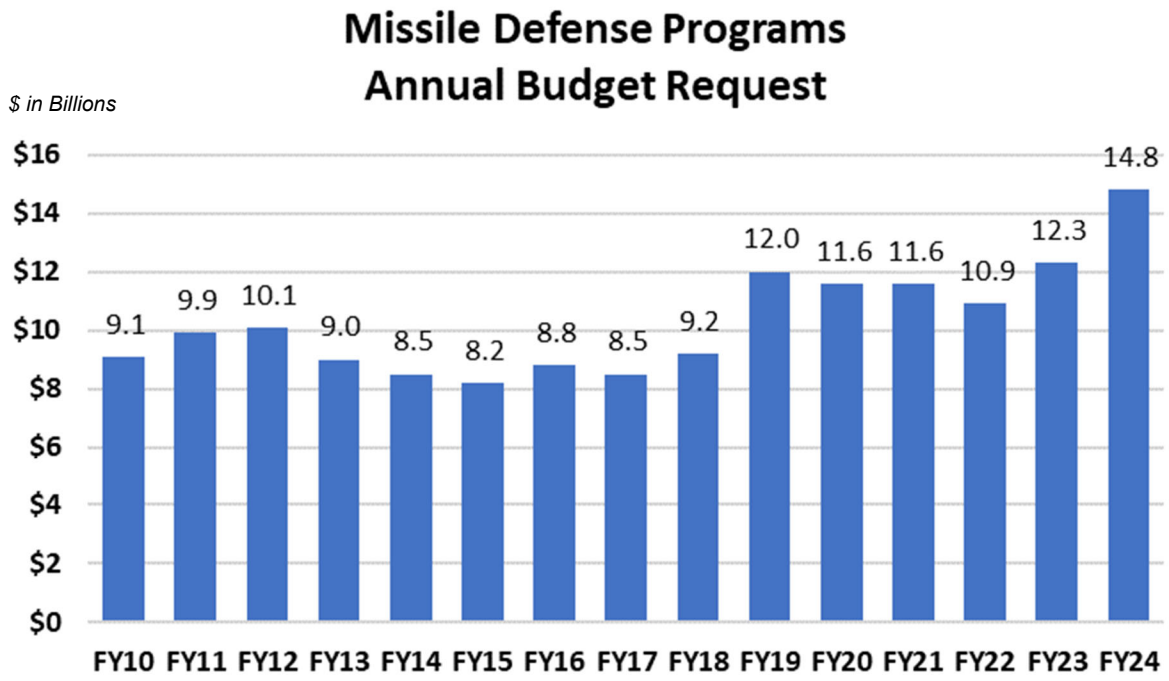
- Support Vehicles ($0.5 billion)
- Tracked Combat Vehicles ($6.8 billion)
- Light Tactical Vehicles ($0.4 billion)
- Communication & Electronic Equipment ($1.6 billion)
- Support Equipment ($3.4 billion)
- Weapons ($1.2 billion)

Missile Defense Programs

$14.8 billion – 5 percent of the Investment budget request

The $14.8 billion represented in this display includes only those programs that are funded in the Procurement or RDT&E appropriations and are missile defense related such as tactical ballistic missile interceptors and counter-missile programs within each of the Services. Includes funding for the development and procurement of tactical and strategic ballistic missile defense weapons and systems. Funds improved ballistic missile capabilities against existing and future threats. The FY 2024 budget request procures additional Standard Missile 3 Block IB and IIA missiles and the Terminal High Altitude Area Defense (THAAD) interceptors, as well as efforts to mature technologies and capabilities to address missile threats to the United States. The FY 2024 request

fully funds the continuation of the development of the Next Generation Interceptor (NGI) to supplement the 44 Ground Based Interceptors (GBI) currently deployed. In addition, the budget funds Missile Defense programs, including efforts to support the Ballistic Missile Defense System, and other Missile Defense activities funded by other DoD Components, including dual use technologies and programs that mitigate ballistic missile threats beyond those funded by the Missile Defense Agency (MDA). The FY 2024 budget request continues MDA's longstanding support of U.S.-Israeli Cooperative Programs, to include the co-development and co-production of the David's Sling Weapon System and Upper Tier Interceptor; improvements to the Arrow Weapon System, and Iron Dome.



For display purposes, the Missile Defense Programs category includes the following subgroups:

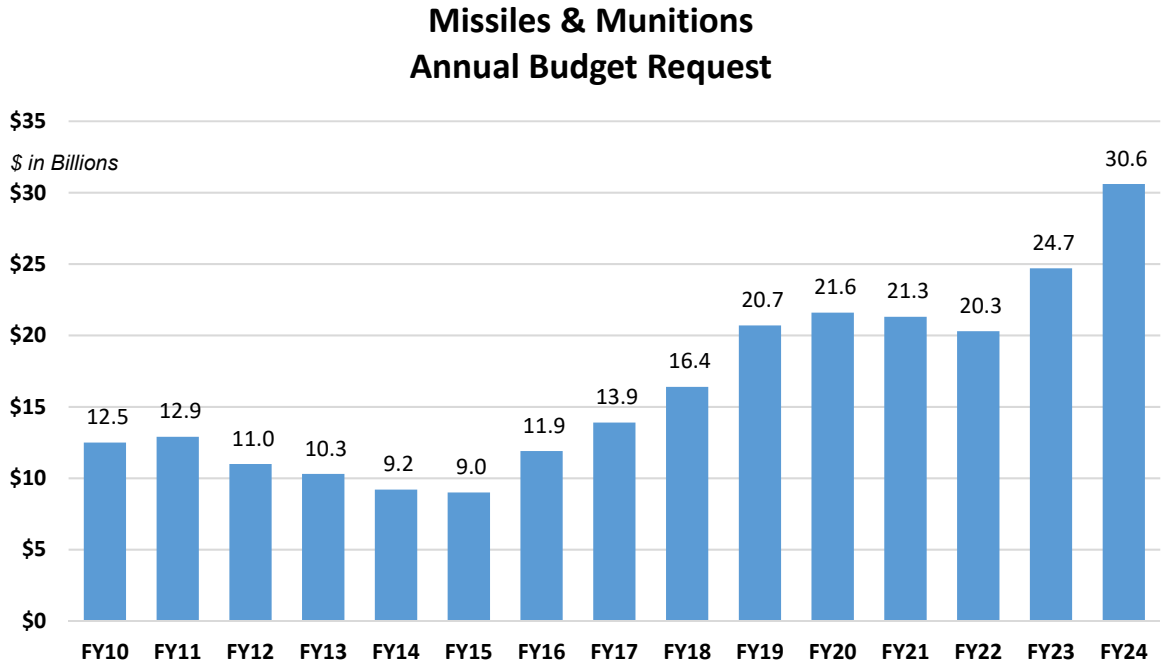
- Advanced Component Development ($1.1 billion)
- Operational System Development ($0.8 billion)
- Communications & Electronic Equipment ($0.6 billion)
- Ballistic Missile Defense Systems ($9.2 billion)
- Tactical Missile Defense ($3.1 billion)

Missiles and Munitions

$30.6 billion – 10 percent of the Investment budget request

This category includes funding for all types of conventional ammunition and Precision Guided Munitions (PGM). The ammunition portfolio includes bullets, cartridges, mortars, explosives, and artillery projectiles needed mostly by ground forces. The PGM portfolio includes weapons

which have applicability in both a contested and permissive environment, and includes an assortment of air-to-air, air-to-ground, ground-to-ground, and ground-to-air weapons. The FY 2024 request reflects a 24 percent increase over the amount requested by the Department in FY 2023, and procures at high rates of production, thus fully utilizing the available industrial capacity. The FY 2024 request includes procurement for the AIM-120D Advanced Medium-Range Air-to-Air Missile (AMRAAM), the AGM-158B Joint Air-to-Surface Missile (JASSM), the AGM-158C Long Range Anti-Ship Missile (LRASM), the Standard Missile - 6 (SM-6), the Joint Direct Attack Munition (JDAM), AGM-114 Hellfire missiles and the GBU-39 Small Diameter Bomb (SDB) I & SDB II, the Guided Multiple Launch Rocket System (GMLRS) and the Army's new long-range Precision Strike Missile (PrSM). In FY 2024, five PGMs will be procured with a multiyear strategy: JASSM, LRASM, SM-6, AMRAAM, and Naval Strike Missile (NSM). Also included in this category is the modernization of nuclear weapon delivery systems, such as the existing Trident II D5 Submarine Launch Ballistic Missile (SLBM), the Ground Based Strategic Deterrent (GBSD) ballistic missiles, the B61-12 Tail Kit gravity weapon, and the Long-Range Standoff (LRSO) weapon programs, which will replace the AGM-86B Air Launched Cruise Missile (ALCM) as it approaches the end of its service life.



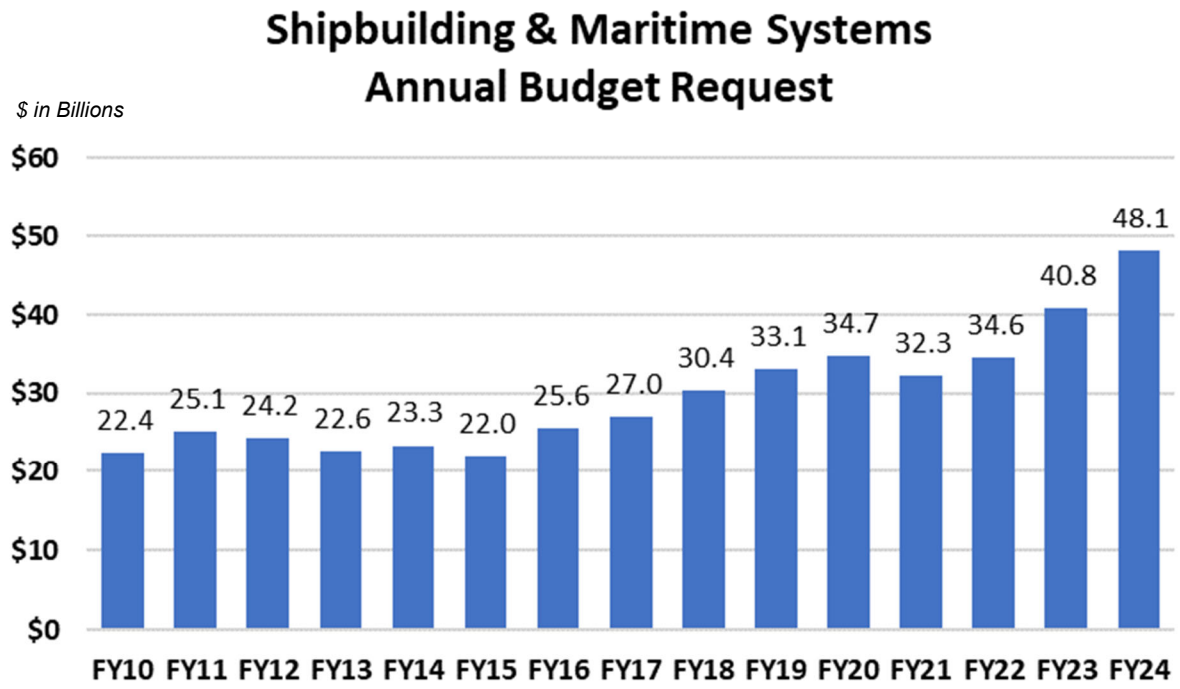
For display purposes, the Missiles and Munitions category includes the following subgroups:

- Conventional Ammunition ($5.6 billion)
- Strategic Missiles ($7.3 billion)
- Tactical Missiles ($17.1 billion)
- Technology Development ($0.6 billion)

Shipbuilding and Maritime Systems

$48.1 billion – 15 percent of the Investment budget request

Includes RDT&E and Procurement funding for shipbuilding and maritime systems. The FY 2024 budget request increases by 18 percent over the amount requested in FY 2023 and provides for the construction of nine Battle Force Ships (BFS) plus the development of unmanned surface vessels. The FY 2024 request includes incremental funding for three FORD class nuclear aircraft carriers: U.S.S KENNEDY (CVN-79), U.S.S. ENTERPRISE (CVN-80) and U.S.S. MILLER (CVN-81). The budget request also includes: two DDG-51 class surface combatants; two CONSTELLATION class frigates (FFG-62); two Block V fast attack Virginia class submarines equipped with the Virginia Payload Module (VPM); one Submarine Tender Replacement ship; and one John Lewis class Fleet Oiler (TAO). Also in this category are the development and construction of one U.S.S. COLUMBIA class ballistic-missile submarines (SSBN), ongoing costs for the U.S.S. STENNIS Refueling and Complex Overhaul (RCOH), and funding for various requirements such as surface and shallow water mine countermeasures; surface training equipment; shipboard air traffic control systems, and diving and salvage equipment.



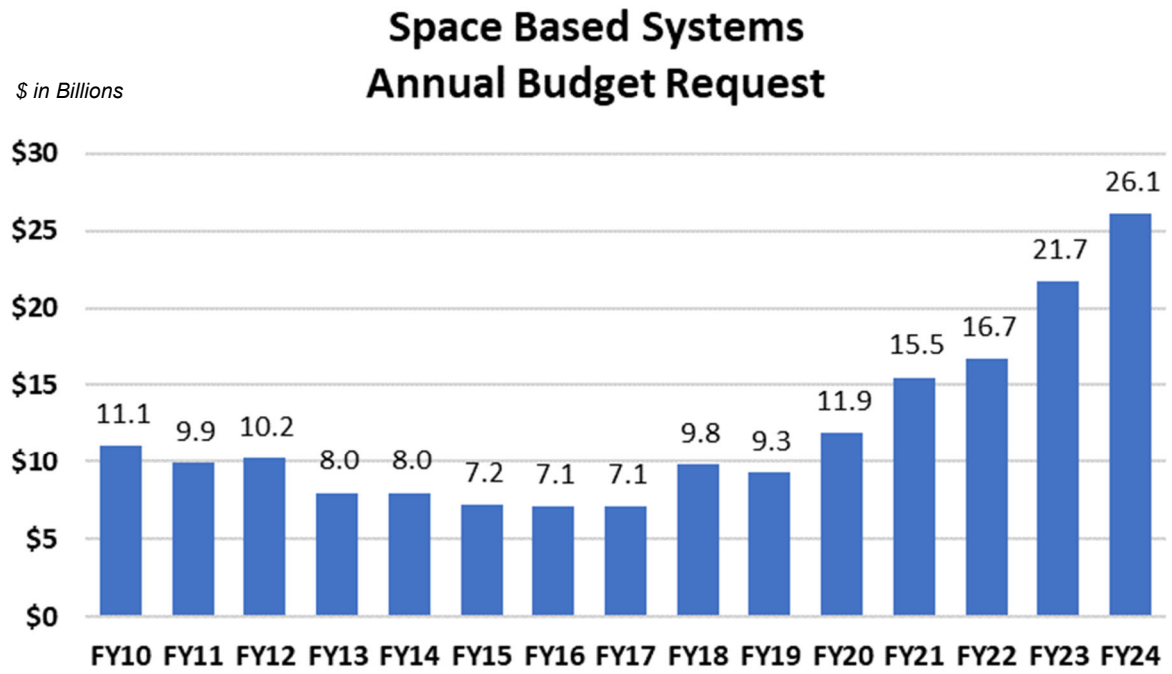
For display purposes, Shipbuilding and Maritime Systems is further categorized by the following subgroups:

- Surface Combatant ($14.3 billion)
- Submarine Combatant ($18.6 billion)
- Support Ships ($3.3 billion)
- Ship Equipment ($6.7 billion)
- Outfitting & Post Delivery ($2.2 billion)
- Technology Development ($3.0 billion)

Space Based Systems

$26.1 billion – 8 percent of the Investment budget request

This category funds development and procurement of spacecraft; launch vehicles; space command and control systems; and terrestrial satellite terminals and equipment. The FY 2024 request continues aggressively integrating the Space Force into the fabric of national and international security by collaborating across the Department of Defense, interagency, commercial industry, and our allies and partners. Space is a warfighting domain critical to the Nation's security, economic prosperity, and scientific knowledge, therefore, the FY 2024 request reflects a substantial increase in funding over previous budget requests. The FY 2024 request continues development of the Next Generation Overhead Persistent Infrared (Next-Gen OPIR) and provides for the development of a new generation of secure communication and tactical warning and attack assessment satellite constellations. It also includes critical space situational awareness requirements, the space test program, and classified programs designed to provide assured capability in space.



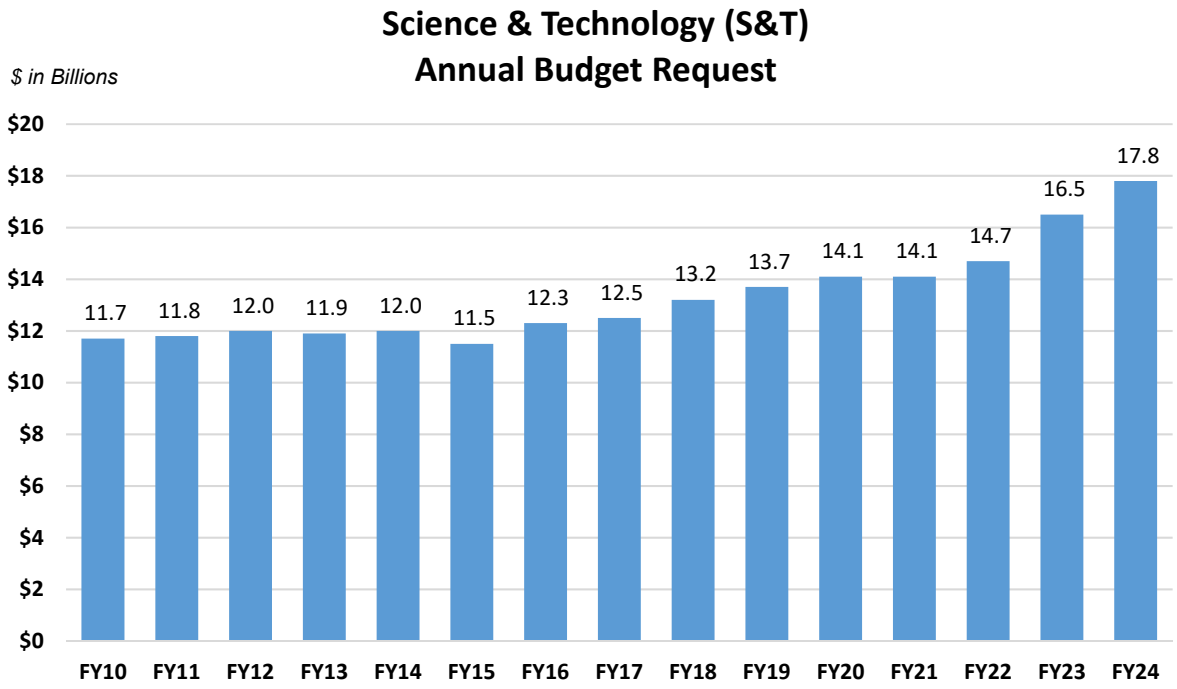
For display purposes, Space Based Systems is further categorized by the following subgroups:

- Advanced Component Development ($4.7 billion)
- Operational System Development ($7.2 billion)
- Space Procurement, SF ($4.7 billion)
- System Development ($6.0 billion)
- Support ($2.8 billion)
- Communications & Electronics Equipment ($0.4 billion)

Science and Technology

$17.8 billion – 6 percent of the Investment budget request

Investing in Science and Technology (S&T) is investing in the future. Given today's globalized access to knowledge and the rapid pace of technology development, innovation, and agility have taken on a greater importance. The FY 2024 funding in this category fosters innovation and develops cutting-edge, state-of-the-art technologies to protect the United States, its allies, and American forces worldwide. These S&T projects aim to develop technologies that will be essential in a future battlefield, include specific scientific and engineering efforts in Artificial Intelligence (AI), Machine Learning applications, Hypersonics (offensive and defensive), Directed Energy (lasers, particle beams, etc.), Microelectronics, Biological Technology, Cyber, Fifth Generation communications (5G), Autonomy, Space, and Quantum sciences. Transitioning these technologies to operational systems will bring vital cutting-edge capabilities to the warfighter. The FY 2024 budget request represents the highest funding for advance research in the history of the DoD.



For display purposes, RDT&E S&T, is further categorized by the following subgroups:

- Basic Research ($2.5 billion)
- Applied Research ($6.0 billion)
- Advanced Technology Development ($9.3 billion)

Mission Support Activities

$88.1 billion – 28 percent of the Investment budget request

This category includes RDT&E and Procurement funding for various miscellaneous equipment used by combat and non-combat forces, cross departmental capabilities such as live fire test and

evaluation (such as testing ranges), chemical demilitarization, and the Defense Production Act (DPA) industrial base support. Also included in this category are classified programs, activities and capabilities not reflected in the other categories previously identified.

Summary of Account History

FY 2022 Program (Dollars in Billions)	RDT&E	PROCUREMENT
President's Budget Request	112.0	133.6
Appropriated by the Congress (enacted)	118.9	145.4
Current Funding (actuals)	119.5	155.5

FY 2023 Program (Dollars in Billions)	RDT&E	PROCUREMENT
President's Budget Request	130.1	145.9
Appropriated by the Congress (enacted)	140.1	167.6

FY 2024 Program (Dollars in Billions)	RDT&E	PROCUREMENT
President's Budget Request	145.0	170.0

- During program execution, funding for weapon system development and procurement often increases because of congressional action and reprogramming actions by the Department to accommodate changes in program scope and to respond to dynamic changes in requirements. As illustrated in the above chart, the available funding in both FY 2022 and FY 2023 are higher than what the President submitted in the budget request for those fiscal years. FY 2022 cumulatively is $29.4 billion higher due to congressional enactment and reprogramming by the Department. The FY 2023 total Investment funding is $31.7 billion higher than requested because of congressional increases.

Display Criteria of Weapon System Funding

The funding amount represents the direct program costs for the development and the acquisition of the Programs, Projects, and Activities (PPA). Not included are the costs associated with initial and replenishment spare parts.

FY 2022 amounts reflects the actual execution as of September 30, 2022.

FY 2023 reflects amounts enacted for Fiscal Year 2023 in the Consolidated Appropriations Act, 2023 (P.L. 117-328).

FY 2024 amounts reflect the funding requested in the FY 2024 President's Budget by the Department of Defense.

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Major Weapon Systems Summary

($ in Millions)		FY 2022	FY 2023 *	FY 2024	Page
Aircraft and Related Systems – Joint Service					
F-35	Joint Strike Fighter	11,889.7	11,935.6	13,590.1	1-2
V-22	Osprey	1 ,713.4	1 ,121.1	649.5	1-3
C-130J	Hercules	3,881.7	2,926.3	823.6	1-4
MQ-1B / MQ-1C	Predator/Gray Eagle	141.6	487.5	15.0	1-5
MQ-9	Reaper	748.1	724.3	547.8	1-6
MQ-4C / RQ-4	Triton/Global Hawk/NATO AGS	766.7	1,022.2	823.7	1-7
AO	Armed Overwatch / Targeting	189.0	247.2	268.8	1-8
Aircraft and Related Systems – US Army (USA)					
AH-64E	Apache: Remanufacture/New Build	789.6	804.8	952.6	1-9
CH-47	Chinook	421.6	505.3	251.4	1-10
UH-60	Black Hawk	1,168.8	1,170.2	915.5	1-11
Aircraft and Related Systems – US Navy (USN) / US Marine Corps (USMC)					
MQ-25	Stingray	372.6	1,137.3	969.4	1-12
F/A-18	Super Hornet	2,130.9	2,096.3	1,832.1	1-13
E-2D	Advanced Hawkeye	1,207.6	1,693.4	582.7	1-14
VH-92A	Presidential Helicopter	80.7	100.9	95.9	1-15
CH-53K	Heavy Lift Replacement Helicopter	1,990.6	2,478.7	2,418.3	1-16
Aircraft and Related Systems – US Air Force (USAF)					
B-21	Raider	2,883.6	4,800.4	5,316.2	1-17
B-1, B-2, B-52	Bombers	948.1	1,121.2	1,254.7	1-18
KC-46A	Tanker	2,345.1	2,636.7	3,007.3	1-19
VC-25B	Presidential Aircraft Recapitalization	407.1	147.9	490.7	1-20
F-22	Raptor	1,034.6	1,307.6	1,520.6	1-21
F-15	Eagle	2,014.7	3,387.5	3,378.5	1-22
HH-60W	Combat Rescue Helicopter	797.3	1,268.1	330.8	1-23
T-7A	Advanced Pilot Training	182.3	44.1	77.3	1-24
MH-139A	Grey Wolf	157.3	213.3	274.8	1-25
E-7A	Airborne Warning and Control System Replacement	15.9	426.8	681.0	1-26
C4I Systems – USA					
TNT	Tactical Network Technology	429.0	358.9	358.6	2-2
C4I Systems – Joint Service					
HMS	Handheld, Manpack, and Small Form Fit Radios	751.8	664.7	769.4	2-3
Cyberspace	Cyberspace Activities	3,183.9	3,457.2	4,059.9	2-4
Ground Systems – Joint Service					
JLTV	Joint Light Tactical Vehicle	1,046.6	1,005.1	1,183.8	3-2
Ground Systems – USA					
M-1	Abrams Tank Modification/Upgrades	1,264.3	1,308.5	896.5	3-3
AMPV	Armored Multi-Purpose Vehicle	984.6	380.7	554.8	3-4
NGSW	Next Generation Squad Weapon	127.6	201.7	328.1	3-5
PIM	Paladin Integrated Management	662.9	703.2	511.6	3-6
FMTV	Family of Medium Tactical Vehicles	144.4	143.9	142.9	3-7
FHTV	Family of Heavy Tactical Vehicles	214.0	292.6	110.6	3-8
Stryker	Stryker Family of Armored Vehicles	1,112.7	957.8	639.1	3-9
OMFV	Optionally Manned Fighting Vehicle	194.9	554.9	996.7	3-10
Ground Systems – USMC					
ACV	Amphibious Combat Vehicle	591.9	618.6	660.8	3-11
Missile Defense Programs – Joint Service					
GMD	Ground-based Midcourse Defense	1,632.4	2,617.8	3,076.3	4-2
THAAD	Terminal High Altitude Area Defense	622.4	505.0	484.7	4-3
Aegis	Sea-Based Weapons System	1,659.1	1,921.6	1,722.6	4-4
Missile Defense Programs – USA					
PATRIOT / PAC–3	PATRIOT Advanced Capability	822.1	786.1	1,206.1	4-5
PAC-3 / MSE	PAC-3/Missile Segment Enhancement	1,333.1	1,037.1	1,212.8	4-6

Major Weapon Systems Summary

($ in Millions)		FY 2022	FY 2023 *	FY 2024	Page
Missiles and Munitions – Joint Service					
JDAM	Joint Direct Attack Munition	97.1	328.1	206.1	5-2
Hellfire	Hellfire Missiles	228.1	116.0	29.9	5-3
SDB I	Small Diameter Bomb I	65.2	46.5	48.7	5-4
SDB II	Small Diameter Bomb II	380.1	555.3	447.2	5-5
JASSM	Joint Air-to-Surface Standoff Missile	824.6	902.2	1,818.6	5-6
AIM-9X	Air Intercept Missile - 9X	236.3	237.9	252.2	5-7
AMRAAM	Advanced Medium Range Air-to-Air Missile	482.2	739.6	1,223.6	5-8
Chem-Demil	Chemical Demilitarization	1,093.3	1,059.8	1,086.3	5-9
JAGM	Joint Air-to-Ground Missile	196.7	297.2	386.1	5-10
LRASM	Long Range Anti-Ship Missile	236.3	549.5	1,065.0	5-11
AMMO	Ammunition	5,276.3	5,775.2	4,964.1	5-12
Missiles and Munitions – USA					
GMLRS	Guided Multiple Launch Rocket System	997.6	1,339.8	1,027.2	5-13
Javelin	Javelin Advanced Anti-Tank Weapon System	1,602.5	464.6	262.2	5-14
PrSM	Precision Strike Missile	347.7	422.4	656.9	5-15
Missiles and Munitions – USN					
Trident II	Trident II Ballistic Missile Modifications	1,587.6	1,717.1	1,931.6	5-16
Standard	Standard Missile-6	902.1	799.0	1,615.0	5-17
RAM	Rolling Airframe Missile	81.0	109.5	126.0	5-18
NSM	Naval Strike Missile	168.4	241.7	249.9	5-19
Tomahawk	Tactical Tomahawk Cruise Missile	529.1	904.5	934.3	5-20
AARGM-ER	Advanced Anti-Radiation Guided Missile	242.0	270.8	255.3	5-21
Missiles and Munitions – USAF					
LGM-35A	Sentinel	2,475.8	3,617.1	4,278.9	5-22
LRSO	Long Range Stand-Off Weapon	580.4	980.8	978.2	5-23
Shipbuilding and Maritime Systems – USN					
CVN 78	*Gerald R. Ford* Class Nuclear Aircraft Carrier	2,845.8	3,734.6	2,704.4	6-2
SSBN 826	*Columbia* Class Ballistic Missile Submarine	5,163.1	6,273.5	6,207.2	6-3
SSN 774	*Virginia* Class Submarine	6,876.1	7,261.2	10,845.6	6-4
DDG 51	*Arleigh Burke* Class Destroyer	4,204.8	8,221.0	4,848.6	6-5
FFG(X)	*Constellation* Class Guided Missile Frigate	1,189.9	1,243.9	2,250.7	6-6
CVN	Refueling Complex Overhaul	2,649.3	674.1	1,241.5	6-7
T-AO 205	*John Lewis* Class Fleet Replenishment Oiler	1,575.9	958.4	967.7	6-8
AS(X)	Submarine Tender Replacement	15.8	15.5	1,743.8	6-9
USV	Medium and Large Unmanned Surface Vessels	208.4	310.3	237.9	6-10
LHA	*America* Class Amphibious Assault Ship	75.9	1,427.5	1,874.2	6-11
Space Based Systems – USSF					
NSSL & RSLP	Launch Enterprise	1,798.8	2,211.0	3,003.1	7-2
GPS III & Projects	Global Positioning System Enterprise	2,011.2	1,707.4	1,259.8	7-3
OPIR	Space Based Missile Warning Systems	2,493.4	4,696.8	4,966.4	7-4
SATCOM Projects	Satellite Communications (SATCOM) Projects	2,617.2	3,617.2	4,739.1	7-5

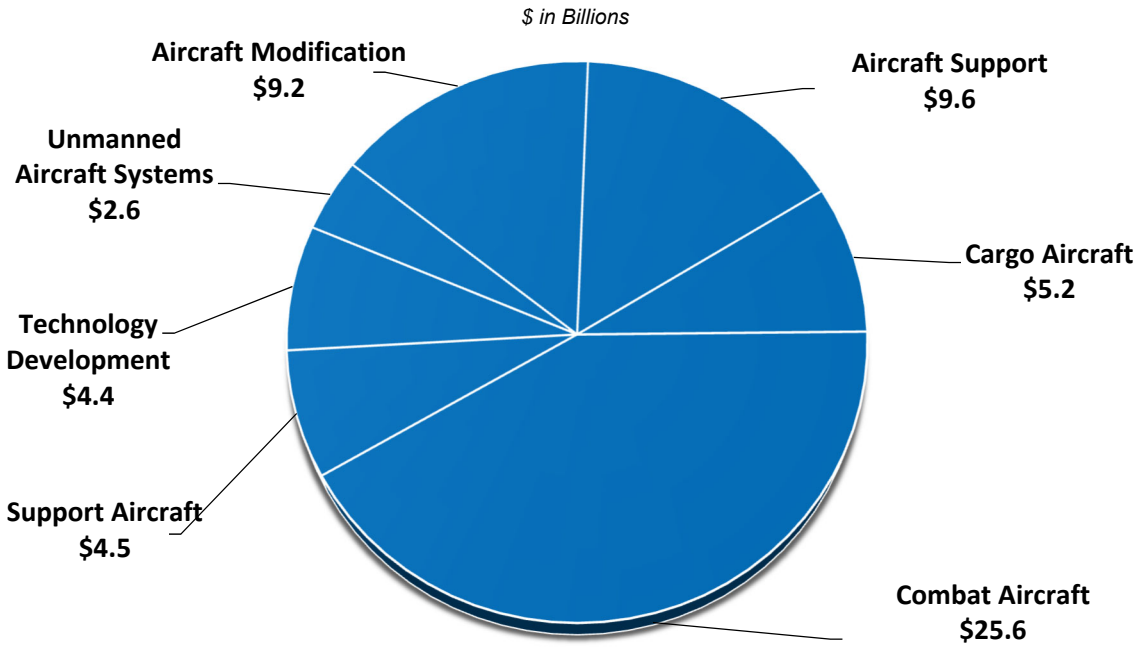
* FY 2023 reflects amounts enacted for Fiscal Year 2023 in the Consolidated Appropriations Act, 2023 (P.L. 117-328).

Aircraft and Related Systems

Aviation forces including fighters, bombers, mobility (cargo/tanker), specialized support aircrafts, and Unmanned Aerial Vehicles/Unmanned Aircraft Systems (UAV/UAS), 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.

Continued in the FY 2024 request, is the Department's Tactical Air (TACAIR) strategy to supplement 5th generation fighters like the F-22 and F-35 with 4th generation capability, to more economically address threats that do not require state-of-the-art 5th generation combat jets.

FY 2024 Aircraft and Related Systems Total: $61.1 Billion



Numbers may not add due to rounding

F-35 Joint Strike Fighter

DOD - JOINT

The F-35 Joint Strike Fighter (JSF) is a fifth-generation strike fighter for the Navy, Marine Corps, Air Force, and U.S. Allies. The F-35 consists of three variants: 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 and seven cooperative international partners as well as nine current and future Foreign Military Sales countries. The Marine Corps, Air Force, and Navy have all declared Initial Operational Capability in 2015, 2016, and 2019, respectively.

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

FY 2024 Program: Continues systems engineering, development and operational testing, and supports Continuous Capability Development and Delivery (C2D2) to provide incremental warfighting capability improvements to maintain joint air dominance against evolving threats. Procures 83 aircraft in FY 2024: 48 CTOL for the Air Force, 16 STOVL for the Marine Corps, and 19 CV for the Department of the Navy (15 Navy and 4 Marine Corps). Continues laying down the ground and squadron support and site stand-up infrastructure required to support U.S. Services F-35 air systems. Accelerates an organic depot maintenance capability to reduce depot repair cycle times to improve air vehicle availability rates.

Prime Contractor(s): Airframe: Lockheed Martin Corporation; Fort Worth, TX
Engine: Pratt & Whitney; Hartford, CT

F-35 Joint Strike Fighter						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USN/USMC	-	976.2	-	1,035.2	-	1,088.5
USAF	-	1,144.0	-	1,098.3	-	1,372.5
Subtotal	-	2,120.2	-	2,133.5	-	2,461.0
Procurement						
USN/USMC	32	4,680.7	34	4,624.1	35	4,919.4
USAF	41	4,560.1	43	4,482.2	48	5,279.1
Subtotal	73	9,240.9	77	9,106.2	83	10,198.6
Mods	-	528.6	-	695.9	-	930.6
Total	73	11,889.7	77	11,935.6	83	13,590.1

Note: Includes Modification Program *Numbers may not add due to rounding*

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 missions for U.S. Special Operations Command. 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 worldwide location.

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

FY 2024 Program: Funds MV-22 and CMV-22 production line shutdown to include material, tooling, special test equipment disposition and storage requirements. Modification program continues to focus on reducing flight hour costs and improving Time on Wing availability through common configurations, structural safety and reliability improvements, and improved capability. CV-22 specifically focuses on readiness (reducing configurations and increasing maintenance efficiencies), reliability (improving the nacelles to increase aircraft availability), and relevance (improving airborne mission networking in the Joint Domain).

Prime Contractor(s): Airframe: Bell Helicopter Textron, Incorporated; Amarillo, TX
The Boeing Company; Philadelphia, PA
Engines: Rolls Royce; Indianapolis, IN

V–22 Osprey						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USN	-	89.4	-	125.2	-	137.6
USAF	-	23.3	-	21.8	-	39.7
Subtotal	-	112.8	-	147.0	-	177.3
Procurement						
USN	12	1,324.4	5	741.8	-	243.2
USAF	-	276.2	-	232.2	-	229.0
Subtotal	12	1,600.6	5	974.1	-	472.2
USN Subtotal	12	1,413.9	5	867.0	-	380.8
USAF Subtotal	-	299.5	-	254.0	-	268.7
Total	12	1,713.4	5	1,121.1	-	649.5

Note: Includes Modification Program *Numbers may not add due to rounding*

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, air refueling, special operations, firefighting, weather reconnaissance, and augmentation of strategic airlift forces. The C-130J aircraft, with its extended fuselage, provides an additional 15 feet of cargo carrying capacity for the Air Force combat delivery mission compared to the C-130E/H and the C-130J (short) aircraft. This translates into 30% more useable volume for increased seating, litters, pallets, or airdrop platforms; thus, providing a significant advantage in the reduction of sorties necessary for mission completion. Special mission variants of the C-130J conduct weather reconnaissance (WC-130J), search and rescue (HC-130J), and special operations (MC-130J and AC-130J). The KC-130J provides the Marine Corps 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: Provide responsive air movement and delivery of combat troops/supplies directly into objective areas through air landing, extraction, airdrop, and the air logistics support of theater forces.

FY 2024 Program: Funds capability upgrades (Block 8.1 and Communication Modernization); continues C-130J procurement of congressional adds, logistics support services, diminishing manufacturing sources, and post-delivery support. FY 2024 will be the last year of procurement for the KC-130J, with 2 aircraft being procured at single-year pricing.

Prime Contractor(s): Lockheed Martin Corporation; Marietta, GA

C-130J Hercules						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
HC/MC-130J	-	43.1	-	53.0	-	36.5
C-130J	-	18.4	-	10.1	-	19.1
Subtotal	-	61.5	-	63.1	-	55.6
Procurement						
C-130J	20	2,385.2	16	1,775.3	-	34.9
MC-130J	3	220.0	-	40.4	-	-
KC-130J	6	580.4	5	468.6	2	241.3
Subtotal	29	3,185.6	21	2,284.3	2	276.2
Mods	-	634.6	-	579.0	-	491.7
Total	29	3,881.7	21	2,926.3	2	823.6

Note: Includes Modification Program *Numbers may not add due to rounding*

MQ-1C Gray Eagle

USA

The U.S. Army MQ-1C Gray Eagle Unmanned Aircraft Systems is comprised of aircraft configured with multi-spectral targeting systems (electro-optical, infrared, 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. The system is a single-engine, propeller-driven unmanned aircraft and includes the Gray Eagle Extended Range Engineering Change Proposal, which extends the aircraft's range and endurance. The Air Force completed divestment of MQ-1B in FY 2018 and replaced all aircraft with MQ-9 Reapers.

US Army Photo

Mission: Operates over-the-horizon at medium altitude for long endurance and provides real-time intelligence, surveillance, reconnaissance, target acquisition, and strike capability to aggressively prosecute time-sensitive targets. The system includes a Synthetic Aperture Radar, Ground Moving Target Indicator, a communications relay capability, a heavy fuel engine, encrypted tactical common data link, and greater weapons capability.

FY 2024 Program: Funding supports the procurement of critical Avionics and Datalinks equipment, specifically Link-16. Avionics and Datalinks equipment will support the transition of the SATCOM datalink to a multiband frequency. Contractor program management and acquisition and repair of GFE, and the procurement of ten vision-based navigation kits will also be funded.

Prime Contractor(s): General Atomics-Aeronautical Systems Incorporated; San Diego, CA

MQ-1C Gray Eagle						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
Gray Eagle USA	-	18.4	-	4.5	-	-
Procurement						
Gray Eagle USA	-	123.1	12	483.0	-	15.0
Total	-	141.6	12	487.5	-	15.0

Note: Includes Modification Program *Numbers may not add due to rounding*

MQ-9 Reaper / USMC Group 5 UAS

DOD - JOINT

USAF Photo

The U.S. Air Force (USAF) MQ-9 Reaper Unmanned Aircraft System (UAS) and the United States Marine Corps (USMC) Group 5 UAS programs are comprised of an aircraft segment configured with an array of sensors; to include day/night Full Motion Video, Signals Intelligence, and Synthetic Aperture Radar 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. MQ-9 provides the interim solution for the USMC Group 5 UAS requirement. Funding for U.S. Special Operations Command (USSOCOM) procures Special Operations Force (SOF) peculiar kits, payloads, and modifications.

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

FY 2024 Program: Funds modification of 5 USMC Group 5 UAS (MQ-9) Extended Range air vehicles (transferred from the USAF), Ground Control Station (GCS), training equipment, and associated support and site standup requirements. Funds the continued development, testing, and integration of USMC-unique sensors and SOF-peculiar emerging technology mission kits, weapons, and modifications on platforms, GCS, and training systems. This request funds support equipment and primary satellite link equipment. The USAF MQ-9 program will continue to retrofit aircraft with Extended Range modifications while also researching and developing MQ-9 Multi-Domain Operations (M2DO) capability enhancements for MQ-9 weapon system modernization. The USAF program will also focus on modernization with M2DO capability enhancements; Anti-Jam GPS, Power Enhancement, Open Mission System, Link-16, and C2 Resiliency.

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

MQ–9 Reaper / USMC Group 5 UAS						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USAF	-	76.8	-	145.5	-	81.1
USN/USMC	-	15.5	-	98.9	-	108.2
SOCOM	-	68.8	-	41.3	-	54.9
Subtotal	-	161.2	-	285.7	-	244.2
Procurement						
USAF	4	304.3	-	234.6	-	98.1
USN/USMC	8	274.6	5	190.0	5	187.6
SOCOM	-	8.0	-	14.0	-	17.9
Subtotal	12	586.9	5	438.6	5	303.6
Total	12	748.1	5	724.3	5	547.8

Note: Includes Modification Program *Numbers may not add due to rounding*

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

DOD - JOINT

US Navy Photo

The Navy (USN) MQ-4C Triton, U.S. Air Force (USAF) RQ-4 Global Hawk, and North Atlantic Treaty Organization (NATO) Alliance Ground Surveillance (AGS) Unmanned Aircraft Systems (UAS) provide high altitude long endurance Intelligence, Surveillance, and Reconnaissance (ISR) capabilities. The MQ-4C provides the Navy with a persistent maritime ISR capability. Mission systems include inverse Synthetic Aperture Radar, Electro-optical/Infra-red Full Motion Video maritime moving target detection, Electronic Support Measures, Automatic Identification System, a basic communications relay capability, and Link-16. The RQ-4 Block 40 includes multi-platform radar technology for SAR imaging and moving target detection. All RQ-4 aircraft have been delivered.

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

FY 2024 Program: Provides funding for two (2) Low Rate Initial Production MQ-4C Triton UAS and one (1) Main Operating Base - Mission Control System in the Multi-INT configuration. In addition, it continues to fund software development for multi-intelligence capabilities and correction of deficiencies identified during testing. RQ-4 funds support infrastructure and system sustainment efforts, and the U.S. contribution to the NATO AGS during program office liquidation.

Prime Contractor(s): Northrop Grumman; Rancho Bernardo, CA

MQ-4C Triton / RQ-4 Global Hawk / NATO AGS						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
RQ-4, USAF	-	82.4	-	68.8	-	1.2
RQ-4, NATO	-	19.5	-	0.8	-	0.0
MQ-4, USN	-	147.4	-	164.0	-	312.5
Subtotal	-	249.2	-	233.6	-	313.7
Procurement						
RQ-4, USAF	-	27.3	-	42.1	-	-
MQ-4, USN	2	490.2	3	746.5	2	510.0
Subtotal	2	517.5	3	788.6	2	510.0
Total	2	766.7	3	1,022.2	2	823.7

Note: Includes Modification Program *Numbers may not add due to rounding*

Armed Overwatch/ Targeting

DOD - JOINT

Armed Overwatch provides Special Operations Forces (SOF) with crewed deployable, affordable, and sustainable aircraft systems capable of executing Close Air Support (CAS), precision strike, and armed Intelligence, Surveillance, and Reconnaissance (ISR) requirements in austere and permissive environments for use in irregular warfare operations in support of the National Defense Strategy.

Mission: CAS, precision strike, and armed ISR.

FY 2024 Program: Funds support the procurement and fielding of 12 Armed Overwatch aircraft, initial spares, systems engineering and program management, required support equipment, two cockpit familiarization training devices, two weapon system trainers, mission planning systems, and other government costs. RDT&E investments begin modular capability enhancements and payload integration activities for SOF secure communications and Blue Force Tracker and continues SOF integration, testing, and aircraft certification efforts.

Prime Contractor(s): L-3 Harris; Greenville, TX

Armed Overwatch / Targeting						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	23.0	-	1.2	-	2.0
Procurement	6	166.0	9	246.0	12	266.8
Total	6	189.0	9	247.2	12	268.8

Numbers may not add due to rounding

AH-64E Apache

US Army Photo

The AH-64E Apache program is a 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 modernizes the aircraft with updated technologies and performance enhancements to keep the Apache viable throughout its lifecycle. The AH-64E program incorporates a new power train system that restores the aircraft to its previous flight performance capabilities that have been reduced over years due to added weight. The AH-64E has all new open architecture computer systems, including an all-digital cockpit flight control. The aircraft also has manned/unmanned teaming capability with the Army's Unmanned Aerial Systems giving the system far greater targeting distances. Additionally, the AH-64E can share targeting data with Joint Forces via its onboard Link 16 system.

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

FY 2024 Program: Funds technologies and material solutions to address known capability gaps that were identified during real-world combat missions to include continued development of a phased approach to incorporate an Improved Tail Rotor Drive System. These technologies and solutions will be integrated and implemented in the AH-64E fleet to increase combat capability. Funds the procurement of 42 AH-64E Remanufactured aircraft. FY 2024 is the third year in a Multiyear Procurement Contract (FY 2022 – FY 2025)

Prime Contractor(s): The Boeing Company; Mesa, AZ

AH-64E Apache						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	9.7	-	25.1	-	10.5
Procurement						
AH-64E Reman	29	661.4	33	693.9	42	828.9
Modifications	-	118.6	-	85.8	-	113.1
Total	29	789.6	33	804.8	42	952.6

Note: Includes Modification Program *Numbers may not add due to rounding*

CH-47 Chinook

US Army Photo

The CH-47F Improved Cargo Helicopter program procures new and remanufactured Service Life Extension Program 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. The recapitalization of the MH-47G airframes is required to extend the useful life of legacy aircraft. The CH-47F Block II development effort is in Engineering and Manufacturing Development. Improvements include increased lift, improved engine control, upgraded drive train components, and advanced flight controls.

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

FY 2024 Program: Funds the continued modernization of the Army's only heavy lift helicopter, including integration and improvements through the program of record; continues development work on the Block II F variant. Funds also procure 6 MH-47G variants.

Prime Contractor(s): The Boeing Company; Philadelphia, PA.

CH-47 Chinook						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	66.0	-	67.5	-	9.3
Procurement	8	355.6	9	437.8	6	242.1
Total	8	421.6	9	505.3	6	251.4

Note: Includes Modification Program *Numbers may not add due to rounding*

UH-60 Black Hawk

US Army Photo

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 and capabilities 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. A HH-60M is aUH-60M Black Hawk integrated with the Medical Evacuation Mission Equipment Package kit, which provides day/night and adverse weather emergency evacuation of casualties.

Mission: Provides a highly maneuverable, air transportable, troop-carrying helicopters 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 2024 Program: Funds procurement of 50 aircraft (UH-60M, HH-60M, and UH-60V), Government Furnished Equipment, and related installations FY 2024 is the third year of a 5-year multiyear procurement contract (FY 2022 -FY 2026)

Prime Contractor(s): UH-60M: Airframe/CFE - Sikorsky, A Lockheed Martin Company. Stratford, CT
UH-60V: Rebuild/Recapitalize - Redstone Defense Systems. Huntsville, AL

UH-60 Black Hawk						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	14.8	-	-	-	1.5
Procurement						
UH-60M	31	987.8	35	991.6	24	760.8
UH-60V	24	166.2	28	178.7	26	153.2
Total	55	1,168.8	63	1,170.2	50	915.5

Numbers may not add due to rounding

MQ-25 Stingray/Unmanned Carrier Aviation

The U.S. Navy MQ-25A Stingray and the Unmanned Carrier Aviation (UCA) Mission Control System (UMCS) programs are rapidly developing an unmanned capability to embark as part of the Carrier Air Wing (CVW) for aerial refueling and Intelligence, Surveillance, and Reconnaissance missions. The MQ-25 will extend CVW mission effectiveness range and mitigate the current Carrier Strike Group organic ISR shortfall. As the first carrier-based Group 5 Unmanned Aircraft System, the MQ-25 will pioneer the integration of manned and unmanned operations; demonstrate complex sea-based Command, Control, Communications, Computers, and Intelligence technologies; and pave the way for future multi-mission UAS to pace emerging threats. The MQ-25 was previously funded under the Unmanned Carrier Launched Airborne Surveillance and Strike program. The program entered into Engineering and Manufacturing Development in the fourth quarter of FY 2018 and is expected to provide an Initial Operational Capability (IOC) to the fleet by FY 2026.

Mission: Conducts aerial refueling as a primary mission and provides ISR as a secondary mission.

FY 2024 Program: Funds continuation of Ground Control Station integration and begins ground and flight test with the air vehicles. All four Engineering Development Models (EDMs) and two of the three System Demonstration Test Articles (SDTAs) will be delivered to the test program and be available for ground and flight testing. The third System Demonstration Test Article and fatigue test article will complete production and be delivered in FY 2025 for testing. Unmanned Carrier Aviation Mission Control System will finalize the interface design and install the MD-5E Embarkable system. Funds the procurement of Low Rate Initial Production (LRIP) Lot 2 (three MQ-25 aircraft) and advanced procurement in support of LRIP Lot 3 (four MQ-25 aircraft) long lead materials. Also, funds the Unmanned Carrier Aviation (UCA) Mission Control System (UMCS) program, which builds, integrates, installs, and sustains the systems (control station, communications, and networks) required to operate the MQ-25 and performs ship installations associated with the MQ-25.

Prime Contractor(s): Airframe**:** Boeing; St. Louis, MO
UMCS: Lockheed Martin; Fort Worth,

MQ-25 Stingray/Unmanned Carrier Aviation						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	257.9	-	254.4	-	220.4
Procurement - MQ-25	-	47.5	1	748.2	3	596.3
Procurement - UMCS		67.2		134.7		152.7
Total	-	372.6	1	1,137.3	3	969.4

Numbers may not add due to rounding

F/A-18 Super Hornet

US Navy Photo

The F/A-18 E/F Super Hornet is a carrier-based multi-role tactical fighter and attack aircraft. Two versions are in production: 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 2024 Program: Begins Production Line Shutdown as FY 2023 is the last year of the E/F model multiyear procurement contract (FY 2021 - FY 2023). Continues to fund spares, repair parts, and the Service Life Extension Program to maintain sufficient aircraft inventory to meet fleet operational requirements through FY 2046. Development and integration of critical aircraft systems, like the Infrared Search and Track (IRST) pod, continues to ensure the F/A-18 E/F can meet advanced threats expected in 2025 and beyond.

Prime Contractor(s): Airframe: Boeing; St. Louis, MO
Engine: General Electric Company; Lynn, MA

F/A-18 E/F Super Hornet						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	260.6	-	290.3	-	365.9
Procurement	12	1,870.3	8	1,806.1	-	1,466.2
Total	12	2,130.9	8	2,096.3	-	1,832.1

NOTE: Includes IRST and Modification funding. *Numbers may not add due to rounding*

E-2D Advance 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, an 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 2024 Program: Begins production line shutdown as FY 2023 is the last year of the E-2D multiyear procurement contract (FY 2019 – FY 2023). Continues funding for associated support and continued development of systems, in addition to the procurement of various equipment required to establish organic depot capability.

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

E-2D Advanced Hawkeye						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	339.0	-	487.3	-	399.9
Procurement	5	868.6	7	1,206.2	-	182.8
Total	5	1,207.6	7	1,693.4	-	582.7

Numbers may not add due to rounding

VH-92A Presidential Helicopter

The VH-92A replaces the legacy Presidential Helicopter fleet, the VH-3D and the VH-60N, which were fielded in 1974 and 1989. The VH-92A is 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, received Milestone C approval in the third quarter of FY 2019, and concluded the EMD phase in FY 2021. A total of 21 operational aircraft (17 production and four refurbished System Development Test Article (SDTA) aircraft) were procured and delivered. Two Engineering Development Models and four SDTA aircraft were delivered in the EMD phase. Initial Operational Capability was declared on December 28, 2021 with Full Operational Capability planned in FY 2023.

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 2024 Program: Funds modifications for the VH-92A improvement program for sustainment and operations. In addition, funds developing product improvements for incremental incorporation to the VH-92A capability baseline to include enhancements to advanced capabilities, cockpit upgrades, shipboard interoperability, Mission Communications System hardware/software upgrades, commence the developing product improvements for distributed network communications, new mission software capabilities, vehicle performance enhancements and high performance.

Prime Contractor(s): Sikorsky Aircraft Corporation; Stratford, CT

VH-92A Presidential Helicopter						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	40.5	-	45.6	-	35.4
Procurement	-	40.2	-	55.3	-	60.5
Total	-	80.7	-	100.9	-	95.9

Note: Includes Modification Program *Numbers may not add due to rounding*

CH-53K Heavy Lift Helicopter

The CH-53K King Stallion is the only marinized heavy-lift helicopter and replaces the U.S. Marine Corps CH-53E Super Stallion, which was introduced in 1980. The CH-53K provides improved lift and range capabilities, payload, performance, cargo handling, reliability and maintainability, interoperability, survivability, ship integration, 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. The CH-53K provides an unparalleled high-altitude lift capability with nearly three times the external lift capacity of the CH-53E. Total CH-53K program of record quantity is 200 operational aircraft with 4 System Demonstration Test Articles and 196 to be funded with Aircraft Procurement, Navy. Initial Operational Test & Evaluation (IOT&E) was completed in April 2022, Initial Operating Capability (IOC) was achieved in May 2022, and Full Rate Production (FRP) was approved in December 2022.

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 2024 Program: Funds support continued software development and the correction of deficiencies discovered during Initial Operational Test and Evaluation resulting in the establishment of the final deployable configuration. The program also funds the procurement of 15 aircraft.

Prime Contractor(s): Airframe: Sikorsky Aircraft Corporation; Stratford, CT
Engines: General Electric Company; Lynn, MA

CH-53K Heavy Lift Replacement Helicopter						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	212.2	-	220.2	-	222.3
Procurement	11	1,778.4	12	2,258.5	15	2,196.0
Total	11	1,990.6	12	2,478.7	15	2,418.3

Note: Includes Modification Program *Numbers may not add due to rounding*

B-21 Raider

The B-21 Raider, previously referred to as the Long Range Strike-Bomber, is a new, high-tech long range bomber that will replace B-1 and B-2 bombers. The B-21 will be a key component of the joint portfolio of conventional and nuclear capable deep-strike capabilities. The B-21 will be delivered to operational bases in the mid-2020's. The B-21 is being designed as a dual capable aircraft, with the ability to employ nuclear weapons, per congressional direction, not later than 2 years after conventional IOC. The B-21 program is exploring opportunities to achieve nuclear certification at the earliest opportunity. Highly survivable, the B-21 Raider will have the ability to penetrate modern air defenses. The Air Force plans to procure a minimum of 100 aircraft. Manufacturing of the test aircraft is underway at Northrop Grumman's facility in Air Force Plant 42. The 420th Flight Test Squadron at Edwards Air Force Base (AFB) was reactivated on October 4, 2019 to prepare for B-21 flight test. On March 27, 2019, the Secretary of the Air Force announced that Ellsworth AFB, South Dakota, Whiteman AFB, Missouri and Dyess AFB, Texas are the preferred Main Operating Base locations. Ellsworth AFB, South Dakota was approved as MOB #1 on June 3, 2021.

Mission: Destroys strategic targets to debilitate an adversary's capacity and capability to wage war. The B-21 will maintain the capability to operate in contested environments, counter emerging threats, and support the nuclear triad by providing a visible and flexible nuclear deterrent capability. Additional details of the B-21 are currently classified.

FY 2024 Program: Continues Engineering and Manufacturing Development of the B-21. Procurement funds will support the program's transition to low rate initial production, which includes long lead parts. Additional details are classified.

Prime Contractor(s): Northrup Grumman Corporation; Falls Church, VA

B-21 Raider						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	2,775.6	-	3,143.6	-	2,984.1
Procurement	-	108.0	-	1,656.8	-	2,332.1
Total	-	2,883.6	-	4,800.4	-	5,316.2

Numbers may not add due to rounding

Bombers

Bombers provide an intercontinental capability to rapidly strike surface targets. The Air Force legacy bomber fleet includes the B-1B, B-2, and B-52H aircraft. The B-1B Lancer, fielding completed in 1988, is a swing-wing, supersonic, long-range conventional bomber and carries the largest payload of both guided and unguided weapons in the Air Force inventory. The multi-mission B-1B is the backbone of the U.S. long-range conventional bomber force and can rapidly deliver massive quantities of precision (and non-precision) weapons against any adversary, any place in the world, at any time. The B-2 Spirit, fielded in the 1997, is a multi-engine, long range conventional and nuclear bomber incorporating low-observable technology that enables the B-2 to penetrate enemy air defenses and strike high-value targets. The B-52H Stratofortress, fielding completed in 1962, is a long range, subsonic, strategic bomber that maintains nuclear and conventional missions.

Mission: Fly into enemy territory to destroy strategic targets such as major military installations, factories, and ports to debilitate an adversary's capacity to wage war. The B-1B 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, is the only aircraft capable of penetrating enemy defenses to bomb heavily defended targets, and is the only aircraft to carry the 30,000 pound GBU-57 Massive Ordnance Penetrator. The B-52H aircraft maintains nuclear or conventional missions and carries the widest variety of weapons of all the bombers, including the only aircraft to carry the AGM-86 Air Launched Cruise Missile, a nuclear cruise missile.

FY 2024 Program: Continues upgrades to modernize legacy bombers including avionics, communications, radar, engine, and weapons efforts.

Prime Contractor(s): B-2: Northrop Grumman Aerospace Systems; Palmdale, CA
B-1B, B-52H: Boeing Defense; Oklahoma City, OK

Bombers						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	781.8	-	844.9	-	1,051.1
Procurement	-	166.3	-	276.3	-	203.6
Total	-	948.1	-	1,121.2	-	1,254.7

Note: Includes Modification Program *Numbers may not add due to rounding*

KC-46A Tanker

USAF Photo

The KC-46A Pegasus provides 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 KC-46A is the first phase of aerial refueling tanker recapitalization, replacing approximately one-third of the current legacy tanker fleet. 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. Follow-on aerial refueling tanker programs will ultimately recapitalize the entire fleet over a period of more than 30 years.

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. Tanker aircraft are used to support these missions at the strategic, operational, and tactical level across the entire spectrum of military operations. The KC-46A aircraft will operate in day/night and adverse weather to enable deployment, employment, and redeployment of U.S. and coalition forces.

FY 2024 Program: Procures 15 aircraft and continues the Air Force's development efforts of a militarized variant of the Boeing 767-2C aircraft to include integration of military capabilities into four development aircraft and the associated developmental and operational testing. Supports development of technical manuals, training systems, and a collection of simulator and maintenance data.

Prime Contractor(s): The Boeing Company; Seattle, WA

KC-46A Tanker						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	54.1	-	177.5	-	124.7
Procurement	14	2,289.0	15	2,458.7	15	2,882.6
Mods	-	2.0	-	0.5	-	-
Total	14	2,345.1	15	2,636.7	15	3,007.3

Note: Includes Modification Program *Numbers may not add due to rounding*

VC-25B Presidential Aircraft Recapitalization

The VC-25B Presidential Aircraft Recapitalization program will replace the current VC-25A (Boeing 747-200) "Air Force One" aircraft with a new, modified 747-8. The VC-25B will 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. The modifications to the 747-8 aircraft will include an electrical power upgrade, dual auxiliary power units that are usable in flight, a mission communication system, an executive interior, military avionics, a self-defense system, autonomous enplaning and deplaning, and autonomous baggage loading.

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 2024 Program: Continues the Engineering and Manufacturing Development phase of acquisition and modifications to the commercial aircraft in order to field the capability by 2027.

Prime Contractor(s): The Boeing Company; Seattle, WA

VC-25B Presidential Aircraft Recapitalization						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	407.1	-	147.9	-	490.7
Procurement	-	-	-	-	-	-
Total	-	407.1	-	147.9	-	490.7

Numbers may not add due to rounding

F-22 Raptor

The F-22 Raptor is a fifth-generation air superiority fighter aircraft. The Raptor is designed to penetrate enemy airspace and achieve first-look, first-shot, 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 in the assurance of world-wide air dominance.

Mission: Provides the U.S. enhanced air superiority/global strike capability to counter and defeat air-to-air and air-to-ground threats in highly contested environment by conducting counter-air, destruction of enemy air defenses, and cruise missile defense missions.

FY 2024 Program: Continues deliberate investments via the Raptor Agile Capability Release program to ensure F-22s are upgraded with state-of-the-art sensors, improved survivability, enhanced interoperability, and extended range and time on station. The FY 2024 program continues critical planned modernization for F-22 aircraft via incremental capability upgrades, incremental development efforts, and key reliability and maintainability improvements that will enhance the F-22 Air Superiority and Global Strike capabilities in highly contested environments. With the completion of Increment 3.2B modernization, the F-22 Rapid Prototyping/Rapid Fielding programs will continue to release upgraded communications systems, navigation systems, and critical sensor enhancement as well as provide initial procurement and fielding for low drag tanks/pylons capabilities to meet advanced threats expected in 2025 and beyond.

Prime Contractor(s): Airframe: Lockheed Martin; Marietta, GA and Fort Worth, TX
Engine: Pratt & Whitney; Hartford, CT

F-22 Raptor						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	626.6	-	559.7	-	725.9
Procurement	-	407.9	-	747.9	-	794.7
Total	-	1,034.6	-	1,307.6	-	1,520.6

Note: Includes Modification Program *Numbers may not add due to rounding*

F-15 Eagle

The F-15C/D is a twin engine (F-15C single seat; F-15D dual seat), supersonic, all-weather, day/night, air superiority fourth-generation fighter aircraft. The F-15E is a twin engine, dual seat, supersonic dual-role, day/night, all-weather, deep interdiction fighter with multi-role air-to-air/air-to-ground capabilities. The F-15EX is a modernized derivative of the F-15E with advanced flight controls, superior sensors, and increased weapons capacity and range needed to defend critical locations in highly contested environments.

Mission: Supports the fifth-generation fighter fleet to gain and maintain air superiority and provide global precision attack over the battlefield.

FY 2024 Program: Continues procurement of the F-15EX aircraft and funds weapon system requirements needed for operational conversion from F-15C/D to F-15EX; also initiates funding for F-15EX conformal fuel tanks. Continues engineering and manufacturing development efforts for the Eagle Passive/Active Warning Survivability System to improve F-15E/EX survivability by enhancing the ability to detect, deny, or defeat air and ground threats. Continues F-15E modernization investment, focusing development efforts on the Operational Flight Program and Resilient Embedded GPS-INS. Procurement funding continues modification and support investments in Advanced Display Core Processor II, Multifunctional Information Distribution System – Joint Tactical Radio System, and Mobile User Objective System / Second Generation Anti-Jam Tactical UHF Radio for NATO. The FY 2024 request aligns to the Air Force divestment plans, projecting F-15C/D divestments by FY 2026.

Prime Contractor(s): Boeing; St. Louis, MO

F-15EX Eagle II / F-15E Eagle						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
F-15EX						
RDT&E	-	104.0	-	83.8	-	100.0
Procurement	10	1,252.4	24	2,581.4	24	2,898.0
Subtotal	10	1,356.3	24	2,665.2	24	2,998.0
F-15E Mods						
RDT&E	-	332.1	-	268.1	-	64.9
Procurement	-	326.3	-	454.2	-	315.5
Subtotal	-	658.4	-	722.3	-	380.4
Total	10	2,014.7	24	3,387.5	24	3,378.5

Note: Includes Modification Program *Numbers may not add due to rounding*

HH-60W Combat Rescue Helicopter


USAF Photo

The HH-60W Program, formerly referred to as the Combat Rescue Helicopter (CRH) and the HH-60 Recapitalization, replaces the aging HH-60G Pave Hawk helicopter. The HH-60W Jolly Green II design is based on the U.S. Army's UH-60M Black Hawk, tailored for Combat Search and Rescue (CSAR) in all-weather situations. The HH-60W program leverages in-service air vehicle designs and training systems as well as integrates existing technologies and mission systems to build and acquire a new system. Onboard defensive capabilities and planned upgrades will permit the HH-60W 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.

Mission: Conducts day and night marginal weather CSAR to recover downed aircrew and isolated personnel in hostile environments. The HH-60W will perform a wide array of collateral missions, including casualty evacuation; medical evacuation; non-combat evacuation operations; civil search and rescue; international aid; disaster humanitarian relief; and insertion/extraction of combat forces.

FY 2024 Program: Funding supports procurement of training devices, interim supply, contractor support and initial efforts to support depot stand up. The training devices are for Kadena AFB and the Air National Guard. Funds resolution of Diminishing Manufacturing Sources/Material Shortages, obsolescence, and other various HH-60W system upgrades.

Prime Contractor(s): Sikorsky Aircraft Corporation (a Lockheed Martin Company); Stratford, CT

HH-60W Combat Rescue Helicopter						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	53.4		59.0		48.3
Procurement	14	743.9	20	1,209.1	-	282.5
Total	14	797.3	20	1,268.1	-	330.8

Note: Includes Modification Program *Numbers may not add due to rounding*

Advanced Pilot Training (T-7A)

The Advanced Pilot Training (APT) System, T-7A, will replace the Air Education and Training Command's fleet of T-38C aircraft, currently based in Mississippi, Oklahoma, and Texas. The APT program will provide aircraft, simulators, and advanced training capabilities needed to train future Air Force pilots to fly fourth and fifth generation fighter aircraft. The aircraft, with modern simulators, will enable a pilot training process that produces pilots at a rate that meets the needs of the Air Force for the next several decades.

Mission: Provides student pilots in the Specialized Undergraduate Pilot Training advanced phase and Introduction to Fighter Fundamentals, the skills and competencies required to more effectively transition into fourth and fifth-generation fighter and bomber aircraft. The aircraft and maintenance simulators will encompass a full range of physical devices and instructional techniques (e.g., traditional classroom, online training, and virtual training).

FY 2024 Program: Continues to accept delivery of five test aircraft and ground training devices in support of engineering and manufacturing development activities. Additionally, the Air Force continues development, test, and evaluation efforts for the program.

Prime Contractor(s): The Boeing Company; St. Louis, MO

Advanced Pilot Training (T-7A)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	182.3	-	33.6	-	77.3
Procurement	-	-	-	10.5	-	-
Total	-	182.3	-	44.1	-	77.3

Numbers may not add due to rounding

MH-139A Grey Wolf

The MH-139A program will replace the Air Force fleet of 63 UH-1N aircraft with 80 MH-139As. The UH-1N fleet has significant capability gaps in the areas of speed, range, endurance, payload capacity, and aircraft self-protection. The Air Force intends to replace these UH-1Ns with modern MH-139A helicopters that will eliminate these capability gaps, and the program will procure a comprehensive Training System. The replacement MH-139A aircraft will provide vertical airlift and support the requirements of four Air Force major commands and operating agencies: Air Force Global Strike Command (AFGSC), Air Force District of Washington, Air Force Reserve Command, and Air Force Material Command. AFGSC is the Air Force lead command and operational capability requirements sponsor. This program is an element of the Air Force's nuclear enterprise reform initiatives.

Mission: The MH-139A will replace the Vietnam-era UH-1N fleet that provides emergency response and convoy support for the nuclear forces and address capability shortfalls in speed, range, endurance, and carrying capacity. Milestone C decision and low-rate initial production (LRIP) contract award is planned for 2QFY23; operational fielding will start in FY 2024.

FY 2024 Program: Procures the low-rate initial production lot of seven (7) aircraft with associated initial spares, support equipment, site activation support, training, publications and technical data, and other program management administration activities.

Prime Contractor(s): The Boeing Company. Ridley Park, PA

MH-139A Grey Wolf						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	15.9		15.9	-	25.7
Procurement	8	141.4	5	197.4	7	249.1
Total	8	157.3	5	213.3	7	274.8

Numbers may not add due to rounding

E-7A

The E-7A program will replace the current E-3G Airborne Warning and Control System (AWACS) aircraft. The E-7A is an airborne early warning and control platform based on the Boeing (737-700) next generation design powered by twin CFM International CFM56-7 turbofan engines. The E-7A provides improved kill-chain effectiveness, as well as enhanced survivability, reliability, and availability. The E-7A's Multifunction Electronically Scanned Array (MESA) can be electronically steered, which provides better target detection and tracking, and more robust electronic protection.

Mission: The E-7A will provide Airborne Moving Target Indicator (AMTI)/Battle Management Command and Control (BMC2) capability.

FY 2024 Program: Continues funding for the E-7A developmental contract to modify the current configuration baseline to incorporate M-code GPS, Mobile User Objective System (MUOS) satellite communication, and mission system updates for cyber security and program protection.

Prime Contractor(s): The Boeing Company; Seattle, WA

E-7A						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	15.9	-	426.8	-	681.0
Procurement	-	-	-	-	-	-
Total	-	15.9	-	426.8	-	681.0

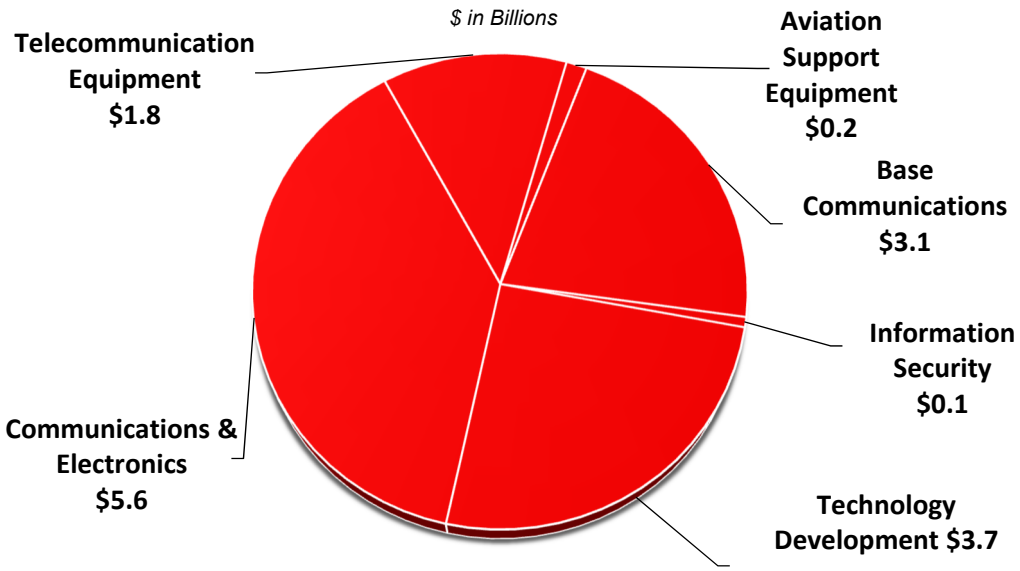
Numbers may not add due to rounding

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 information is managed to accelerate decision making, improve joint warfighting, and create intelligence advantages. U.S. forces are heavily-networked and require reliable, secure, and trusted access to information and depend on 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 2024 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 2024 C4I Systems Total: $14.5 Billion



Numbers may not add due to rounding

Tactical Network Technology

Tactical Network Technology (TNT) Modernization in Service (MIS) provides the Army's operational formations with modernized At-the-Halt (ATH) and On-the-Move (OTM) satellite and line of sight network connectivity through technological improvement of the fielded tactical network baseline. This ATH and OTM TNT capability keeps highly mobile and dispersed forces connected to one another from theater down to select company roles. The TNT backbone allows forces to leverage Army and Joint resources through the Department of Defense Information Network (DoDIN), providing tactical formations with reliable, secure, and seamless video, data, imagery, and voice services, which enable multi-domain operations. The TNT MIS enables Joint All Domain Command and Control (JADC2) by providing network connectivity and transport for the ground domain, connecting the ground domain to the DoDIN and enabling the Army's contribution to Joint Force Commanders.

The TNT MIS supports the near-term objectives of the Army Network Modernization Strategy by replacing obsolete, non-sustainable/end of life equipment (switches, routers, servers, etc.) with technology that meets cyber and electronic warfare resiliency requirements of the expeditionary Army. This modernization reduces life cycle costs by reducing size, weight, and power; consolidating capabilities that previously resided on individual hardware components; and leveraging common commercial information technology solutions across various programs.

Mission: Modernizes the Tactical Network as one the Army's top six modernization priorities for multi-domain operations.

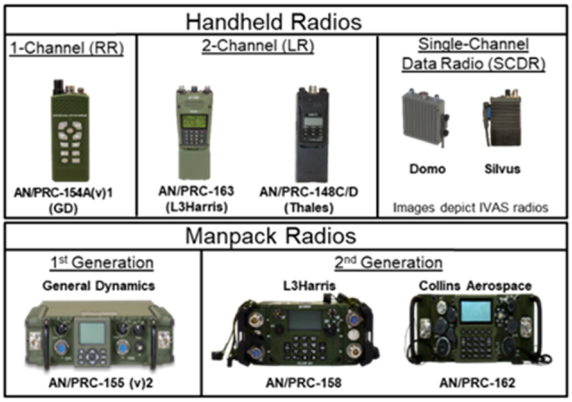
FY 2024 Program: Field three Expeditionary Signal Battalions-Enhanced and upgrade Corps through Battalion units across the Army, Army Reserve, and Army National Guard by modernizing their network transport systems and regional hub nodes; pilot Low Earth Orbit and Medium Earth Orbit satellite terminal capability in the ESB-E.

Prime Contractor(s): General Dynamics Mission Systems, Taunton, MA
Datapath Inc, Duluth, GA
L3Harris Corporation, Rochester, NY
Cubic Corporation-DTECH Labs, Ashburn, VA
Curtis-Wright Corporation, Pacstar, Portland, OR

Tactical Network Technology						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	-	-	-	-	-
Procurement	-	429.0	-	358.9	-	358.6
Total	-	429.0	-	358.9	-	358.6

Numbers may not add due to rounding

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



The Handheld, Manpack, and Small Form Fit (HMS) radio program is a single Acquisition Category IC program encompassing: handheld radios (one-channel Rifleman Radio (RR), two-channel Leader Radio (LR), and Single-Channel Data Radio (SCDR)) and Manpack (MP) radios (Generation 1 and Generation 2 radios). The HMS provides voice and data communication to the expeditionary Warfighter with an On-the-Move (OTM), At-the-Halt (ATH), and stationary Line of Sight (LOS) / Beyond Line of Sight (BLOS) capability for both dismounted personnel and platforms. The radio systems are software reprogrammable, networkable, multi-mode systems capable of simultaneous voice and data communication. The radios will support a variety of other platforms, including tactical end user device voice and data needs. The HMS provides tailorable and scalable software-defined radio systems to meet the communication needs of the U.S. Army, Air Force, Navy, Marine Corps, and Special Operations Command.

Mission: Provide voice and data communications to the tactical edge and the expeditionary Warfighter with an OTM, ATH, and stationary LOS / BLOS capability for both dismounted personnel and mounted platforms.

FY 2024 Program: Funds the procurement of the LR and MP radios for five Brigade Combat Teams, support equipment, fielding, non-recurring engineering, and platform vehicle integration. Provides for follow-on testing of the LR and MP products to demonstrate compliance with program requirements to assess effectiveness, suitability, and survivability. Supports safety, spectrum supportability, and certifications necessary to prepare products for fielding.

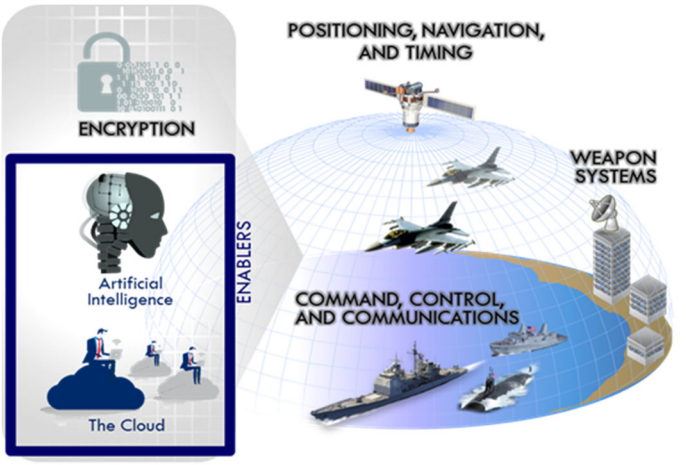
Prime Contractor(s): L3Harris Radio Corporation; Rochester, NY
Thales Communications Incorporated; Clarksburg, MD
Collins Aerospace; Cedar Rapids, IA

Handheld, Manpack, and Small Form Fit Radio						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	27.7	-	4.4	-	4.3
Procurement	-	724.1	-	660.3	-	765.1
Total	-	751.8	-	664.7	-	769.4

Numbers may not add due to rounding

Cyberspace Activities

DOD - JOINT



The United States faces multiple cyberspace threats, attributable to both state and non-state entities. Foreign states conduct cyber operations to accelerate their military force modernization and advance their global influence. Meanwhile, non-state actors and criminals are becoming more sophisticated and continue to exploit data and conduct lucrative operations for financial gain. Terrorist organizations continue to organize and plot attacks using the internet. The FY 2024 cyberspace activities (CA) budget, aligned with the Department of Defense National Defense Strategy, reaffirms the Department's three enduring cyberspace missions: defend the DoD Information Network, defend the nation, and prepare to win and fight the nation's wars. The Department has long recognized the inherent dangers in the cyber domain and maintained efforts to protect its systems.

Mission: Improve the cyber resiliency of the Joint Force and its supporting elements to ensure they can execute their missions successfully in contested cyberspace environments; strengthen the Joint Force by conducting cyberspace operations that enhance U.S. military advantages, harden weapon systems through continuous cyber assessments and mitigation; defend U.S. critical infrastructure from malicious cyber activity; secure DoD information and systems, including DoD information on non-DoD owned networks, against malicious cyber activity; and expand DoD cyber cooperation with interagency, industry, and international partners.

FY 2024 Program: Continues to accelerate multiple innovative lines of effort across the Department to support the DoD Cyber Strategy and facilitate information advantage throughout the spectrum of competition, crisis, and conflict. The resulting capabilities enhance integrated deterrence by enabling power projection in and through cyberspace, increasing our adversaries' cyberspace operations cost and reducing their likelihood of success. The FY 2024 program continues investments in cybersecurity, cyberspace operations (including the cyber mission force), and cyber research and development.

Prime Contractor(s): Various

Cyberspace Activities						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	2,463.6	-	2,687.7	-	3,041.6
Procurement	-	720.3	-	769.5	-	1,018.3
Total	-	3,183.9	-	3,457.2	-	4,059.9

Numbers may not add due to rounding

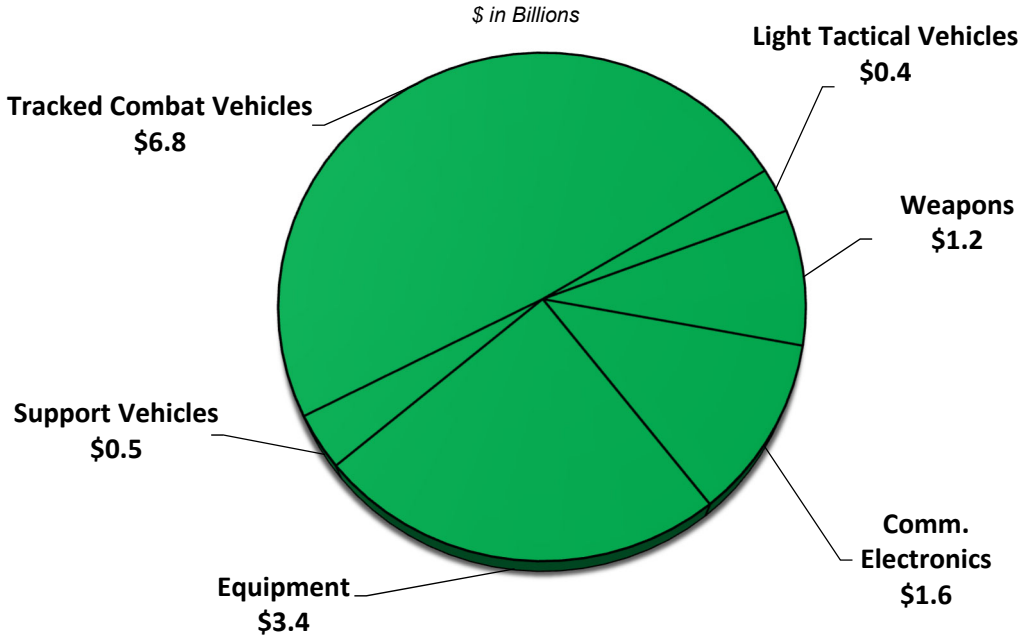
Ground Systems

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 ground forces modernization plan addresses the challenges of the future operational environment. In addition to upgrades to legacy equipment, the overall strategy embraces new capability, like the Armored Multi-Purpose Vehicle (AMPV) and the Amphibious Combat Vehicle (ACV) as well as development of the Optionally Manned Fighting Vehicle (OMFV). The OMFV will comprise of a fleet of vehicles with enhanced capabilities and a greater commonality of parts and components to simplify logistics and maintenance.

The Army continues to modernize and upgrade select Major Defense Acquisition Programs in its FY 2024 request, including Stryker vehicles, upgrading the Abrams Main Battle Tank to the M1A2C System Enhancement Package (SEP) V3 configuration, the M2 Bradley Fighting Vehicles, the M109A7 Paladin 155mm howitzers, and the Armored Multi-Purpose Vehicle (AMPV). The Marine's ground force focus, in FY 2024, continues to be 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 2024 Ground Systems Total: $13.9 Billion



Numbers may not add due to rounding

Joint Light Tactical Vehicle

DOD - JOINT

The Joint Light Tactical Vehicle (JLTV) is a joint program currently in production for the Army and Marine Corps with procurements for the Navy and Air Force. The JLTV replaces the High Mobility Multipurpose Wheeled Vehicle (HMMWV), which is the current light tactical vehicle. The JLTV concept includes a 3.5-ton Combat Tactical Vehicle and a 5.1-ton Combat Support Vehicle and is based on a family of vehicles focused on scalable armor protection, integrated communications, and vehicle agility and mobility required of the light tactical vehicle fleet. The JLTV provides defensive measures to protect troops in transport, increase payload capability, and achieve commonality of parts and components to reduce the vehicle's overall life cycle costs. The JLTV program optimizes 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.

Mission: The primary mission of the Joint Light Tactical Vehicle (JLTV) is to provide protected, sustained, and networked light tactical mobility to the Joint forces capable of worldwide deployment across the full spectrum of military operations and mission profiles under all weather and terrain conditions.

FY 2024 Program: Procures more than 3,100 JLTV vehicles, trailers, and associated vehicle kits of various configurations across the Department to fulfill multiple mission roles and requirements and minimize ownership costs for the light tactical vehicle fleet. The vehicle kits will support the baseline vehicle by providing the warfighter with the ability to augment the vehicle's configuration to respond to environmental conditions or threat situations.

Prime Contractor(s): Oshkosh Defense, LLC; Oshkosh, WI; AM General, LLC, South Bend, IN

Joint Light Tactical Vehicle						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USA	-	2.5	-	9.4	-	27.2
USMC	-	1.9	-	2.9	-	2.6
Subtotal	-	4.4	-	12.2	-	29.9
Procurement						
USA	2,755	574.6	2,770	664.1	2,598	839.4
USMC	837	332.3	384	214.8	396	232.5
USAF	201	110.4	138	87.7	114	57.8
USN	19	24.9	19	26.3	-	24.2
Subtotal	3,812	1,042.2	3,311	992.8	3,108	1,153.9
Total	3,812	1,046.6	3,311	1,005.1	3,108	1,183.8

Numbers may not add due to rounding

M-1 Abrams Tank Modification/Upgrades

The M1A2 Abrams is the Army's main battle tank, which first entered service in 1980. Since ending production in 1994, the Army has modernized the Abrams through System Enhancement Package (SEP) programs and Engineering Change Proposals (ECPs) to improve survivability, lethality, sustainability, and supportability. Current modifications to the M1 Abrams SEP version 3 (SEPv3) include an updated Armor suite; Ammunition Data Link; Commander's Remote Operated Weapon Station - Low Profile (CROWS-LP), Under Armor Auxiliary Power Unit (APU); Electronics Upgrades; Power Train Improvements/ Integration Optimization; and Active Protection System (APS) upgrades.

Mission: Dominate adversaries through lethal firepower, unparalleled survivability, and audacious maneuver.

FY 2024 Program: Continues M1A2 Abrams SEPv3 tank production with procurement of 34 SEPv3 tank upgrades; continues funding for Abrams M1A2 SEPv4 (ECP 1B - Lethality Improvements), which is a follow-on to the M1A2 SEPv3 tank that is focused on lethality improvements to integrate higher functioning sensors, modules, and fire control. The 3rd Generation Forward Looking Infrared (3rd GEN FLIR) capability is a key technology improvement of the M1A2 SEPv4 tank and provides significantly greater advanced target identification and the ability to engage threat targets at greater distances with greater accuracy; funding also supports critical safety field modifications, including TROPHY Active Protection System (APS) required inspections and site sustainment, and systems technical support.

Prime Contractor(s): General Dynamics Land Systems; Sterling Heights, MI

M-1 Abrams Tank Modification/Upgrades						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	118.5	-	61.2	-	96.2
Procurement	90	1,145.8	90	1,247.3	34	800.3
Total	90	1,264.3	90	1,308.5	34	896.5

Numbers may not add due to rounding

Armored Multi-Purpose Vehicle

The Armored Multi-Purpose Vehicle (AMPV) is the replacement for the Army's legacy M113 Armored Personnel Carrier Family of Vehicles (FOV). The AMPV addresses shortcomings across the M113 FoV and provides improvements to Survivability; Size, Weight, Power, and Cooling (SWAP-C); and incorporates capability for future technologies and the Army's Network. The AMPV consists of five (5) variants: General Purpose, Medical Treatment, Medical Evacuation, Mortar Carrier, and Mission Command. AMPV entered Low-Rate Initial Production (LRIP) in Fiscal Year (FY) 2019 and is pending a Full Rate Production (FRP) decision in FY 2023.

Mission: The protection and automotive performance capabilities of the AMPV enable units to operate more securely and effectively with the tanks, Bradleys, and self-propelled artillery pieces within the Armored Brigade Combat Team (ABCTs) they are supporting.

FY 2024 Program: Funds the second order of FRP with the procurement of 91 vehicles.

Prime Contractor(s): BAE Systems; York, PA

Armored Multi-Purpose Vehicle (AMPV)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	34.3	-	-	-	-
Procurement	-	950.4	43	380.7	91	554.8
Total	-	984.6	43	380.7	91	554.8

Numbers may not add due to rounding

Next Generation Squad Weapon

The Next Generation Squad Weapon (NGSW) Middle Tier Acquisition (MTA) Rapid Prototyping and Fielding efforts are developing a new Rifle (NGSW-R), Automatic Rifle (NGSW-AR), and Fire Control (NGSW-FC) with a common 6.8mm cartridge in a variety of ammunition types (General Purpose, Special Purpose, Reduced Range, and blank) intended to replace the M16, M4A1 Carbines, and the M249 Squad Automatic Weapon in the Close Combat Force. These MTA Rapid Prototyping and Fielding efforts support Army Modernization priorities (Build a More Lethal Force) through enhancement of Joint Lethality in contested environments like Multi-Domain Operations by eliminating erosion of close combat capability relative to peer competitors in complex terrain.

Mission: Develop and field a NGSW, compliant with the Adaptive Squad Architecture, capable of defeating emerging protected and unprotected threats. The NGSW aims to improve engagement time, maximum effective range, accuracy, and target effects.

FY 2024 Program: Funds the procurement and fielding of 17,122 NGSW-R, 1,419 NGSW-AR, and 14,932 NGSW-FC. The NGSW-R, NGSW-AR, NGSW-FC, and 6.8mm Common Cartridge are fielded concurrently to provide a squad level capability improvement to maintain overmatch against near peer enemy threats.

Prime Contractor(s): NGSW-R/AR: SIG Sauer, Newington, NH
NGSW FC: Vortex Optics, Barneveld, WI

Next Generation Squad Weapon						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	30.5	-	35.0	-	35.3
Procurement	9,380	97.1	16,186	166.6	33,473	292.9
Total	9,380	127.6	16,186	201.7	33,473	328.1

Numbers may not add due to rounding

Paladin Integrated Management (PIM) USA

The Paladin Integrated Management (PIM) replaces the current fleet of M109 Family of Vehicles (FOV), the M109A6 Paladin 155mm Howitzer, and the Field M992A2 Artillery Ammunition Support Vehicle (FAASV), with more robust platforms: the M109A7 Self Propelled Howitzer (SPH) and the M992A3 Carrier Ammunition Tracked (CAT). The Army is using a two-increment approach to upgrade and modernize the existing M109 fleet to fill the capability gap left by the 2009 cancellation of the Non-Line of Sight Cannon (NLOS-C): mobility improvements and, later, lethality, range, and reliability improvements. The Army plans to procure 689 PIM sets and sustain them through 2050. The PIM Low-Rate Initial Production (LRIP) was extended in FY 2018 with a successful Full Rate Production (FRP) decision in FY 2020.

Mission: Provide the primary indirect fire support for Armored Brigade Combat Teams, armored and mechanized infantry divisions, and the full spectrum of operations.

FY 2024 Program: Funds the continuation of FRP with the procurement of 24 system sets; continues support of the Armament Upgrade Project to optimize capabilities and improve reliability for the M109A7 SPH with expected changes in the system's operational profile.

Prime Contractor(s): BAE Systems; York, PA

Paladin Integrated Management (PIM)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	-	-	23.1	-	42.5
Procurement	43	662.9	43	680.1	24	469.2
Total	43	662.9	43	703.2	24	511.6

Numbers may not add due to rounding

Family of Medium Tactical Vehicles (FMTV) USA

The FMTV is a complete series or family of vehicles based on a common chassis with automatic transmission and that vary based on different payload and mission requirements. The FMTV operates throughout the theater as multipurpose transportation and unit mobility vehicles by Combat, Combat Support, and Sustainment Units. The FMTV variants consist of the Light Medium Tactical Vehicle 3 Ton Cargo, and Van models; Medium Tactical Vehicle 8 ton Cargo Standard Wheelbase; Long Wheelbase, Tractor, Expansible Van; Wrecker; 10 ton Dump; 8.8 ton Load Handling System; and three types of companion trailers. Eighty percent of the FMTV's parts are common with similar engines, transmissions, drivelines, power trains, tires, and cabs. The A2 program, an evolution of the FMTV's A1P2 vehicle program, incorporates new technologies to rebalance the iron triangle of payload, performance, and protection. The vehicle is capable of transporting a heavier payload over more difficult terrain in a shorter amount of time with greater protection than its predecessor.

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 all climatic conditions.

FY 2024 Program: Funds the procurement of 221 Armor Capable Medium Tactical Vehicle Trucks and Trailers. The various Medium Tactical Vehicles fill the 8-ton truck requirement, fulfill Army modularity requirements and modernize the medium fleet, reduce operating and support costs, resolve potential operational deficiencies, and operate throughout the theater as a multi-purpose transportation vehicle used by combat, combat support, and combat support units, as well as support the mission of Command Post Infrastructure (CPI2).

Prime Contractor(s): Oshkosh Defense, LLC; Oshkosh, WI

Family of Medium Tactical Vehicles (FMTV)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	7.4	-	22.2	-	28.2
Procurement						
USA	317	136.2	274	120.6	221	110.7
USAF	-	0.8	-	1.1	-	4.0
Subtotal	317	137.0	274	121.8	221	114.7
Total	317	144.4	274	143.9	221	142.9

Numbers may not add due to rounding

Family of Heavy Tactical Vehicles

Army photo of a PLS

The Family of Heavy Tactical Vehicles (FHTV) consists of the Palletized Load System (PLS), the Heavy Expanded Mobility Tactical Truck (HEMTT), the Modular Catastrophic Recovery System (MCRS), the Enhanced Heavy Equipment Transporter System (EHETS), and the Medium Equipment Trailer (MET). The PLS is a 16.5 ton, 10 wheel tactical truck with self-load/unload capability. The PLS carries its 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 the Multi-Launch Rocket System (MLRS); Wrecker to recover vehicles; and Cargo truck with a material handling crane. The MCRS is comprised of the Prime Mover (M983A4 LET), Fifth Wheel Towing Recovery Device (FWTRD), and the Tilt Deck Recovery Trailer (TDRT). Coupled with the Prime Mover, the MCRS is capable of recovering all Stryker variants and an estimated 95 percent of Mine Resistant Ambush Protected (MRAP) vehicles currently in theater. The EHETS is comprised of the M1300 Tractor and M1302 Semitrailer. The MET, when coupled with an M1300 tractor, provides a system to transport intermediate weight combat vehicles that cannot clear a 4 meter underpass while transported on an EHETS trailer.

Mission: Provide transportation of heavy cargo to supply and re-supply combat vehicles and weapons systems. The PLS is fielded to transportation units, ammunition units, and forward support battalions with the capability to self-load and transport a 20-foot container. The upgraded HEMTT A4 provides logistics support behind quick-moving forces such as the M-1 Abrams and Stryker. The HEMTT family carries all types of cargo, especially ammunition and fuel, for line haul, local haul, unit resupply, and other missions in the tactical environment to support modern, highly mobile combat units. The MCRS recovers large wheeled vehicle platforms in severe off-road conditions either in lift/toe or transport mode. The EHETS is used to transport, recover, and evacuate a combat loaded M1 Series main battle tank, an M88, or similar heavy loads. The MET will be required to haul combat vehicles under a 4 meter underpass.

FY 2024 Program: Funds the procurement of 20 EHETS trailers, 57 MET trailers, 5 HEMTTs, and 14 Forward Repair Systems. Funds also resource the Common Tactical Truck as the next generation of tactical trucks to meet the Army's Tactical Wheeled Vehicle modernization strategy, and develop predictive logistics for the FHTV fleet.

Prime Contractor(s): Oshkosh Corporation; Oshkosh, WI

Family of Heavy Tactical Vehicles						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	27.4	-	53.0	-	44.2
Procurement	68	186.6	450	239.6	96	66.4
Total	68	214.0	450	292.6	96	110.6

Numbers may not add due to rounding

Stryker Family of Armored Vehicles

The Stryker is a 19-ton wheeled armored vehicle that provides the Army with a family of 24 different platforms (10 flat bottom, 7 Double V-Hull, 7 Double V-Hull A1). The Stryker family provides a lethal, versatile, tactically agile joint force capable of operational maneuver in a dynamic, asymmetric threat, and operational environment. The Stryker is deployable by C-17 and C-5 aircraft and can be combat-capable upon arrival in any contingency area. The Stryker platform has nine configurations, which include: the Infantry Carrier Vehicle (ICV); Reconnaissance Vehicle; Anti-Tank Guided Missile (ATGM); Nuclear, Biological, Chemical, and Radiological Vehicle (NBCRV); Medical Evacuation Vehicle; Commander's Vehicle; Fire Support Vehicle; Mortar Carrier; and Engineer Squad Vehicle.

Mission: Provides rapid protected transport to the Infantry and Scouts of the Stryker Brigade Combat Team (SBCT) allowing them to maneuver in open and urban terrain across the full spectrum of operations.

FY 2024 Program: Continues Stryker DVHA1 procurement; integration of the 30mm cannon on the Infantry Carrier Vehicle Double V-Hull A1 30mm; procurement of Common Remote Operated Weapon System – Javelin (CROWS-J); modification of the ATGM vehicle with the upgraded Modified Improved Target Acquisition System (MITAS); fielding of 1 Stryker Brigade Combat Team of CROWS-J (87 per SBCT); and fielding of 4 Stryker Brigade Combat Teams (10 per SBCT) with modified ATGM that have the MITAS upgrade.

Prime Contractor(s): General Dynamics Corporation; Sterling Heights, MI

ICVVA1 30mm Contractor: Oshkosh Defense; Oshkosh, WI

Stryker Family of Armored Vehicles						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	29.8	-	66.6	-	24.8
Procurement	228	1,082.8	180	891.2	85	614.3
Total	228	1,112.7	180	957.8	85	639.1

Numbers may not add due to rounding

Optionally Manned Fighting Vehicle (OMFV) USA

The Optionally Manned Fighting Vehicle (OMFV) will replace the Bradley Infantry Fighting Vehicle and provide increased warfighting capability required to defeat future near-peer competitors. The Army is committed to an open systems architecture to allow future technologies to be more easily integrated into the vehicle and retain overmatch against threat systems over the life of the platform. The OMFV is a Middle Tier Acquisition Rapid Prototyping (MTA-RP) program. The Army anticipates transitioning from an MTA-RP to a Major Capability Acquisition Pathway at Milestone B in the 4th quarter of Fiscal Year (FY) 2024 and plans to enter Low-Rate Initial Production (LRIP) at the end of FY 2027 with a Full Rate Production (FRP) decision slated for FY 2030.

Mission: The OMFV delivers decisive lethality during the execution of combined arms maneuver while also controlling maneuver robotics and semi-autonomous systems. Once the combined arms unit has transitioned to an integrated mounted and dismounted fight, the OMFV supports Army Soldiers with advanced sensors, lethality, protection, and mission command.

FY 2024 Program: Funds the fully digital, detailed prototype vehicle designs from Preliminary Design Review (PDR) through to the Critical Design Review (CDR) in preparation for the prototype builds and testing portion of Phase 3&4 in the program's development.

Prime Contractor(s): TBD

Optionally Manned Fighting Vehicle (OMFV)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	194.9	-	554.9		996.7
Procurement	-	-	-	-	-	-
Total	-	194.9	-	554.9	-	996.7

Numbers may not add due to rounding

Amphibious Combat Vehicle

The Amphibious Combat Vehicle (ACV) is an armored personnel carrier that replaces the aging Amphibious Assault Vehicle. The Marine Corps has refined its ACV strategy based on several factors including: knowledge gained through multiyear analysis and ongoing development of its Ground Combat Tactical Vehicle Strategy. The ACV acquisition strategy competitively awarded two vendors with Engineering, Manufacturing, and Development contracts to build 16 test vehicles each (32 total) in November 2015. The ACV completed Milestone C in June 2018 and down selected to one vendor, BAE Systems, and awarded that vendor with the Low Rate Initial Production (LRIP) contract. In a third quarter FY 2019 acquisition decision memorandum, the Navy departed from the program's President's Budget FY 2020 acquisition strategy to authorize a third LRIP Lot consisting of 56 vehicles. The program began Full Rate Production in FY 2021 with the procurement of 72 vehicles. The ACV program will develop and procure multiple Mission Role Variants (MRVs).

Mission: The ACV-equipped Assault-Amphibious battalions will provide protected mobility and general support lift to elements of Marine Infantry battalions. The ACV is an advanced generation, eight-wheeled armored personnel carrier, capable of mitigating capability gaps by providing improved lethality against dismounted enemy troops through more effective land and water tactical mobility, and increased force protection and survivability from blasts, fragmentation, and kinetic energy threats. The first ACV-P delivers combat ready Marines from ship-to-shore connector craft in order to mass forces at littoral penetration points and continue to maneuver onward to inland objectives.

FY 2024 Program: Procures the 4th full-rate production lot of 80 ACV-P vehicles and procurement of related items such as production support, systems engineering, program management, Engineering Change Orders, government furnished equipment, and integrated logistics support.

Prime Contractor(s): BAE Systems; York, PA

Amphibious Combat Vehicle						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	71.2	-	91.5	-	103.2
Procurement	83	520.7	74	527.1	80	557.6
Total	83	591.9	74	618.6	80	660.8

Numbers may not add due to rounding

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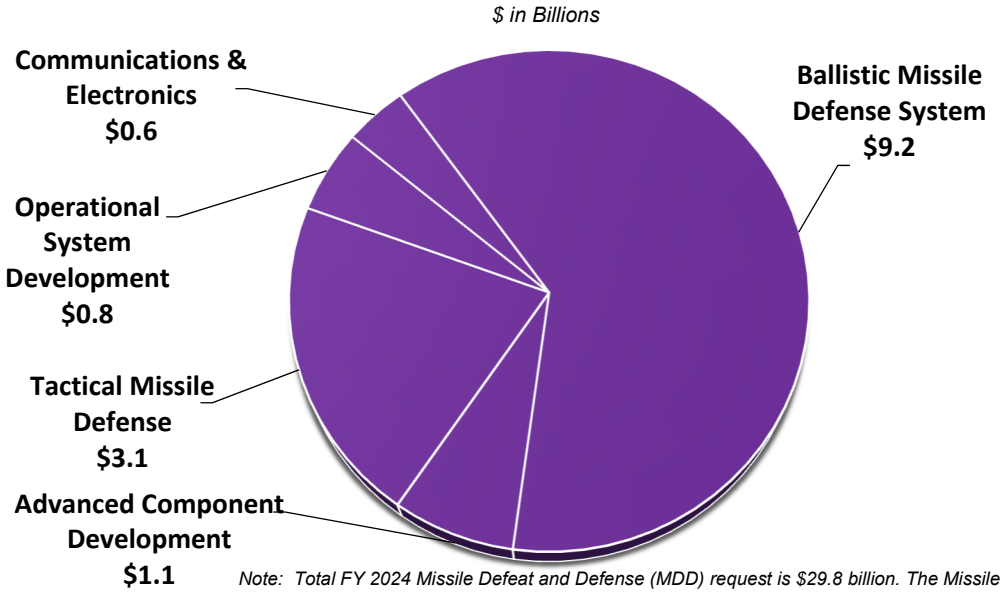
Missile Defense Programs

This category includes development and procurement of weapon systems to counter adversary's offensive missile systems to include ballistic missiles, cruise missiles and hypersonic weapons. The Missile Defense Agency is specifically tasked to lead the Department's missile defense system mission; however, the five Military Services have acquisition and operational roles in missile defeat and defense. A missile defense system includes ground and sea-based interceptor missiles; associated land, sea and space-based sensors; command, control, battle management, and communications; and development of advanced technologies designed to meet emerging threats. Other significant investments include construction, targets and countermeasures, and associated testing activities. Encompassed in this category are all programs that are either critical to the functionality of the ballistic missile defense system, tactical ballistic missile interceptor programs or support missile defense as a primary mission. The program is consistent with the 2022 Missile Defense Review, which calls for the development and fielding of an integrated defense of the homeland and forward-deployed forces.

The budget request continues funding for projects designed to increase the capability and capacity of the United States to detect, disrupt/defeat (left-of-launch), and defend against use of ballistic missiles against the United States, its deployed forces, allies, and partners, to include current and projected threats to the U.S. Homeland, Guam, South Korea, and Japan. The budget request substantially increases tactical air and missile defense interceptor inventories for the Patriot Advanced Capability-3 Missile Segment Enhancement. FY 2024 request continues investments in Standard Missile-3 variants, and Terminal High Altitude Area Defense programs. In addition, the FY 2024 request includes funding for the defense of the Guam territory; continues research of a space layer consisting of sensors; continues development of next generation interceptors and invests in development efforts against non-traditional missile threats such as hypersonic and cruise missiles as well as unmanned aircraft.

FY 2024 Missile Defense Programs: $14.8 Billion



Numbers may not add due to rounding

Note: Total FY 2024 Missile Defeat and Defense (MDD) request is $29.8 billion. The Missile Defense total shown does not include non-traditional Missile Defeat programs. The FY 2024 MDD total includes the MDA $10.9 billion FY 2024 request, and the Military Service tactical missile defense investments, but does not include the Department's Science and Technology funding, Service Personnel funding, or Operation and Maintenance funding.

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 Missile Defense System, providing Combatant Commanders with the capability to engage missiles in the midcourse phase of flight. This phase, compared to boost or terminal, allows significant time for sensor viewing from multiple platforms and 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 and Vandenberg Air Force Base, California. The GMD fire control centers are established in Colorado and Alaska. Next Generation Interceptor (NGI) acquisition covers the development, integration and testing of an All Up Round boost vehicle/ kill vehicle system capable of surviving both the natural and hostile environments while countering the evolving threats to the Homeland.

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

FY 2024 Program: Strengthens Homeland Missile Defense. Continues to develop a Next Generation Interceptor. Continues the design and development activities for two competitive interceptor development contracts. Next Generation Interceptor funding provides for the initial requirements analysis, design, development, prototyping, integration and relevant environment testing to mature the booster, payload, sensor, and design-specific critical technologies and technology elements. Upgrades and consolidates ground testing infrastructure and facilities. Upgrades and replaces ground system infrastructure fire control/kill vehicle software to improve the reliability and cybersecurity resiliency of the GMD weapon system. Funds Ground, Cyber and Flight testing to support the Integrated Master Test Plan.

Prime Contractor: Boeing Defense and Space; Huntsville, AL
Next Generation Interceptor: Northrop Grumman (Gold); Chandler, AZ
Lockheed Martin (Black); Huntsville, AL

Ground-based Midcourse Defense and Improved Homeland Defense Interceptors						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	1,632.4	-	2,606.5	-	3,076.3
Procurement	-	-	-	11.3	-	
Total	-	1,632.4	-	2,617.8	-	3,076.3

Numbers may not add due to rounding

Terminal High Altitude Area Defense

DOD - JOINT

The Terminal High Altitude Area Defense (THAAD) is a key element of the missile defense system. The THAAD Battery provides interceptors, using "Hit-To-Kill" technology to destroy missiles inside and outside the atmosphere. A Battery nominally consists of 6 truck-mounted launchers, 48 Interceptors (8 per launcher), one Army/Navy Transportable Radar Surveillance and Control Mode 2 (AN/TPY-2) radar, a Tactical Fire Control/Communications component, and the Heavy Expanded Mobility Tactical Trucks (HEMTTs).

Mission: Provides Combatant Commanders with a globally-transportable, rapidly-deployable capability against short-range, medium-range, and limited intermediate-range ballistic missile threats inside or outside the atmosphere during terminal phase of flight.

FY 2024 Program: Procures 11 THAAD Interceptors, Interceptor obsolescence mitigation, stockpile reliability requirements, and THAAD Battery Ground Component Obsolescence modifications. Provides software upgrades to improve reliability, availability and readiness, defense planning, and improved capability to engage SRBM, MRBM, and limited IRBM threats. These development efforts will enhance THAAD's capability against global operational threats. Provides flight and ground testing, test operations and infrastructure, war-games, and exercises to execute Integrated Master Test Plan requirements.

Prime Contractor: Lockheed Martin Corporation; Dallas, TX, Sunnyvale, CA, and Huntsville, AL

Terminal High Altitude Area Defense (THAAD)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	241.7	-	265.0	-	267.9
Procurement	32	380.7	18	240.0	11	216.8
Total	32	622.4	18	505.0	11	484.7

Numbers may not add due to rounding

Sea-Based Weapons System

DOD - JOINT

Sea-Based Weapons System (Aegis Ballistic Missile Defense (BMD)) is the naval element of the missile defense system and provides an enduring, operationally effective, and supportable missile defense capability on Aegis cruisers, destroyers, and Ashore to defend U.S. deployed forces and our allies. Aegis Sea-Based Weapon Systems build 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-3 designs which expand capability through a series of incremental, evolutionary improvements to counter ever more sophisticated long-range threats. Aegis Missile Defense will also begin activities required to evolve the MDS to address cruise missile and hypersonic threats.

Mission: Provides a forward-deployable, mobile, and Aegis Ashore capability to detect and track missiles of all ranges in all phases of flight with the ability to destroy missiles in the midcourse and terminal phases.

FY 2024 Program: Procures 27 SM-3 Block IB's and 12 SM-3 Block IIA's. Further integrates SM-3 Block IIA into the AWS. Funds capability upgrades for Aegis Baseline 5 (BMD 4.x) and Aegis Baseline 9 (BMD 5.x) Weapon Systems and the development of Aegis BL 10 (BMD 6). Procures 9 BMD 4.x/5.x shipsets. Continues technology maturation and prototyping support for the AN/SPY-1 Digital Receive Upgrades (DRU) to improve sensitivity, tracking performance, and resource utilization. Funds development of Aegis assets for the Defense of Guam. Funds Ground and Flight testing in support of the Integrated Master Test Plan requirements.

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

Sea-Based Weapons System						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	739.2	-	771.2	-	887.2
Procurement (Interceptors)	56	840.1	71	1,072.2	39	807.6
Procurement (HW/SW Installs)	7	79.8	6	78.2	9	27.8
Total	63	1,659.1	77	1,921.6	48	1,722.6

Numbers may not add due to rounding

PATRIOT Advanced Capability (PAC-3)/LTAMDS USA

The Army's Phased Array Tracking Radar to Intercept of Target (PATRIOT) system is an extremely capable, long-range air defense guided missile system, which provides protection of ground combat forces and high-value assets. The PATRIOT air and missile defense system, which includes the Advanced Capability (PAC-3) missile and Lower Tier Air and Missile Defense Sensor (LTAMDS), provides defense against tactical ballistic missiles, cruise missiles, and air-breathing threats worldwide.

The PATRIOT system is deployed by a Fire Unit organized within a Battalion. Each Fire Unit consists of the Engagement Control Station, a Radar Set, an Electric Power Plant, Launching Stations, and the Battery Command Post and includes ancillary support equipment. Both the Fire Unit and the Battalion have dedicated support, communications, and maintenance vehicles, with limited missile reload and transport capability via the Guided Missile Transporter. The PAC-3 units are the Combatant Commanders' most capable asset to protect forward deployed forces.

Mission: Contributes to the Ballistic Missile Defense System overall situational awareness for short-range terminal ballistic missile and unmanned system threats. It can cue other systems while protecting Joint assets. The PATRIOT force is 15 battalions; many remain forward stationed in multiple theaters of operation.

FY 2024 Program: Implements critical capability, readiness and sustainability modifications and continues software enhancement for improved combat identification, improved communications, interoperability, supportability, electronic warfare capabilities; and supports transition to the Integrated Air and Missile Defense architecture. LTAMDS will fund three sensors in FY 2024 to support the Pacific Deterrence initiative to provide an Early Operational Capability. FY 2024 funding will also fund two (2) sensors to support LTAMDS testing culminating with Initial Operational Test and Evaluation (IOT&E) in FY 2026/2027 and a Milestone C decision the following fiscal year.

Prime Contractor(s): Raytheon Integrated Defense Systems; Tewksbury, MA
Lockheed Martin Missiles and Fire Control; Dallas, TX

PATRIOT Advanced Capability/PAC-3						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	534.6	-	532.5	-	993.9
Procurement	-	287.5	-	253.7	-	212.2
Total	-	822.1	-	786.1	-	1,206.1

Numbers may not add due to rounding

PAC-3/Missile Segment Enhancement

The Missile Segment Enhancement (MSE) is a performance improvement to the existing Phased Array Tracking Radar to Intercept of Target (PATRIOT) Advanced Capability-3 (PAC-3) missile. The MSE's improved capability is achieved through a higher performance solid rocket motor, modified lethality enhancer, more responsive control surfaces, upgraded guidance software, and insensitive munitions improvements.

The PAC-3 MSE employs kinetic energy to destroy targets through a hit-to-kill capability and provides the range, accuracy, and lethality to effectively intercept and destroy tactical ballistic missiles, air-breathing threats, cruise missiles, and unmanned aerial systems. This missile engages maneuvering and advanced threats earlier, expanding operational battlespace performance against complex threats. These improvements result in a more agile, lethal interceptor missile with enhanced Insensitive Munitions compliance. The PAC-3 MSE is the latest generation interceptor fired from the PATRIOT system.

Mission: Provide 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 deployed U.S. and allied forces.

FY 2024 Program: Funds the production of 230 MSE missiles, Field Surveillance Program, PAC-3 Missile Support Center, Obsolescence, System Engineering/Program Management, and Government/Software Engineering.

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

PAC-3/Missile Segment Enhancement						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	-	-	-	-	-
Procurement	328	1,333.1	252	1,037.1	230	1,212.8
Total	328	1,333.1	252	1,037.1	230	1,212.8

Numbers may not add due to rounding

Missiles and Munitions

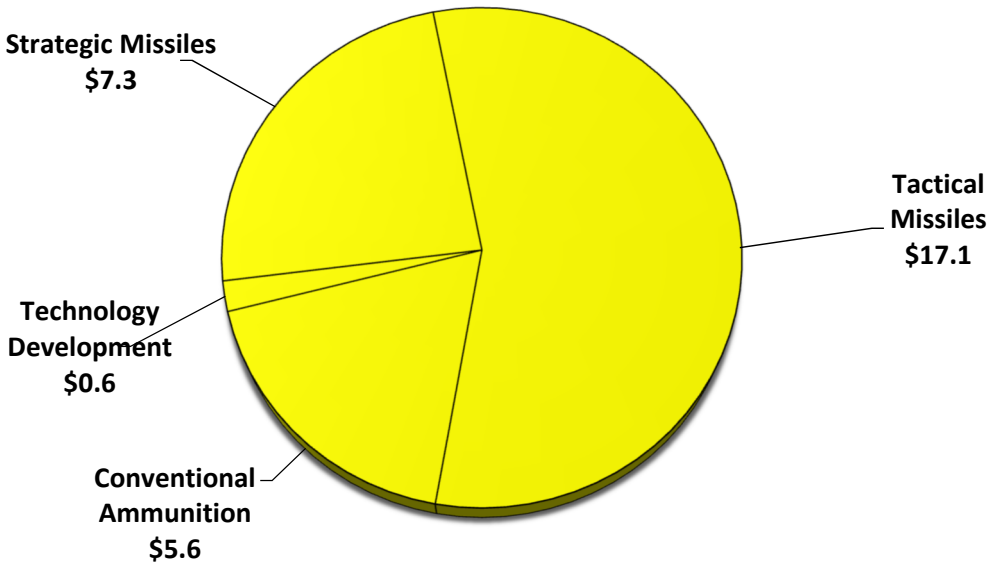
Munitions is a general term for ammunition and missiles. Ammunition consists of bombs, grenades, rockets, mines, projectiles, and other similar devices. There are conventional and nuclear missiles used for both tactical and strategic purposes. Many munitions are precision-guided, enhancing the attack of a broader target set, with limited low-collateral damage. 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" precision-guided bomb.

In FY 2024, the Department focused on critical high performance, standoff, and precision strike weapons to deliver munitions with greater penetration power. Improvements to these weapons increase range and precision effects in contested environments against high-value land attack targets. This requires munitions with farther standoff, multi-mode seekers, robust guidance systems, and less time for target selection. The Department has made investments to expand production capacity, procure munitions at favorable economic rates, and strengthen the industrial base. Precision guided munitions are manufactured on fully utilized production lines, so pricing economies are secured at economically feasible rates. The Department is increasing investments in the next generation nuclear cruise missile, the Long Range Stand-off weapon as well as the Ground Based Strategic Deterrent ballistic missile system.

The munition portfolio includes five new Multiyear Procurement (MYP) programs of which four are part of the Large Lot Procurement (LLP) pilot MYP strategy, which aims to maximize weapon production efficiency with a procurement Buy-to-Budget approach.

FY 2024 Missiles and Munitions Total: $30.6 Billion

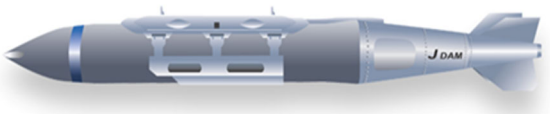
$ in Billions



Numbers may not add due to rounding
Numbers do not include Operation and Maintenance (O&M)

Joint Direct Attack Munition

DOD - JOINT



USAF Image

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 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 moving land and maritime targets, when designated by an airborne or ground laser. JDAM tail kit procurement has transitioned to use the Strategic Anti-jam Beam-forming Receiver (SABR) GPS receiver and antenna, which provide enhanced resistance to GPS jamming over earlier production variants.

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 2024 Program: Continues production of JDAM tail kits, including the SABR-Y upgraded GPS receiver and the JDAM tail kit hardback design used for the BLU-137 penetrator warhead. The FY 2024 minimum sustainment rate will be achieved.

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

Joint Direct Attack Munition						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
Procurement						
USAF	-	48.6	4,200	251.4	1,772	132.4
USN	944	48.5	3,037	76.7	1,464	73.7
Total	944	97.1	7,237	328.1	3,236	206.1

Numbers may not add due to rounding

HELLFIRE Missiles

DOD - JOINT

The HELLFIRE II AGM-114R is a precision strike, Semi-Active Laser-guided missile and is the principal air-to-ground weapon for the Army AH-64 Apache, Army Gray Eagle Unmanned Aircraft System (UAS), Special Operations aircraft, Marine Corps AH-1 Super Cobra, Air Force Predator, and Air Force Reaper UAS. The HELLFIRE II AGM-114R employs a multipurpose warhead variant which allows selection of warhead effects corresponding to a specific target/engagement type and replaces all previous HELLFIRE II variants (K/N/M/P). The AGM-114R is approximately 7 inches in diameter, weighs 107 pounds, and is 69 inches in length. The weapon range is up to 8 kilometers from rotary-wing and 12+ kilometers from UAS.

Mission: Provides the warfighter with an air-to-ground, point-target precision strike capability to defeat advanced armor and an array of traditional and non-traditional targets.

FY 2024 Program: Continues production of the HELLFIRE for the Navy. FY 2024 also funds acceptance and fielding of prior year missile procurements for the Army and converts older HELLFIRE missile variants into newer variants to meet training requirements for the Air Force.

Prime Contractor(s): Lockheed Martin Missiles and Fire Control; Orlando, FL

Hellfire Missiles						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
Procurement						
USA	920	115.4	766	108.4	-	22.0
USAF	695	103.7	-	1.0	-	1.0
USN	147	9.0	110	6.6	40	6.9
Total	1,762	228.1	876	116.0	40	29.9

Numbers may not add due to rounding

Small Diameter Bomb I

The Small Diameter Bomb Increment I (SDB I) is an Air Force program providing increased kills per sortie on current and future aircraft platforms. The SDB I is a conventional 250 lb. small sized, precision guided air-to-ground weapon that can be delivered from both fighter and bomber aircraft from standoff or close air support. The SDB I is a fixed and stationary target attack weapon.

Mission: Destroy targets from a medium-range standoff or close air support position deliverable by both fighter and bomber aircraft, with higher load-out and less collateral damage compared to other weapons.

FY 2024 Program: Continues production of weapons integrated with the Strategic Anti-Jam Beam-forming Receiver to support Air Force inventory objectives and Foreign Military Sales.

Prime Contractor(s): Boeing Company; St. Charles, MO

Small Diameter Bomb I						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	-	-	-	-	-
Procurement	793	65.2	356	46.5	874	48.7
Total	793	65.2	356	46.5	874	48.7

Numbers may not add due to rounding

Small Diameter Bomb (SDB) II

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 air-to-ground weapon that can be delivered from both fighter and bomber aircraft to attack mobile and fixed targets through adverse weather from standoff. The SDB II incorporates a tri-mode seeker and data link, which expands the use to moving targets.

USAF Image

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.

FY 2024 Program: Continues production and integration efforts on the F-35B/C aircraft and continues development and integration of a military code GPS receiver for improved anti-jam and an enhanced cryptographic datalink.

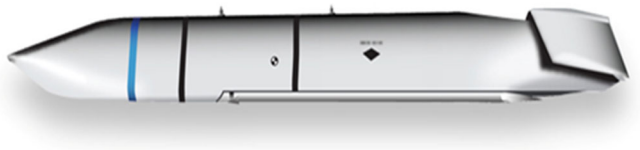
Prime Contractor(s): Raytheon Missile & Defense; Tucson, AZ

Small Diameter Bomb II						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USAF	-	31.0	-	32.7	-	37.5
USN	-	39.4	-	42.9	-	52.2
Subtotal	-	70.4	-	75.6	-	89.7
Procurement						
USAF	976	275.9	1,214	379.0	920	291.6
USN	164	33.8	445	100.7	250	65.9
Subtotal	1,140	309.7	1,659	479.7	1,170	357.5
Total	1,140	380.1	1,659	555.3	1,170	447.2

Numbers may not add due to rounding

Joint Air-to-Surface Standoff Missile

DOD - JOINT



USAF Image

The Joint Air-to-Surface Standoff Missile (JASSM) provides a survivable, precision cruise missile to kill hard, medium, and soft targets. It is a 2,000-pound class weapon with a 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. The range for the JASSM-Baseline (BL) variant (AGM-158A) is greater than 200 nautical miles. The JASSM-BL is integrated on the F-15E, F-16, B-52, B-1, and B-2 aircraft and concluded procurement in FY 2016.

The JASSM-Extended Range (ER) variant has two configurations, AGM-158B and AGM-158D, which have a more fuel-efficient engine, greater fuel capacity, and add 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-BL, but replaces the turbojet engine with a higher thrust, more fuel-efficient turbofan engine. The AGM-158B is currently integrated on the F-15E, F-16, B-1 and B-52 aircraft with integration on the B-2 occurring in FY 2023. The AGM-158D is in development with the goal of enhancing performance and incorporating multiple initiatives via a single system level update including new wing and chine designs and software updates for increased survivability. The threshold aircraft for AGM-158D is the B-1.

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

FY 2024 Program: Funds the first year of a Multiyear Procurement (MYP) contract under the Large Lot Procurement concept. Continues production of the AGM-158B and development efforts on the AGM-158D.

Prime Contractor(s): Lockheed Martin Missiles and Fire Control; Orlando, FL

Joint Air-to-Surface Standoff Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	114.0	-	117.2	-	132.9
Procurement	525	710.6	550	785.0	550	1,685.7
Total	525	824.6	550	902.2	550	1,818.6

Numbers may not add due to rounding

Air Intercept Missile

DOD - JOINT

USAF Image

The Air Intercept Missile-9X (AIM-9X), also known as Next Generation SIDEWINDER, is a short range air-to-air missile that provides launch-and-leave warfighting capability. The AIM-9X Block II is an infrared missile with a staring focal plane array imaging infrared (IR) seeker and high-angle off-boresight capability. It is mounted on a highly maneuverable (thrust vectored) airframe, along with digital guidance and IR 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.

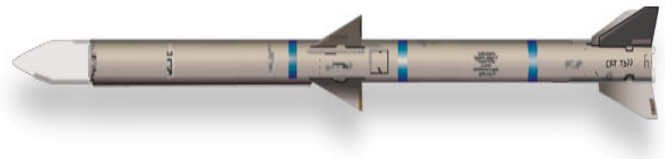
FY 2024 Program: Procures the 10th lot of Full Rate Production (FRP) Block II missiles. Continues engineering, manufacturing, and development for the System Improvement Program (SIP) IV hardware and software development efforts. The hardware effort includes design and development of the advanced sensor and electronics unit. The software effort includes completion of development and fielding of Operational Flight Software (OFS) 10.5X, and continued development of OFS 11.5X.

Prime Contractor(s): Raytheon Missile & Defense; Tucson, AZ

Air Intercept Missile – 9X						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USAF	-	31.9	-	34.5	-	42.0
USN	-	23.3	-	29.2	-	36.4
Subtotal	-	55.2	-	63.7	-	78.4
Procurement						
USAF	230	102.5	255	111.9	192	95.6
USN	152	78.6	128	62.3	147	78.2
Subtotal	382	181.1	383	174.2	339	173.8
Total	382	236.3	383	237.9	339	252.2

Numbers may not add due to rounding

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



USAF Image

The Advanced Medium Range Air-to-Air Missile (AMRAAM) is an all-weather, all-environment, radar guided missile developed to improve capabilities against low 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 is the U.S.'s primary beyond visual range intercept missile. 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 2024 Program: Funds the first year of a Multiyear Procurement (MYP) contract under the Large Lot Procurement concept. Continues production of the AIM-120D and addresses component parts obsolescence as well as future warfighting improvements.

Prime Contractor(s): Raytheon Missile & Defense; Tucson, AZ

Advanced Medium Range Air-to-Air Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USAF	-	49.7	-	52.7	-	53.7
USN	-	31.8	-	30.9	-	29.2
Subtotal	-	81.5	-	83.6	-	82.9
Procurement						
USAF	317	326.4	271	320.1	457	701.5
USN	78	74.3	337	335.9	374	439.2
Subtotal	395	400.7	608	656.0	831	1,140.7
Total	395	482.2	608	739.6	831	1,223.6

Numbers may not add due to rounding

Chemical Demilitarization

DOD - JOINT

US Armv

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. The goal of both programs is to destroy a variety of United States chemical agents and weapons, including the destruction of former chemical weapon production facilities. The CDP is responsible for the elimination of the existing U.S. chemical weapons stockpiles in compliance with the obligations of Chemical Weapons Convention, which entered into force in 1997, including meeting the commitment destruction deadline of September 30, 2023; but not later than the congressionally mandated deadline of December 31, 2023, while ensuring the safety and security of the workers, the public, and the environment. The Chemical Agents and Munitions Destruction, Defense (CAMD,D) appropriation funds the CDP and Recovered Chemical Warfare Material (RCWM) program support functions for the RCWM program within the United States.

Mission: There are three mission areas funded by the CAMD,D appropriation:

- Decontaminate and decommission the ACWA program sites (Colorado and Kentucky) and continue secondary waste disposal from the Kentucky site.
- Support the Chemical Stockpile Emergency Preparedness Program (CSEPP) emergency response capabilities for communities surrounding chemical weapons stockpile storage sites and begin CSEPP close-out activities following completion of the ACWA program destruction operations and chemical surety activities, including secondary waste disposal.
- Provide the RCWM program support function activities for the RCWM program within the United States, which includes technical expertise, project management, and sustaining and maintaining crews and equipment required to assess and destroy the RCWM for explosives and munitions emergencies.

FY 2024 Program: Continue decontamination and decommissioning closure activities at Colorado and Kentucky and secondary waste disposal from the Kentucky site. Continue the CSEPP efforts for emergency response capabilities at Colorado and Kentucky and begin closeout activities. Sustain and maintain the crews and equipment, provide the technical expertise and project management to assess and destroy RCWM in the United States for explosives and munitions emergencies, and provide research, development, testing and evaluation efforts for large item chemical weapons destruction capabilities in support of the RCWM program.

Prime Contractor(s): Bechtel National Incorporated; Pueblo, CO
Bechtel Parsons, Joint Venture; Richmond, KY

Chemical Demilitarization						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
Chemical Agents and Munitions Destruction	-	1,093.3	-	1,059.8	-	1,086.3
Total	-	1,093.3	-	1,059.8	-	1,086.3

Numbers may not add due to rounding.

Joint Air-to-Ground Missile

DOD - JOINT

The Joint Air-to-Ground Missile (JAGM) system provides an improved air-to-ground missile capability for rotary-wing aircraft and unmanned aircraft systems. The JAGM is an aviation-launched, precision-guided munition for use against high-value stationary, moving, and relocatable land and naval targets. The JAGM is different than the HELLFIRE AMG-114R in that it utilizes a multi-mode seeker to provide precision point and fire-and-forget targeting day or night in adverse weather, battlefield obscured conditions, and against a variety of countermeasures. A multi-purpose warhead provides lethal effects against a range of target types, from armored vehicles, thin-skinned vehicles and maritime patrol craft, to urban structures and field fortifications. The JAGM delivers the Joint services a single air-to-ground missile with improved lethality, operational flexibility, and a reduced logistics footprint.

Mission: Engages and defeats high value stationary, moving, and relocatable land and naval targets with precision point and fire-and-forget targeting day or night, in adverse weather, battlefield obscured conditions, and against a variety of countermeasures.

FY 2024 Program: Continues Full Rate Production for Joint Services.

Prime Contractor(s): Lockheed Martin Missiles and Fire Control; Orlando, FL

Joint Air-to-Ground Missile (JAGM)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E						
USA	-	2.5	-	2.4	-	3.0
USN	-	0.3	-	0.4	-	0.4
Subtotal	-	2.8	-	2.7	-	3.4
Procurement						
USA	406	147.2	629	216.0	901	303.4
USN	153	46.7	293	78.4	264	79.3
Subtotal	559	193.9	922	294.4	1,165	382.7
Total	559	196.7	922	297.2	1,165	386.1

Numbers may not add due to rounding

Long Range Anti-Ship Missile (LRASM) DOD - JOINT

The Long Range Anti-Ship Missile (LRASM) is a Navy-lead joint interest (Navy/Air Force) program that provides Combatant Commanders the ability to conduct anti-surface warfare operations and deny the sanctuary of maneuver to high-value adversary surface combatants protected by an Integrated Air Defense System with long-range surface-to-air missiles. LRASM is a precision guided anti-ship missile with semi-autonomous guidance, day/night and all-weather capability, which integrates a multi-modal sensor suite, a weapons datalink, enhanced digital anti-jam Global Positioning System capabilities, and a 1,000 lb. penetrator/blast fragmentation warhead. LRASM achieved Early Operational Capability (EOC) on the Air Force B-1 bomber in December 2018 and on the Navy F/A-18E/F in November 2019. The Navy is developing LRASM 1.1, which will deliver incremental upgrades to keep pace with emerging threat capabilities and is expected to begin fielding in FY 2024.

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 2024 Program: Funds the first year of a Multiyear Procurement (MYP) contract under the Large Lot Procurement concept. Funds the development, integration, and test phase of the air-launched LRASM 1.1 program, procures 118 LRASM, and funds telemetry kit installations. The factory will operate on the same production line as the Joint Air-to-Surface Standoff Missile (JASSM).

Prime Contractor(s): Lockheed Martin Missiles and Fire Control; Orlando, FL

Long Range Anti-Ship Missile (LRASM)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	75.1	-	223.8	-	237.7
Procurement						
USN	48	161.2	58	219.7	91	639.6
USAF	-	-	25	106.0	27	187.7
Subtotal	48	161.2	83	325.7	118	827.3
Total	48	236.3	83	549.5	118	1,065.0

Numbers may not add due to rounding

Ammunition

DOD - JOINT

The Military departments develop, procure and field conventional and leap-ahead ammunition providing Joint Warfighters and Allied Partners overmatch capabilities.

Mission: Provide for the production and fielding of ammunition. Includes small, medium and large caliber direct fire ammunition; artillery and mortar projectiles; grenades, area denial, shoulder launched munitions, rocket-assisted projectiles, countermine and pyrotechnics.

FY 2024 Program: Procures various ammunition cartridges for use by the Army, Navy, Marine Corps, and Air Force to fulfill combat and training mission requirements.

Government-Owned, Contractor-Operated Production Facilities:

- Holston Army Ammunition Plant, Kingsport, Tennessee: Produces and develops Insensitive Munitions Explosives (IMX); synthesizes and manufactures high explosive compounds such as Research Department Explosive (RDX) and High Melting Explosive (HMX).
- Iowa Army Ammunition Plant, Middletown, Iowa: Assembles and packs: medium - and large-caliber ammunition; large ammunition; high explosive artillery; medium - and - large caliber mortars; insensitive munitions; smart munitions mines/scatterable mines; missile assembly/missile warheads; and rocket-assisted projectiles.
- Lake City Army Ammunition Plant, Independence, Missouri: Produces upgraded small caliber ammunition (5.56mm, 7.62mm, .50 Cal, and 20mm) and develops the Next Generation Squad Weapon.
- Radford Army Ammunition Plant, Radford, Virginia: Produces propellants, energetics and munitions.
- Scranton Army Ammunition Plant, Scranton, Pennsylvania: Manufactures large caliber metal projectiles and mortar projectiles.

Commercial-Owned, Contractor-Operated Production Facilities:

- Ammunition facilities exist in the United States, Canada, and allied nations, comprising over 250 companies, over 1,200 end items and 1,300 components; major National Technology and Industrial Base (NTIB) include GD-OTS, AMTEC, Raytheon, and BAE Systems. Foreign suppliers include Nammo (Sweden), UTM Ltd (UK), and Poongsan (Korea).

Procurement of Ammunition

	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
Procurement						
USA	-	3,724.2	-	3,997.1	-	2,967.6
USN	-	886.1	-	920.9	-	1,293.3
USAF	-	666.0	-	857.2	-	703.2
Total	-	5,276.3	-	5,775.2	-	4,964.1

Numbers may not add due to rounding

Guided Multiple Launch Rocket System

USA

The Guided Multiple Launch Rocket System (GMLRS) is a family of surface-to-surface artillery rockets which are fired from the M142 High Mobility Artillery Rocket System (HIMARS) and the M270A1/A2 Multiple Launch Rocket System (MLRS) launchers. They provide a responsive, all-weather, rapidly deployable precision strike capability. The GMLRS guidance set combines an Inertial Measurement Unit with a Global Positioning System receiver to provide a high level of accuracy to maximize effects against a variety of targets. Production of the first variant, the M30 GMLRS Dual Purpose Improved Conventional Munition, (DPICM) with a cluster munition (CM) warhead, was terminated in response to the June 2008 Department of Defense (DoD) Policy on CM and Unintended Harm to Civilians. The GMLRS program now produces two other warhead variants with a range of 15-70+ kilometers. The M31A2 GMLRS Unitary can precisely engage point targets utilizing a single 200-pound, low collateral damage, high-explosive warhead. The M30A2 GMLRS Alternative Warhead (AW) is a non-cluster munition used to engage area and imprecisely located targets. All Unitary and AW models in inventory and in production comply with the requirements outlined in the November 2017 update to DoD Policy on CM. The latest rocket models are configured with the Insensitive Munitions Propulsion System (IMPS) that improves Soldier safety and launcher survivability. The Army is currently executing an Extended Range (ER) GMLRS modification to double the current maximum range and an Enhanced AW (EAW) warhead modification to provide a light/medium anti-armor capability.

Mission: GMLRS complements cannon artillery fires by suppressing, neutralizing or destroying enemy indirect fire support, air defense capabilities, and other light materiel/personnel targets.

FY 2024 Program: Continues production of current rocket variants, and development/qualification of modifications to extend the maximum range and enhance warhead effectiveness.

Prime Contractor(s): Lockheed Martin Corporation; Dallas, TX and Camden, AR.

Guided Multiple Launch Rocket System						
	FY 2022*		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	58.5	-	20.2	-	76.0
Procurement						
USA	5,838	862.7	5,910	1,312.0	5,016	942.3
USN	536	76.4	44	7.6	48	8.9
Subtotal	6,374	939.1	5,954	1,319.6	5,064	951.2
Total	6,374	997.6	5,954	1,339.8	5,064	1,027.2

*Excludes FY22 Supplemental Appropriations

Numbers may not add due to rounding

Javelin Advanced Anti-Tank Weapon System

USA

USMC Photo

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. 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 the only 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 2024 Program: Continues procurement of the JAVELIN FGM-148F (F model) missile and Lightweight Command Launch Unit

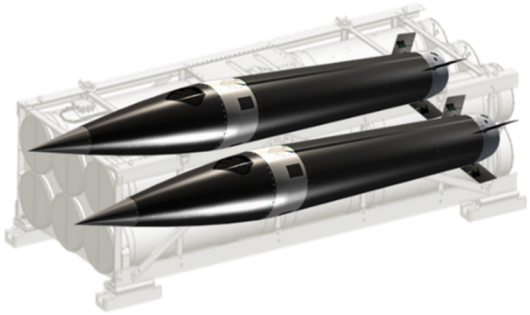
Prime Contractor(s): Javelin Joint Venture (Raytheon Missiles & Defense; Tucson, AZ and Lockheed Martin; Orlando, FL)

Javelin Advanced Anti-Tank Weapon System - Medium						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	8.2	-	16.2	-	7.8
Procurement						
USA	6,105	1,387.0	565	431.7	541	199.5
USMC	1,001	207.3	63	16.7	-	54.9
Subtotal	7,106	1,594.3	628	448.4	541	254.4
Total	7,106	1,602.5	628	464.6	541	262.2

Numbers may not add due to rounding

Precision Strike Missile

USA



The Precision Strike Missile (PrSM) is the Army's next generation surface-to-surface ballistic missile that replaces and improves upon the Army Tactical Missile System. (ATACMS) PrSM will provide Joint Force Commanders with a 24/7, all weather capability to attack critical and time sensitive area and point targets including threat air defense; missile launchers; command and control centers; assembly/staging areas; and high payoff targets at all depths of the multi-domain battlefield. PrSM provides field artillery units with long range and deep strike capability while supporting brigade, division, corps, Army, theater, Joint/Coalition Forces, and Marine Air-Ground Task Forces in full, limited, or expeditionary operations.

Mission: Destroy/neutralize/suppress targets at ranges from 60-650 km using missile-delivered indirect precision fires.

FY 2024 Program: Procures 110 Increment 1 missiles with Launch Pod Missile Containers and tooling investments to increase production in the future.

Prime Contractor(s): Lockheed Martin Missiles and Fire Control; Grand Prairie, TX

Precision Strike Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	181.6	-	259.5	-	272.8
Procurement	54	166.1	42	162.9	110	384.1
Total	54	347.7	42	422.4	110	656.9

Numbers may not add due to rounding

Trident II Ballistic Missile Modifications

US Navy Photo

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 and will be carried on the COLUMBIA-class Fleet Ballistic Missile Submarines. The D5 Life Extension (D5LE) Program is currently being executed to extend the life of the Trident II to match the extended 42-year life of the OHIO Class Submarine. Funding for the D5 Life Extension 2 (D5LE2) is necessary now to ensure the Trident II will meet the needs of the fleet beyond 2039 and extend the life of Trident II through the 2080s. The D5LE and D5LE2 ensure the Trident II will address component obsolescence, inventory depletion, and provide modularity for adaptability to evolving threats. 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 renewal of the New Strategic Arms Reduction Treaty in 2021.

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 2024 Program: Supports the production of the redesigned missile which will be deployed on the COLUMBIA-class Fleet Ballistic Missile Submarine. Funds support procurement of Trident II D5LE warhead components, the Mk4B Shape Stable Nose Tip (SSNT), and replacement of D5 legacy tooling and test support equipment. Development efforts of the D5LE2 include system studies and architecture development, W93/Mk7 warhead feasibility study and design options, as well as Submarine Launched Ballistic Missile (SLBM) and strategic guidance technologies in order to deliver a System Requirements Review in FY 2025.

Prime Contractor(s): Lockheed Martin Corporation; Sunnyvale, CA

Trident II Ballistic Missile Modifications						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	190.9	-	312.5	-	321.6
Procurement	-	1,396.7	-	1,404.6	-	1,610.0
Total	-	1,587.6	-	1,717.1	-	1,931.6

Numbers may not add due to rounding

Standard Missile 6

US Navy Photo

The Standard Missile-6 (SM-6) is a surface Navy Anti-Air Warfare 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, and Anti-Ship Cruise Missiles in flight. It was designed to fulfill the need for a vertically launched, extended range missile compatible with the Aegis Weapon System 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 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 2024 Program: Funds the first year of a Multiyear Procurement (MYP) contract under the Large Lot Procurement concept. Continues production of the Block IA missile and begins production in FY 2024 of the Block IB variant. The factory will operate at the maximum production rate. RDT&E funding continues Aegis architecture and design for SM-6 Block IB extended range capability, the procurement of Block IB components including ground test and controlled test vehicle hardware, MK-29 Mod I canisters for the Block IB flight and safety qualification testing, and seven (7) fleet experimentation rounds.

Prime Contractor(s): Raytheon Missiles & Defense; Tucson, AZ

Standard Missile-6						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	341.4	-	309.9	-	418.2
Procurement	125	560.7	125	489.1	125	1,196.8
Total	125	902.1	125	799.0	125	1,615.0

Numbers may not add due to rounding

Rolling Airframe Missile

The RM-116 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 infrared (IR) 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 for midcourse guidance, and transitions to IR guidance for terminal engagement. The current RM-116 configuration is Block II (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 2024 Program: Continues Full Rate Production for the RAM Block II (RIM-116C) missile.

Prime Contractor(s): Raytheon Missiles & Defense; Tucson, AZ

Rolling Airframe Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	8.0	-	17.4	-	11.1
Procurement	70	73.0	100	92.1	120	114.9
Total	70	81.0	100	109.5	120	126.0

Numbers may not add due to rounding

Naval Strike Missile

Naval Strike Missile (NSM) funding is required to support Over The Horizon (OTH) Weapon System program for Littoral Combat Ship (LCS) and Frigate, Guided Missile (FFG) Ships. The program provides a long-range anti-surface offensive capability to improve the ship's ability to defend against enemy surface ships. Missile components include a missile encased in a firing canister consisting of a flight vehicle that is mechanically and electrically connected within a weapon canister. The flight vehicle's major components are operationally joined, consisting of an explosive warhead, propulsion system, guidance system, initiation system, and other components. The weapon canister is a mechanical structure with electrical interconnections that is used to support and restrain the flight vehicle during loading and unloading operations. The weapon canister allows the flight vehicle to connect to the Missile Launch System without being exposed to the environment.

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

FY 2024 Program: Funds the first year of a Multiyear Procurement (MYP) to procure 13 NSMs for the Navy. FY24 funding procures 90 NSMs for the Marine Corps' Navy/Marine Corps Expeditionary Ship Interdiction System (NMESIS) with a ground-based anti-ship capability. The Marine Corps procures the same NSM configuration as the Navy. RDT&E efforts support LCS operational test flight execution and live fire test and evaluation efforts.

Prime Contractor(s): Raytheon Missile System, Tucson AZ

Naval Strike Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	10.8	-	8.3	-	5.2
Procurement						
USN	32	52.4	39	59.0	13	35.7
USMC	69	105.2	115	174.4	90	209.0
Subtotal	101	157.6	154	233.4	103	244.7
Total	101	168.4	154	241.7	103	249.9

Numbers may not add due to rounding

Tactical Tomahawk Cruise Missile

US Navy Photo

Tomahawk is a combat-proven, long-range strike weapon that delivers a 1,000 lb. class warhead at ranges greater than 900 nm. Tomahawk is launched from U.S. Navy surface and submarine combatants and provides a high precision, all-weather, deep-strike attack capability against fixed and mobile targets. Because of Tomahawk's capability, more than 2,000 Tomahawk combat expenditures have occurred to date. Key weapon features include: precision navigation/guidance; robust anti-jam Global Positioning System (GPS) capabilities; high responsiveness and mission flexibility due to an in-flight re-targeting capability; and the ability to transmit Battle Damage Indication reports prior to weapon impact.

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

FY 2024 Program: Continues the procurement of Tomahawk missiles for the Marine Corps and shifts the Navy's focus to mid-life recertification phase efforts to increase the service life of the missile. Funds the development of a maritime strike variant to engage surface target and the Joint Multi-Effects Warhead System for optimal lethality.

Prime Contractor(s): Raytheon Missiles & Defense; Tucson, AZ

Tactical Tomahawk Cruise Missile						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	129.9	-	122.7	-	122.8
Procurement						
USN	70	399.2	55	738.8	-	706.3
USMC	-	-	13	43.0	34	105.2
Subtotal	70	399.2	68	781.8	34	811.5
Total	70	529.1	68	904.5	34	934.3

Includes modification programs

Numbers may not add due to rounding

Advanced Anti-Radiation Guided Missile

The Advanced Anti-Radiation Guided Missile – Extended Range (AARGM-ER) program will integrate hardware and software upgrades to the AARGM missile guidance and control sections, a new rocket motor, and a control actuation system into a new outer mold line able to be launched from FA-18 E/F, EA-18G and is compatible with F-35 internal bay platforms. AARGM-ER's capabilities will provide improved extended range, increased survivability and effectiveness against complex, new, and emerging threats.

Mission: AGM-88G AARGM-ER production units will prosecute integrated air defense systems supporting suppression and destruction of enemy air defenses missions.

FY 2024 Program: Funds the procurement of 83 missiles on the low rate initial production contract, 6 captive air training missiles, 89 containers, and 8 telemetry/flight termination systems. Advance procurement funding is included with the objective of reducing production lead time from 38 to 22 months. RDT&E funding continues expansion of the F/A-18 employment envelope through follow-on test and evaluation, development of a virtual store training capability, and commencement of AARGM-ER integration into the new mission planning tool.

Prime Contractor(s): Northrup Grumman Corporation Defense Systems, Northridge CA

Advanced Anti-Radiation Guided Missile - Extended Range (AARGM - ER)						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	133.3	-	89.5	-	59.6
Procurement	54	108.7	98	181.3	83	195.7
Total	54	242.0	98	270.8	83	255.3

Numbers may not add due to rounding

LGM-35A Sentinel

The LGM-35A Sentinel, formerly the Ground Based Strategic Deterrent, program is the Air Force effort to replace the aging LGM-30 Minuteman III intercontinental ballistic missile (ICBM) weapon system. The Minuteman III missile fleet was fielded in the 1970s with an initial 10-year service life and its launch and command and control systems date back to the 1960s. Sentinel will modernize or replace Minuteman III flight systems, weapon system command and control, and launch systems, including missile silos, control centers and other ground infrastructure. The new Sentinel weapon system will meet existing user requirements, while having the adaptability and flexibility to address changing technology and threat environments through 2075. As a critical part of the nuclear triad, Sentinel will continue to maintain strategic stability, while hedging against vulnerabilities in other portions of the triad. Should deterrence fail, Sentinel will decisively defeat adversary targets and retaliatory capabilities as authorized and directed by the President. The program entered the Engineering and Manufacturing Development (EMD) phase in September 2020. Deployment is projected to begin in the late 2020s.

Minuteman III pictured

Mission: 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, dissuades proliferation, and deters adversaries.

FY 2024 Program: Funds activities in support of EMD to include: systems engineering activities, information technology, data management, testing, and analytical capabilities to deliver a flexible, integrated weapon system critical design. The program will start long-lead procurement for Inertial Measurement Unit Electronics, Missile Guidance Computer Electronics, Air Vehicle Booster and Post Boost Propulsion System, and Weapon System Structures (e.g., launch facilities/centers).

Prime Contractor(s): Northrop Grumman Corporation; Roy, UT

Sentinel						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	2,464.9	-	3,614.3	-	3,734.9
Procurement	-	10.9	-	2.8	-	544.0
Total	-	2,475.8	-	3,617.1	-	4,278.9

Numbers may not add due to rounding

Long Range Stand-Off Weapon

USAF

Long Range Stand-Off (LRSO) Weapon is a nuclear cruise missile capable of penetrating and surviving complex advanced integrated air defense systems and GPS-denied environments from significant stand-off ranges. The LRSO replaces the Air Launched Cruise Missile (ALCM) which entered service in 1982 and is well past its original 10-year service life design. LRSO details are classified to protect critical program information. The program entered the Engineering and Manufacturing Development (EMD) phase in July 2021. Initial operational capability is projected for 2030.

Mission: Retains penetrating and survivable capabilities in advanced Integrated Air Defense Systems and GPS-denied environments from significant stand-off ranges, ensuring we maintain a credible deterrent. Combined with nuclear capable bombers, LRSO provides the nuclear triad with a clear, visible, and tailorable deterrent. LRSO provides the President and U.S. Forces the ability to project power and hold at risk any target at any location on the globe. LRSO also provides a hedge against future technological and geopolitical uncertainties.

FY 2024 Program: Funds continue to design, develop, integrate, and test the LRSO system.

Prime Contractor: Raytheon Company; Tucson, AZ

Long Range Stand-Off Weapon						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	580.4	-	928.9	-	911.4
Procurement	-	-	-	51.9	-	66.8
Total	-	580.4	-	980.8	-	978.2

Numbers may not add due to rounding

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Shipbuilding and Maritime Systems

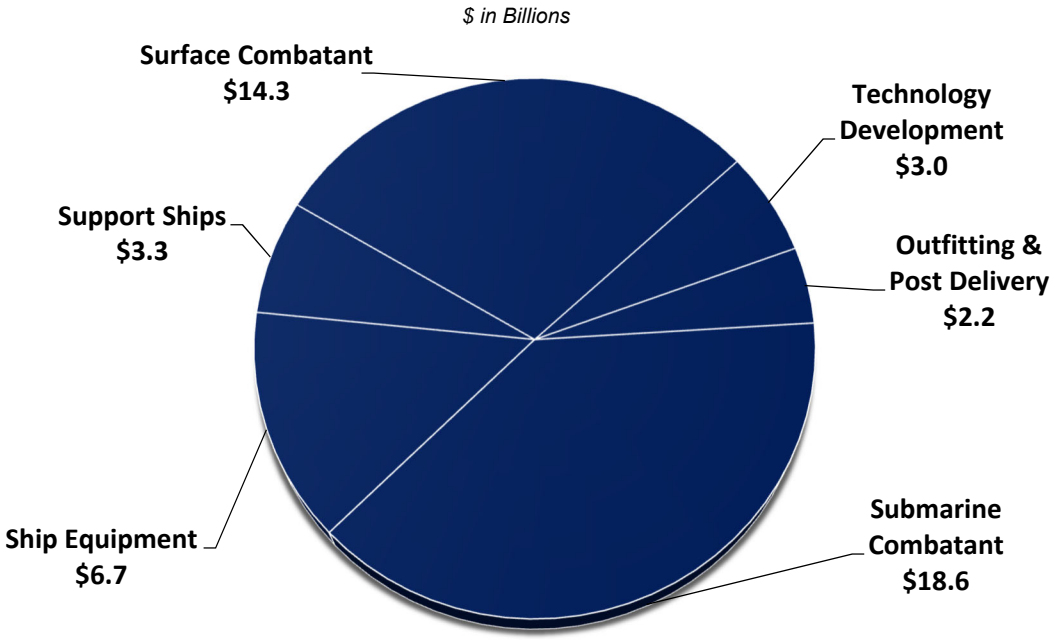
A central principle to the United States Maritime Strategy is forward presence, which promotes conflict deterrence by ensuring forces are in a position to expeditiously respond to conflict. Therefore, sea services must procure, build, and maintain maritime systems in accordance with mission needs.

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

The FY 2024 Shipbuilding Portfolio includes funding for the construction and service life extension of 14 vessels and procurement of two used sealift vessels. Nine battle force fleet ships will begin construction: 1 SSBN *Columbia* class ballistic missile submarine; 2 SSN 774 *Virginia* class nuclear attack submarines, equipped with the Virginia Payload Module; 2 DDG 51 *Arleigh Burke* class Flight III destroyers; 2 FFG *Constellation* class Frigates; 1 Submarine Tender Replacement ship; 1 T-AO *John Lewis* class Fleet Oiler.

The Navy is also requesting additional funding for shipyards and the defense industrial base funding to increase production capacity, to allow for the concurrent construction of 2 Virginia Class submarines, while sustaining annual rate of production of Columbia Class submarine.

FY 2024 Shipbuilding and Maritime Systems Total: $48.1 Billion



Numbers may not add due to rounding

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

Aircraft carriers are the centerpiece of U.S. Naval forces. The CVN 78 class ships include new technologies and enhancements that 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 A1B 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.

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 2024 Program: Funds continued construction for three carriers USS *John F. Kennedy* (CVN 79), USS *Enterprise* (CVN 80) and USS *Doris Miller* (CVN 81). CVN 80 and CVN 81 comprise a two-carrier procurement contract, awarded in FY 2019, which is expected to yield approximately $4.0 billion in savings. Additional funding includes outfitting, training equipment, and continued development of ship systems.

Prime Contractor(s): Huntington Ingalls Industries; Newport News, VA

CVN 78 Gerald R. Ford Class Nuclear Aircraft Carrier						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	160.4	-	162.2	-	118.2
Procurement	-	2,685.4	-	3,572.4	-	2,586.2
Total	-	2,845.8	-	3,734.6	-	2,704.4

Numbers may not add due to rounding

SSBN 826 Columbia Class Ballistic Missile Submarine

The *Columbia* class Ballistic Missile Submarine (SSBN) will replace the current *Ohio* class of Fleet Ballistic Missile Submarine. 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 the U.S. Navy

Construction began in FY 2021 for FY 2028 delivery when the first *Ohio* class boats begin decommissioning. The nuclear propulsion systems will be acquired from the nuclear industrial base under the direction of Naval Reactors. The program includes the development and construction of a Common Missile Compartment (CMC) capable of hosting the TRIDENT II missile system, a jointly conducted effort with the United Kingdom to support the *Dreadnought* class SSBN.

Mission: Provides a sea-based strategic nuclear force. Maintains an appropriate state of readiness to assist in deterring nuclear attack on the United States and its allies. Launches missiles against targets should deterrence fail. Performs extended strategic deterrent patrols without requiring assistance or replenishment.

FY 2024 Program: Funds the first two increments of the second boat (SSBN 827), future boats' advance procurement, and detail design and construction of Contractor Furnished Equipment (CFE) and Government Furnished Equipment (GFE). Advance procurement includes CFE and GFE Long Lead Time Material; continuous production of missile tubes; advance construction; Economic Order Quantity for multi-program procurement; and continuous production of shipyard manufactured items. FY 2024 also continues funding research and development of nuclear technologies and ship systems such as the propulsion system, combat systems technology, and CMC. The request also supports the submarine industrial base and supplier development to reduce the *Columbia* class's construction schedule risk.

Prime Contractor(s): General Dynamics; Groton, CT
Huntington Ingalls Industries; Newport News, VA

Columbia Class Ballistic Missile Submarine Program						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	362.1	-	401.7	-	311.5
Procurement	-	4,801.0	-	5,871.8	1	5,895.8
Total	-	5,163.1	-	6,273.5	1	6,207.2

Numbers may not add due to rounding

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 and heavyweight torpedoes. Block V variants will incorporate Acoustic Superiority and the Virginia Payload Module (VPM), which is an 84-foot hull section with four additional payload tubes, each capable of carrying seven Tomahawk cruise missiles or various other payloads. The VPM helps mitigate the loss of undersea strike capability with the retirement of the Navy's four guided missile submarines (SSGNs) in the mid-2020s.

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 critical time sensitive information for accurate knowledge of the battlefield.

FY 2024 Program: Funds two additional Block V boats before the new multiyear procurement (MYP) contract begins in FY 2025. The FY 2024 request also funds advance procurement for four boats in future years, economic order quantity funds for the future MYP planned for FY 2025 – FY 2029, and outfitting and support equipment. FY 2024 continues funding development of the VPM technology, prototype components, and systems engineering required for design and construction.

Prime Contractor(s): General Dynamics Corporation; Groton, CT
Huntington Ingalls Industries; Newport News, VA

SSN 774 Virginia Class Submarine						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	461.0	-	307.8	-	225.9
Procurement	2	6,415.1	2	6,953.5	2	10,619.8
Total	2	6,876.1	2	7,261.2	2	10,845.6

Numbers may not add due to rounding

DDG 51 *Arleigh Burke* Class Destroyer


US Navy Photo

The *Arleigh Burke* class (DDG 51) guided missile destroyers provide a wide range of war fighting capabilities in multi-threat air, surface, and subsurface environments. The DDG 51 class 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 includes 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 79-124 and DDG 127 ships are Flight IIA ships; and DDG 125, DDG 126, and DDG 128 – DDG 142 will be constructed as Flight III ships with the Air and Missile Defense Radar (AMDR) capability.

Mission: Operates within a carrier strike group or independently to provide multi-mission offensive and defensive capabilities. Conducts Anti-Air Warfare, Anti-Submarine Warfare, and Anti-Surface Warfare.

FY 2024 Program: Funds two Flight III DDG 51 class destroyers in the second year of the FY 2023 – FY 2027 multi-year procurement contract for up to 10 ships, economic order quantity funding for the FY 2025 – FY 2027 ships, outfitting costs, completion costs and continued development of ship systems. Starting in FY 2021, Bridge System Upgrades are incorporated for improved navigation capability.

Prime Contractor(s): General Dynamics Corporation; Bath, ME
Huntington Ingalls Industries; Pascagoula, MS

DDG 51 Arleigh Burke Class Destroyer						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	234.5	-	199.3	-	268.9
Procurement	2	3,970.3	3	8,021.7	2	4,579.6
Total	2	4,204.8	3	8,221.0	2	4,848.6

Numbers may not add due to rounding

Constellation Class Guided Missile Frigate

The *Constellation* class (FFG-62) guided missile frigates are lethal and survivable multi-mission small surface combatants. With the *Constellation* class, the Navy will maximize the small surface combatant survivability and capabilities in the anti-surface warfare, anti-submarine warfare, electromagnetic maneuver warfare, air warfare mission areas, while keeping the ship affordable as a part of a "high-low" mix of surface ships. The *Constellation* class will form into strike groups and Large Surface Combatant action groups while maintaining the ability to operate independently. The ships in this class will have a MK48 Mod 2 Gun Weapon System, a MK41 Vertical Launch System, and a Rolling Airframe Missile (RAM) Guided Missile Weapon System (GMWS).

Mission: Provides the Fleet with escort mission capabilities, performs naval-presence missions and conducts offensive operations.

FY 2024 Program: Continues funding construction of the *Constellation* class, advance procurement for future ships, and continues research and development of ship systems and design.

Prime Contractor(s): Fincantieri Marinette Marine; Marinette, WI

Constellation Class Guided Missile Frigate						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	99.0	-	108.6		113.0
Procurement	1	1,090.9	1	1,135.2	2	2,137.7
Total	1	1,189.9	1	1,243.9	2	2,250.7

Numbers may not add due to rounding

CVN Refueling Complex Overhaul

The CVN Refueling Complex Overhaul (RCOH) life extension program involves refueling and modernizing the nuclear powered fleet aircraft carriers. During the RCOH, the nuclear fuel and obsolete parts are replaced, major system are modernized; and corrosion damage is repaired. *Nimitz* class aircraft carriers are designed for a 50-year life span, and the RCOH is performed approximately midway through the ship's lifespan.

Mission: Refuel and upgrade the *Nimitz* class aircraft carriers at mid-life to ensure reliable operations during the remaining 25 plus years of ship life using only the normal maintenance cycle.

FY 2024 Program: Funds advance procurement of long lead items for the USS *Harry S Truman* (CVN 75) with the RCOH scheduled to being in FY 2025. The FY 2024 request also funds cost to complete for the USS *John C. Stennis* (CVN 74).

Prime Contractor(s): Huntington Ingalls Industries; Newport News, VA

CVN Refueling Complex Overhaul						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	-	-	-	-	-
Procurement	-	2,840.6	-	674.1	-	1,241.5
Total	-	2,649.3	-	674.1	-	1,241.5

Numbers may not add due to rounding

T-AO 205 *John Lewis* Class Fleet Replenishment Oiler

The *John Lewis* class Fleet Replenishment Oiler (T-AO) program is building a new class of fleet oilers for the Navy. The USNS *John Lewis* (T-AO 205) is the lead ship in this class. The T-AO provides fuel and cargo delivery to support fleet operations. Compared to the previous class of oilers, the *John Lewis* class has increased space for dry cargo, a helicopter refueling capability, and a double-hull to guard against oil spills and to comply with international agreements concerning ship pollution. The lead ship, the USNS *John Lewis* (T-AO 205), delivered in July 2022.

Mission: Transfers fuel and lubricants to Navy surface ships operating at sea to extend at-sea time for the ships and embarked aircraft. The T-AO Class operates as shuttle ships from resupply posts to customer ships. Additionally, in conjunction with a T-AKE, they will accompany and stay on-station with a Carrier Strike Group to provide fuel as required to customer ships.

FY 2024 Program: Funds procurement of one T-AO Class Oiler and continued development of ship systems, outfitting costs, and cost-to-complete for prior year ships.

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

John Lewis Class Fleet Replenishment Oiler						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	4.3	-	0.2	-	0.1
Procurement	2	1,571.6	1	958.2	1	967.6
Total	2	1,575.9	1	958.4	1	967.7

Numbers may not add due to rounding

AS(X) Submarine Tender Replacement

The AS(X) submarine tender replacement is a large surface ship that provides service and resupply to U.S. Navy submarines. The submarine tender provides an intermediate maintenance activity and logistics support for nuclear attack submarines. The tender also serves to reload torpedoes and Tomahawk missiles on attack submarines and provide a radiological emergency response.

The AS(X) replaces the ageing *Emory S. Land class* submarine tenders that were commissioned beginning in 1979 and are scheduled to be retired by the end of the 2020s.

Mission: Provides an intermediate maintenance activity and logistics support for nuclear attack submarines; reloads torpedoes and Tomahawk missiles; and provides a radiological emergency response.

FY 2024 Program: Funds construction of the lead AS(X) Submarine Tender Replacement.

Prime Contractor(s): TBD

AS(X) Submarine Tender						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	15.8	-	15.5	-	10.6
Procurement	-	-	-	-	1	1,733.2
Total	-	15.8	-	15.5	1	1,743.8

Numbers may not add due to rounding

Medium and Large Unmanned Surface Vessels

The Unmanned Surface Vessel (USV) is a multi-mission vessel designed to provide low cost, high endurance, reconfigurable ships that can accommodate various payloads for unmanned missions and augment the Navy's manned surface force. Future missions and payloads will be informed as the concept of operations is developed. While unmanned surface vehicles are new additions to fleet units, they are intended to be relatively low developmental technologies that combine robust and proven commercial vessel designs with existing military payloads to rapidly and affordably expand the capacity and capability of the surface fleet. The program benefits from years of investment and full scale demonstration efforts in autonomy, endurance, command and control, payloads and testing from the Defense Advanced Research Projects Agency's (DARPA) Anti-Submarine Warfare Continuous Trail Unmanned Vessel and Office of Naval Research's Medium Displacement Unmanned Surface Vessel/Sea Hunter and Office of the Secretary of Defense Strategic Capabilities Office's Ghost Fleet Overlord Large USV experimentation efforts.

Mission: Supports combatant ships by providing additional Anti-Surface Warfare and Strike capacity.

FY 2024 Program: Funds continued development and testing of medium and large Unmanned Surface Vessels and continues research and development of payload systems. FY 2024 also continues development work in USV core capabilities of system autonomy, sensors and perception, and Command, Control, Communications, Computer & Intelligence (C4I). The request also funds procurement of nine large USVs from FY 2024 – FY 2028.

Prime Contractor(s): TBD

Medium and Large Unmanned Surface Vessels						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	208.4		310.3	-	237.9
Procurement	-	-	-	-	-	-
Total	-	208.4	-	310.3	-	237.9

Numbers may not add due to rounding

LHA *America* Class Amphibious Assault Ship

USS *America* class ships are large-deck, amphibious assault ships designed to support ground forces. This class can transport a combination of helicopters and vertical take-off and landing aircraft. The first two ships, USS 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. The USS Bougainville (LHA 8) is 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. LHA 9 is the second Flight I ship and assumes a LHA 8 baseline design.

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 2024 Program: Continues funding construction of LHA-9, the second Flight I LHA Replacement, and completion and outfitting costs.

Prime Contractor(s): Huntington Ingalls Industries; Pascagoula, MS

LHA *America* Class Amphibious Assault Ship						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	7.3	-	12.2	-	19.4
Procurement	-	68.6	1	1,415.2		1,854.9
Total	-	75.9	1	1,427.5	-	1,874.2

Numbers may not add due to rounding

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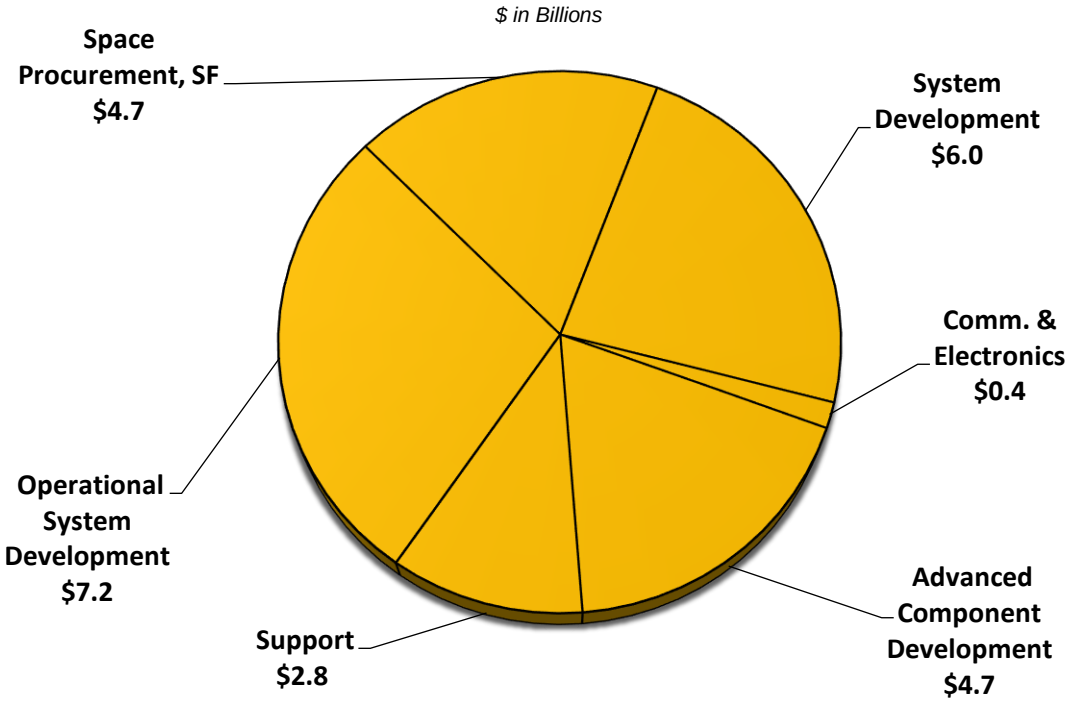
Space Based and Related Systems

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. Under existing budget policy, the first two satellites of a new system are financed with Research, Development, Test and Evaluation (RDT&E) funding and the remainder of follow-on satellites are fully funded with Procurement funding.

The FY 2024 budget highlights include funding for development of new Resilient Missile Warning/Missile Tracking architectures, along with Next Generation Overhead Persistent Infrared (NG OPIR) space and associated ground architectures; continues funding for the Evolved Strategic SATCOM (ESS) and Protected Tactical, Wideband, and Narrowband secure/survivable/jam-resistant capabilities. The budget also funds the procurement of National Security Space Launch (NSSL) launch services for medium and heavy lift class satellites; specifically, the NSSL program funds launch services for ten Space Force launches under the Phase 2 contract and five launches for Space Development Agency proliferated Low Earth Orbit Transport Layer development.

FY 2024 Space Based Systems Total: $25.8 Billion



Numbers may not add due to rounding

Launch Enterprise

USSF

Photos courtesy of ULA and SpaceX

The Space Forces' Launch Enterprise consists of the National Security Space Launch (NSSL) program and Rocket System Launch Program (RSLP). NSSL provides highly reliable launch services for medium and heavy lift class national security satellites. The RSLP provides procurement of small launch and rideshare services, suborbital targets and experimental flights, and restoration of excess ballistic missile assets for reuse.

Mission: To be the Guardians of Assured Access -- Launching when and where the nation needs it. Launch Enterprise provides highly reliable launch services and support under the NSSL program and launch services with tailorable mission assurance and support under the RSLP for DoD, Intelligence Community, and other government agencies. Maintains assured access to space for the nation through the NSSL program, which includes a robust industrial base and two affordable and highly reliable families of launch vehicles.

FY 2024 Program: Procures ten Space Force Launch Services (LS) using the competitively awarded NSSL Phase 2 contract and five Space Development Agency launch services. Launches are usually ordered 24 months prior to the planned mission. Funds Launch Service Support (LSS) efforts, which are non-discrete tasks necessary to support vital national security space launches without driving undue costs to commercial launch services.

Prime Contractor(s):
NSSL, RSLP: SpaceX; Hawthorne, CA
NSSL, RSLP: United Launch Alliance (ULA); Centennial, CO
RSLP: Northrop Grumman; Corinne, UT
RSLP: Rocket Lab, USA; Long Beach, CA
RSLP: VOX Space; El Segundo, CA

Launch Enterprise						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	291.2	-	329.1	-	141.4
Procurement	5	1,507.6	10	1,881.9	15	2,861.7
Total	5	1,798.8	10	2,211.0	15	3,003.1

Numbers may not add due to rounding

Global Positioning System Enterprise

USSF

Image courtesy of Lockheed Martin

The Global Positioning System (GPS) provides world-wide, 24-hour a day, all-weather 3-dimensional positioning, navigation, and timing (PNT) information for military and civilian users. The GPS III space vehicles (SVs) will be fully backward compatible with legacy signals while delivering new capabilities and enhancements, to include a new Galileo-compatible signal (civilian) and a more powerful M-code (military) signal. The GPS Next Generation Operational Control System (OCX) will provide command, control, and mission support for the GPS constellation, including GPS III and all legacy satellites. Further capabilities will be introduced with GPS III Follow-on (IIIF), such as Regional Military Protection. Military GPS User Equipment (MGUE) provides secure and accurate PNT capabilities to warfighters for ground, aircraft, ships, and weapons systems, enabling continued operations in the most contested environments.

Mission: Provides worldwide PNT to military and civilian users.

FY 2024 Program: Funds independent, technical, systems engineering and integration support critical to managing SVs 07-10 storage, launch, and checkout activities. Funds continued development of the GPS IIIF SVs 11-20. Supports transitioning of constellation operations from the legacy Operational Control Segment (OCS) to OCX. Funds the testing and lead platform integration of MGUE Increment 1. Funds development efforts for MGUE Increment 2 and design activities to address MGUE Increment 1 obsolescence. Funds the GPS Program Office's responsibility as the Prime Integrator (Enterprise Integration) to synchronize space, control, and user segment programs and to manage civil/military specifications and requirements.

Prime Contractor(s): OCX, MGUE: Raytheon Company; Aurora CO
GPS IIIF: Lockheed Martin Corporation; Denver CO
MGUE: BAE Systems; Cedar Rapids IA
MGUE: L3Harris; Anaheim CA
OCX, MGUE: Raytheon Company; El Segundo CA

Global Positioning System Enterprise						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	1,055.7	-	953.9	-	980.1
Procurement	3	955.5	2	753.5		279.7
Total	3	2,011.2	2	1,707.4	-	1,259.8

Numbers may not add due to rounding

Space Based Missile Warning Systems

USSF

Image courtesy of Lockheed Martin

Next Generation Overhead Persistent Infrared Program (OPIR) and Resilient Missile Warning and Missile Tracking (MW/MT) are the follow-on systems to the Space Based Infrared System (SBIRS) that will: (1) field two Geosynchronous Earth Orbit (GEO), two Polar satellites in Highly Elliptical Orbit (HEO), and an integrated centralized ground station; and (2) field 39 Low Earth Orbit (LEO), and up to nine Medium Earth Orbit (MEO) MW/MT capabilities. Next-Gen OPIR will rapidly deliver strategically survivable missile warning capabilities, which detect advances made in adversarial missile technology and addresses counter-space systems with added resiliency features. Resilient MW/MT offers coverage of all phases of missile warning and tracking of advanced missile threats, including hypersonic missile systems.

- SBIRS HEO payloads 01-04 and GEO space vehicles (SV) 01-05 are on orbit and operationally accepted. SV 06 launched 4 Aug 2022 and is on track for operational acceptance for Apr 2023.
- Next-Gen OPIR will launch four satellites: Two GEO with target launch dates of 2025 and 2027; and two Polar free-flyer satellites in HEO with target dates of 2028 and 2030.
- Future Operationally Resilient Ground Evolution (FORGE) program delivers a cyber-resilient, government owned ground system that supports SBIRS and Next-Gen OPIR.
- SBIRS Survivable Endurable Evolution (S2E2) upgrades current mobile ground systems to SBIRS GEO capability to meet survivable, endurable missile warning requirements.
- Develops proliferated MEO and LEO portions of the Resilient MW/MT constellations to provide additional coverage for all phases of missile warning, and missile tracking capability.

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 2024 Program: Funds continue development of Next-Gen OPIR satellites and the FORGE ground system development. Also funds development of Resilient MW/MT constellations in LEO and MEO; launch of LEO constellation begins in FY 2025.

Prime Contractor(s): Next-Gen GEO: Lockheed Martin; Sunnyvale, CA
Next-Gen Polar: Northrop Grumman; Redondo Beach, CA
Missile Warning, FORGE: Raytheon; Aurora, CO
Resilient MW/MT: Multiple competitive contractors

Space Based Missile Warning Systems						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	2,338.9	-	4,548.1	-	4,927.0
Procurement	-	154.5	-	148.7	-	39.4
Total	-	2,493.4	-	4,696.8	-	4,966.4

Numbers may not add due to rounding

Satellite Communications (SATCOM) Projects

USSF

Image courtesy of Northrop Grumman

The Space Force bins SATCOM in three capability sets:

1. Strategic – for Nuclear Command, Control, and Comms

- Evolved Strategic SATCOM (ESS) - Plans prototypes for next-generation strategic constellation.
- Strategic SATCOM Terminals - Provides secure/survivable/jam-resistant capabilities.

2. Protected Tactical – to enable tactical comms in contested environments

- Enhanced Polar System-Recapitalization (EPS-R) Acquires two hosted payloads for SATCOM in the North Polar Region as part of a partnership with Norway.
- Protected Tactical Enterprise Service (PTES) - Develops the ground infrastructure to provide the Protected Tactical Waveform (PTW) advanced anti-jam SATCOM capability over existing military wideband satellites and commercial SATCOM systems and enables the future Protected Tactical SATCOM (PTS) system.
- PTS - Develops prototypes to demonstrate new technologies on-orbit, informing the acquisition approach and architecture for robust anti-jam SATCOM via PTS satellites.

3. Wideband and Narrowband – to provide large throughput in less contested areas

- Wideband Global SATCOM (WGS) - WGS SV 01-10 are operational. Delivers WGS SV 11 and 12, with twice the operational capacity of WGS SV 10, projected available for launch in FY 2024 and 2027, respectively. Enhances the legacy WGS ground system to support advanced beam capabilities of WGS SV 11-12 payloads.
- Mobile User Objective System (MUOS) - Acquires two additional satellites to extend service life of Wideband Code Division Multiple Access capability until at least 2035.

Mission: Provides survivable, anti-jam, low probability of detection/interception, and worldwide secure and survivable communications for tactical and strategic users.

FY 2024 Program: Funds continue selected SATCOM development activities. Initiates PTS prototype payload launch vehicle integration and PTS Engineering and Manufacturing Development (EMD) phase for the new purpose-built high-throughput anti-jam satellite system.

Prime Contractor(s): ESS, PTS, PTES, WGS: Boeing Satellite Systems; El Segundo, CA
ESS, PTS, EPS-R, WGS: Northrop Grumman; Redondo Beach, CA
MUOS SLE: Up to 2 contractors TBD
MUOS Ground: General Dynamics; Scottsdale, AZ
Strategic SATCOM Terminals: Raytheon; Malborough, MA

Satellite Communications (SATCOM) Projects						
	FY 2022		FY 2023		FY 2024	
	Qty	$M	Qty	$M	Qty	$M
RDT&E	-	2,215.8	-	2,735.4	-	4,146.2
Procurement	-	401.4	-	881.8	-	592.9
Total	-	2,617.2	-	3,617.2	-	4,739.1

Numbers may not add due to rounding

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