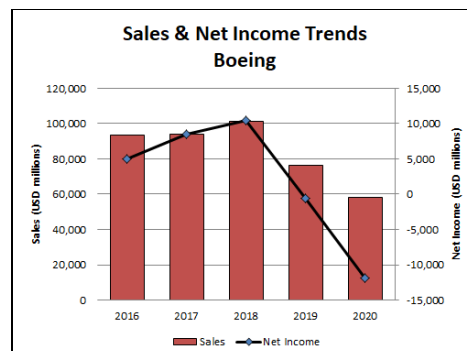


Boeing

Outlook

- Boeing returned to profitability in the second quarter of 2021 with net income of \$567 million, compared to a \$2.4 billion loss in 2020
- Key to the results was the rise in deliveries of aircraft to 156 planes, compared to 70 in the first half of 2020
- The company received a welcome boost when United Airlines placed an order for 200 737 MAX narrowbodies
- 787 problems led to a temporary cut in the current production rate of five aircraft per month as Boeing works through the issue



Headquarters

The Boeing Company
100 N Riverside
Chicago, IL 60606-1596
Telephone: + 1 (312) 544-2000
Website: <https://www.boeing.com>

William E. Boeing founded Boeing in 1917. The company's first product was a single-engine seaplane with a speed of about 75 mph. Within four years, Boeing had pioneered early airmail routes and established itself as a major manufacturer of military trainers and fighters.

During the 1930s, Boeing built its first all-metal transports and the transoceanic Clippers. The company played a key role in World War II with its B-17 and B-29 bombers. After the war, it designed and built the B-47 and B-52 bombers. In 1954, Boeing built the -80 prototype of the 707, which revolutionized world air travel. The 707 was followed by the 720, 727, 737, 747, 757, 767, 777, and, most recently, 787. These aircraft

established the company as the world's leading manufacturer of jetliners and transports. Since the 1950s, the company has been involved in a wide variety of aerospace programs, ranging from helicopters and missiles to spacecraft and electronics systems.

In 1996, Boeing added Rockwell's defense operations to its portfolio of businesses. Following the Rockwell acquisition, Boeing purchased McDonnell Douglas in mid-1997, making it the largest commercial aircraft producer in the world. Boeing then became the world's largest space company when it completed its acquisition of Hughes' space and communications business in October 2000.

Measured by total sales, Boeing is the world's largest aerospace corporation (Airbus is second) and the second-largest defense contractor (behind Lockheed Martin). The company is also the United States' leading exporter of manufactured goods.

Structure and Personnel

David L. Calhoun
President and CEO

Executive Council

Bertrand-Marc (Marc) Allen
Chief Strategy Officer and Senior Vice President,
Strategy and Corporate Development
William A. Ampofo II
Vice President, Supply Chain,
Boeing Global Services
Chair, Supply Chain Operations Council

Uma Amuluru
Chief Compliance Officer
Vice President, Compliance
Michael Arthur
Senior Vice President and
President, Boeing International
Leanne Caret
Executive Vice President, and President and CEO,
Defense, Space & Security



Boeing

Ted Colbert III
Executive Vice President, and President and CEO,
Boeing Global Services

Michael D'Ambrose
Chief Human Resources Officer
Executive Vice President, Human Resources

Ed Dandridge
Chief Communications Officer
Senior Vice President, Communications

Stanley A. Deal
Executive Vice President, and President and CEO,
Commercial Airplanes

Michael P. Delaney
Chief Aerospace Safety Officer
Senior Vice President, Global Aerospace Safety

Dave Dohnalek
Interim Chief Financial Officer
Senior Vice President, Treasury

Susan Doniz
Chief Information Officer, and Senior Vice
President, Information Technology & Data
Analytics

Brett C. Gerry
Chief Legal Officer and Executive Vice President,
Global Compliance

Greg Hyslop
Chief Engineer, and Executive Vice President,
Engineering, Test & Technology

Mark D. Jenks
Senior Vice President, Airplane Programs, Boeing
Commercial Airplanes
Chair, Program Management Operations Council

Carole A. Murray
Vice President, Total Quality, Boeing Commercial
Airplanes
Chair, Quality Operations Council

William (Bill) Osborne
Senior Vice President, Total Quality and Operations,
Boeing Defense, Space & Security
Chair, Manufacturing Operations Council

Christopher (Chris) Raymond.
Chief Sustainability Officer
Vice President, Sustainability

Kevin Schemm
Senior Vice President, Enterprise Finance

Commercial Airplanes

Stanley A. Deal
Executive Vice President, and President and CEO,
Commercial Airplanes

Conrad Chun
Vice President, Communications

Joelle Denney
Vice President, Human Resources

Padraic Fennelly
Vice President and Assistant General Counsel

Pradeep Fernandes
Vice President, Strategy

Mike Fleming
Vice President, 737 MAX Return to Service,
Commercial Customer Support and Commercial
Derivative Programs

Lynne Hopper
Vice President, Engineering and Chief Engineer

Mark D. Jenks
Senior Vice President, Airplane Programs

Elizabeth Lund
Vice President and General Manager, Supply Chain
and Fabrication

Gary McCulley
Vice President, Manufacturing and Safety

Ihssane Mounir
Vice President, Commercial Sales & Marketing

Carole A. Murray
Vice President, Total Quality

Stephanie Pope
Vice President and Chief Financial Officer

Ramki Ramaswamy
Vice President and Information Technology & Data
Analytics (IT&DA) Business Partner

Mike Sinnett
Vice President and General Manager,
Product Development

Defense, Space & Security

Leanne Caret
Executive Vice President, and
President and CEO, Defense, Space & Security

Steve Nordlund
Vice President and General Manager,
Phantom Works

James H. Chilton
Senior Vice President, Space and Launch

Mark C. Cherry
Vice President and General Manager,
Vertical Lift

Todd Citron
Vice President, Engineering

Scott G. Drach
Vice President, Human Resources

Denise Russell Fleming
Vice President, Information Technology
Business Partners

Rik Geiersbach
Vice President, Strategy

Cynthia A. Gruensfelder
Vice President and General Manager,
Missile and Weapon Systems

Darrin A. Hostetler
Vice President, Assistant General Counsel

Troy Lahr
Vice President and Chief Financial Officer

Boeing

Tony Martin
Vice President of Total Quality

William (Bill) Osborne
Senior Vice President, Total Quality and Operations

Steve Parker
Vice President and General Manager,
Bombers & Fighters, St. Louis Senior Executive

Timothy (Tim) Peters
Vice President and General Manager,
Mobility and Surveillance

Marti Powers
Vice President, Communications

Kristin A. Robertson
Vice President and General Manager,
Autonomous Systems

Jeff Shockey
Vice President, Global Sales & Marketing

Torbjorn (Turbo) Sjogren
Vice President, International Government and
Defense

Penny White
Vice President, Supply Chain

Global Services Group

Ted Colbert
President and Chief Executive Officer, Boeing
Global Services

William A. Ampofo II
Vice President, Supply Chain

Allison Bone
Vice President, Communications

Sydney (Syd) Blocher, Jr.
Vice President, Business Aviation

Jim Bohlman
Vice President, Strategy

Chris Broom
Vice President, Training Solutions

Kristen Bruner
Vice President, Human Resources

Edwin (Ed) J. Clark, Jr.
Vice President, Global Technical Operations

Brendan Curran
Vice President, Commercial Services

Kuljit Ghata-Aura
Vice President and Assistant General Counsel

Dan Gillian
Vice President, U.S. Government Services

Philip June
Vice President, Safety & Quality

Sergey Kravchenko
President, Boeing Russia/CIS,
Boeing International;
Innovation Accelerator Leader,
Boeing Global Services

Jennifer Mack
Vice President and Chief Financial Officer

Howard McKenzie
Vice President and Chief Engineer

Ihssane Mounir
Vice President, Commercial Sales & Marketing

Katherine (Kate) Schaefer
Vice President, Specialty Products and Services

Jeff Shockey
Vice President, Global Sales & Marketing, Defense,
Space & Security and Government Services

Torbjorn (Turbo) Sjogren
Vice President, International Government and
Defence

Duane Wehking
Vice President, Digital Solutions IT&DA
Business Partner

Capital Corporation

Timothy (Tim) Myers
President, Boeing Capital Corporation

Product Areas

Boeing is an aerospace and defense original equipment manufacturer (OEM) whose products include commercial jetliners and turboprop commuter aircraft; missiles and missile systems; helicopters; spacecraft and space systems; electronic products and systems; and computer systems and services. Boeing designs, develops, tests, produces, markets, and services equipment in all of these business areas.

Boeing is believed to manage its operations and businesses in the following organizational manner:

The Boeing Company

1. Commercial Airplanes
 - 1.1 Airplane Programs
 - 1.1.1 Boeing 737

- 1.1.2 Boeing 747
- 1.1.3 Boeing 767
- 1.1.4 Boeing 777
- 1.1.5 Boeing 787 Dreamliner
- 1.1.6 Freighters
- 1.1.7 Boeing Business Jets
- 1.1.8 Support & Services
2. Defense, Space & Security
 - 2.1 Autonomous Systems
 - 2.1.1 Insitu
 - 2.1.2 Liquid Robotics
 - 2.2 Space and Launch
 - 2.2.1 United Launch Alliance Joint Venture
 - 2.3 Strike, Surveillance and Mobility
 - 2.4 Vertical Lift

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- 2.4.1 Bell-Boeing Joint Venture
- 2.5 Commercial Derivative Aircraft
- 2.6 Missile and Weapon Systems
- 2.7 Phantom Works
 - 2.7.1 Advanced Boeing Military Aircraft
 - 2.7.2 Advanced Services
 - 2.7.3 Advanced Network & Space Systems
 - 2.7.4 Strategic Development & Experimentation
 - 2.7.5 Ventures & Special Pursuits Cell
- 3. Global Services
 - 3.1 Commercial Services
 - 3.1.1 Support and Services
 - 3.1.2 Parts Solutions
 - 3.1.3 Flight Operations Solutions
 - 3.1.4 Maintenance and Engineering Solutions
 - 3.2 Government Services
 - 3.2.1 Supply Chain
 - 3.2.2 Engineering, Modifications & Maintenance
 - 3.2.3 Digital Aviation & Analytics
 - 3.2.4 Training & Professional Services
- 4. Boeing Capital Corporation
- 5. Shared Services Group

Commercial Airplanes. This segment manages the company's commercial jetliner business for domestic and international requirements and individual jetliner program operational needs. The family of commercial jet aircraft in production includes the 737 narrowbody model and the 747, 767, 777, and 787 widebody models. Development continues on 737 MAX derivatives and the 777X.

Defense, Space & Security. This division is involved in the research, development, production, modification, and support of manned and unmanned military aircraft and weapons systems for strike, surveillance and mobility, including fighter and trainer aircraft; vertical lift aircraft, including rotorcraft and tiltrotor aircraft; and commercial derivative aircraft, including anti-submarine and tanker aircraft. In addition, this segment engages in the research, development, production and modification of the following products and services: strategic defense and intelligence systems, which include missile and defense systems, C4ISR systems, cyber and information solutions, and intelligence systems; and satellite systems, including government and commercial satellites and space exploration systems.

DSS's major units and their products are believed to be organized as follows.

Autonomous Systems. Insitu and Liquid Robotics are subsidiaries. Key platforms include the Liquid Robotics

Wave Glider; the Insitu ScanEagle, Integrator, and RQ-21A Blackjack; and the Boeing MQ-25.

Space and Launch. This is Boeing's share of United Launch Alliance. Programs include NASA's Space Launch System (SLS) and the CST-100 Starliner under NASA's Commercial Crew program. Also provides International Space Station support.

Strike, Surveillance and Mobility. Involved in the F/A-18E/F Super Hornet, F-15, and T-7A Red Hawk programs. Also provides modifications / upgrade services for fixed-wing aircraft.

Vertical Lift. Programs include the AH-6, AH-64 Apache, and CH-47 Chinook helicopters; the MH-139A Grey Wolf multimission helicopter; and the V-22 Osprey tiltrotor.

Commercial Derivative Aircraft. Key programs include the P-8 Poseidon, KC-46 aerial tanker, 737 Airborne Early Warning and Control (AEW&C) aircraft, and VC-25B (Air Force One).

Missile and Weapon Systems. Ground-Based Strategic Deterrent and Ground-Based Midcourse Defense programs, as well as the Joint Direct Attack Munition (JDAM) and other weapons such as the Small Diameter Bomb (SDB), Harpoon, Patriot Advanced Capability-3 (PAC 3) missile seeker, and Standoff Land Attack Missile - Expanded Response (SLAM-ER).

Phantom Works. This research and development arm is an integrated team that provides product development, rapid prototyping, and customer engagement support through experimentation and enterprise technology investment strategies.

Advanced Boeing Military Aircraft. This group's programs include the Phantom Ray unmanned technology demonstrator, the high-altitude long-endurance (HALE) unmanned persistent ISR aircraft, the Next Generation Bomber for the U.S. Air Force, and the Advanced Navy Strike weapon system for the U.S. Navy.

Advanced Services. This segment is responsible for driving the development of new businesses, growing the businesses with strategic mergers and acquisitions, and transitioning those businesses to the appropriate business unit.

Advanced Network & Space Systems. This group is responsible for developing next-generation network capabilities and space systems for defense and civilian applications. Program areas include command, control, and communications networks; combat systems; intelligence and security solutions; missile defense

Boeing

systems; space and intelligence systems; and space exploration.

Strategic Development & Experimentation. This group provides a family-of-systems experimentation capability and performs customer-focused operator-in-the-loop experimentation.

Ventures & Special Pursuits Cell. Ventures focuses on developing new businesses beyond the defense and space core. Likewise, the Special Pursuits Cell looks to find nontraditional growth opportunities.

Global Services. Formed in mid-2017, this unit provides support services to commercial, defense, and space customers.

Commercial Services. This business provides commercial aviation services, including spares and logistics, flight operations support, maintenance and engineering services, and fleet enhancements and modifications. Key subsidiaries include *Boeing Distribution* (formerly Aviall), which provides aftermarket supply-chain management services for the aerospace, defense, and marine industries; *Jeppesen*, which provides information and technology-based information management tool sets; *AerData*, which provides integrated software solutions for lease management, engine fleet planning, and records scanning; and *CDG*, which specializes in helping engineering and manufacturing organizations maximize efficiency with engineering life-cycle services and software solutions. (See **Corporate Overview** for updates on these subsidiaries.)

Government Services. This segment focuses on maintenance, modification, and upgrades; material management; provision of training systems and advanced logistics systems; and international business operations. *Supply Chain:* Provides logistics services that address the life-cycle of aircraft and weapons. *Engineering, Modifications & Maintenance:* Provides aircraft maintenance, repair and modernization services for customers. *Digital Aviation & Analytics:* Provides data management and analytical services for increased mission readiness and maintenance optimization. *Training & Professional Services:* Provides training systems, support services, and mission planning solutions for domestic and international customers.

Boeing Capital Corp. This unit is a global full-service financier for Boeing customers. An indirect, wholly owned subsidiary of Boeing, it offers asset-backed lending and leasing, concentrating on assets that are critical to the core operations of its customers. For the commercial aircraft market, BCC provides financing to Commercial Airplanes' customers. For defense and space markets, BCC arranges financing solutions for DSS's government customers.

Shared Services Group. SSG provides the company's business units and world headquarters with common services that support the design and manufacture of aerospace and defense products. Services range from all Boeing site services – including computing support and information management – to facilities maintenance and the purchase of non-production goods.

Facilities

The following lists major Boeing facilities by segment.

Commercial Airplanes

Boeing Commercial Airplane Group, PO Box 3707, Seattle, WA 98124. Telephone: + 1 (206) 655-1131. This is the main contact. This operation designs, develops, and produces commercial jetliners and sport and military aircraft derivatives.

Website: <http://www.boeing.com/commercial>

Airplane Programs – Renton, N 8th and Park Ave N, Renton, WA 98055. This facility is responsible for the design and production of 737 and 757 aircraft.

Airplane Programs – Everett, 3003 W Casino Rd, Everett, WA 98203. Boeing's largest production site. The 747, 767, and 777 twin-aisle aircraft are designed and produced here. The 787 Dreamliner is also produced at this location.

Boeing South Carolina, 3455 Airframe Dr, Ste 100, North Charleston, SC 29418-6953. Former Vought

Aircraft Industries plant bought by Boeing in July 2009 for the 787 program.

Boeing Business Jets, PO Box 3707, MC 1E-77, Seattle, WA 98124. Telephone: + 1 (206) 655-9800. A joint venture between Boeing and General Electric aimed at marketing the BBJ and BBJ2 corporate aircraft.

Website: <http://www.boeing.com/commercial/bbj>

Defense, Space & Security

Defense, Space & Security, Headquarters, 929 Long Bridge Dr, Arlington, VA 22202. Telephone: + 1 (703) 465-3500.

Website: <http://www.boeing.com/defense>

Defense, Space & Security, PO Box 516, St. Louis, MO 63166. Telephone: + 1 (314) 232-0232. This major campus supports the F/A-18 Super Hornet, EA-18G Growler, F-15 Eagle, Joint Direct Attack Munition, Harpoon, and Small Diameter Bomb.



Boeing

Space and Launch, 100 Boeing Way, Titusville, FL 32780. Boeing moved this division's headquarters here to Florida's 'Space Coast' in 2019.

Phantom Works, PO Box 2515, Seal Beach, CA 90740. Telephone: + 1 (562) 797-2020. As the research and development arm of Boeing, this unit is responsible for new product development and improvement.

Insitu Inc, 118 E Columbia River Way, Bingen, WA 98605. Telephone: + 1 (509) 493-8600. Insitu Inc, a wholly owned subsidiary of Boeing, produces unmanned air systems.

Website: <https://www.insitu.com>

Global Services

Global Services, 5905 Legacy Dr, Suite 325, Plano, TX 75024. Telephone + 1 (972) 705-8100. Key subsidiaries include, Boeing Distribution, Tapestry Solutions, ForeFlight and Jeppesen.

Main websites: <http://www.boeing.com/services>
<https://www.boeingservices.com>

Government Services, provides services to Boeing's military and space customers.

Website: www.boeing.com/services/government

Commercial Services, PO Box 3707, MC 21-85, Seattle, WA 98124-2207. Provides a portfolio of services for operators of Boeing commercial aircraft.

Website: www.boeing.com/commercial/services

Boeing Distribution (formerly Aviall), 2750 Regent Blvd, PO Box 619048, Dallas, TX 75261-9048. Telephone: + 1 (800) 284-2551. Part of Commercial Services, this wholly owned subsidiary provides aftermarket supply-chain management services for the

aerospace, defense, and marine industries. This location is also the headquarters for the Global Services division.

Website: <https://shop.boeing.com/aviation-supply/>

Jeppesen, 55 Inverness Dr E, Englewood, CO 80112-5498. Telephone: + 1 (303) 799-9090. Part of Commercial Services, this subsidiary provides information and technology-based information management tool sets. Computerized aviation services include flight plans, weather services, and provision of electronic navigation data and maximum takeoff weights.

Website: <https://ww2.jeppesen.com>

Tapestry Solutions, 5643 Copley Dr, San Diego, CA 92111. Telephone: + 1 (858) 503-1990 Provides information management software and services for defense, government and commercial customers.

Website: <https://www.tapestrysolutions.com>

ForeFlight, 2323 S Shepherd Dr, Houston, TX 77019. Produces app-based flight management software.

Website: <https://foreflight.com>

Boeing Capital Corporation

PO Box 3707, MC 20-68, Seattle, WA 98124. Telephone: + 1 (206) 655-2121. This indirect, wholly owned subsidiary provides financing and leasing arrangements for commercial airplanes, business aircraft, commercial equipment, and space and defense products.

Website:

<http://www.boeing.com/company/key-orgs/boeing-capital>

Corporate Overview

Boeing is one of the world's largest aerospace companies, with activities in satellites, commercial jetliners, and military aircraft. In addition, the company is a market leader in missile defense, manned space flight, and launch services.

The company ranked number four, behind Lockheed Martin, Raytheon Technologies, and General Dynamics, in terms of U.S. federal prime contracts for 2020.

New Products and Services

RAF Poseidon MRA1 Support. In July 2021, Boeing and the U.K. Ministry of Defence signed an agreement for Boeing to support the Royal Air Force's fleet of Poseidon MRA1 maritime patrol aircraft and train the crews that operate them. Under this contract,

valued at \$321.6 million (GBP233.5 million), Boeing will provide maintenance services; spares and repair parts including tools and ground support equipment; supply chain management; forecasting and inventory management; and airworthiness services for the RAF's P-8 fleet.

Germany Orders P-8A. In July 2021, the German Ministry of Defense signed a letter of offer and acceptance for five Boeing P-8A Poseidon aircraft under the U.S. government's Foreign Military Sales (FMS) program. According to the MoD, the deal is valued at about EUR1.1 billion (\$1.3 billion). The new aircraft will replace eight turboprop Lockheed P-3C Orion maritime patrol aircraft currently in service. Deliveries are expected to begin in late 2024. German

Boeing

P-8A partners include Aljo Aluminum-Bau Jonischeit GmbH and Nord-Micro GmbH. Recently, Boeing signed agreements with ESG Elektroniksystem- und Logistik-GmbH and Lufthansa Technik to collaborate in systems integration, training, support and sustainment work.

RAF C-17 Training. In May 2021, Boeing was awarded a \$348 million (GBP247 million) Synthetic Training Service contract to continue training RAF C-17 aircrew and engineers at the C-17 International Training Centre in Farnborough. Under the contract, Boeing will deliver a technology-enabled program through 2040.

KC-46 Contract. In January 2021, the U.S. Air Force awarded Boeing a \$1.7 billion contract for 12 KC-46A tanker aircraft. With this sixth production lot, Boeing is now under contract for 79 KC-46A tankers. Boeing received contracts for the first two production lots, for seven and 12 aircraft, from the U.S. Air Force in August 2016. The contract for the third lot, for 15 aircraft, was awarded in January 2017; the fourth lot, for 18 aircraft, in September 2018; and the fifth lot, for 15 aircraft, in September 2019. Boeing is assembling KC-46A aircraft at its Everett, Washington, facility.

Performance Based Logistics Contract. In October 2020, Boeing received a Performance Based Logistics (PBL) contract valued at \$477 million from the Defense Logistics Agency (DLA) for supplies, full supply chain management, and logistics services to ensure long-term, affordable sustainment of multiple weapon systems platforms. Under the contract, Boeing will support individual contracts based on operational performance requirements. The first phase includes the delivery and supply chain management of Honeywell proprietary parts licensed exclusively to Boeing and is valued at \$39 million. Boeing will be responsible for acquiring, stocking, packaging, and shipping the individually priced consumables directly to warfighter locations to satisfy daily demand requirements. The work will be completed over a five-year period, with an additional five-year option.

F-15EX. In July 2020, The U.S. Air Force awarded Boeing a nearly \$1.2 billion contract to build the first lot of eight new F-15EX fighters. The Air Force also announced the overall indefinite delivery/indefinite quantity (IDIQ) contract with a ceiling value of nearly \$23 billion for F-15EX. Plans call for as many as 144 aircraft. The most significant difference between the F-15EX and legacy F-15s lies in its Open Mission Systems architecture. The OMS architecture will enable the rapid insertion of the latest aircraft technologies. The F-15EX will also have fly-by-wire flight controls, a new electronic warfare system, advanced cockpit systems, and the latest mission systems and software

capabilities. Deliveries to the USAF began in March 2021.

Cruise Missile Contracts. In May 2020, the U.S. Navy awarded Boeing a combined \$3.1 billion in contracts for Harpoon and SLAM-ER weapon systems in support of Foreign Military Sales. According to Boeing, these awards will not only extend production of the Harpoon program through 2026 but also restart the production line for SLAM-ER and ensure deliveries through 2028. Boeing last delivered the SLAM-ER in 2008.

Weapon Planning Software (WPS). In May 2019, Boeing's Tapestry Solutions subsidiary received a 10-year contract from the U.S. Air Force to provide Weapon Planning Software (WPS) for numerous aircraft and weapons platforms used by U.S. military and allied forces. The award, potentially valued at \$259 million, covers the development, enhancement, and support of the WPS suite – a core component of the Joint Mission Planning System (JMPS) architecture, which enables collaborative mission planning and data sharing capabilities between military services.

USAF Bomber Support. In April 2019, Boeing was awarded a \$14.3 billion contract to provide maintenance, repair and overhaul (MRO) support to the USAF's fleet of B-1B and B-52 bombers. The 10-year contract provides for upcoming modernization and sustainment efforts that will "amplify lethality, enhance survivability, improve supportability, and increase responsiveness." Work will be performed in Oklahoma City and will run through April 2029.

Loyal Wingman. In February 2019, Boeing Australia introduced a new unmanned platform, the Boeing Airpower Teaming System. Dubbed Loyal Wingman, the aircraft will complement and extend airborne missions through smart teaming with existing military aircraft. As a research and development activity, the Australian government and Boeing will fly a concept demonstrator initially. The first of three unmanned Loyal Wingman prototypes was rolled out in May 2020.

Plant Expansion/Organization Update

Commercial Airplane HQ Campus for Sale. In April 2021, Boeing listed its headquarters building in Renton, Washington, for sale. According to a report in *The Seattle Times*, the 215-acre site has an estimated value of \$256 million. The move is part of a wider effort by the company to cut costs and reduce some 2.5 million square feet of office space.

Department of Justice 737 Settlement. In January 2021, Boeing reached a \$2.5 billion settlement with the U.S. Department of Justice that resolves the department's investigation into the company relating to

Boeing

the evaluation of the Boeing 737 MAX airplane by the U.S. Federal Aviation Administration (FAA). As part of Boeing's resolution with DoJ, the department has agreed to defer prosecution of the company, provided that Boeing abides by the obligations set forth in a three-year deferred prosecution agreement, after which time the charge will be dismissed. The DoJ had charged Boeing with one count of conspiracy to defraud the United States government.

Under the \$2.5 billion agreement, Boeing will pay a penalty of \$243.6 million and provide \$500 million in additional compensation to the families of those lost in the Lion Air and Ethiopian Airlines accidents. In addition, the company will provide \$1.77 billion to airline customers as part of the company's ongoing efforts to compensate those customers for financial losses resulting from the grounding of the 737 MAX.

The agreement is based on the conduct of two former Boeing employees and their intentional failure to inform the FAA Aircraft Evaluation Group (AEG), the group within the FAA responsible for making pilot training determinations, about changes to the Maneuvering Characteristics Augmentation System (MCAS).

Seattle R&D Center Closed. In January 2021, Boeing confirmed it would close the Advanced Developmental Composites Center in Seattle, Washington, moving the work to other locations. The closure is part of a corporate-wide cost-cutting initiative.

737 MAX Returns to Service. In November 2020, the FAA rescinded the order that halted commercial operations of Boeing 737-8s and 737-9s. By December, many airlines were preparing to return the aircraft to service. Brazil's Gol Airlines led the way with a commercial flight early in the month. American Airlines followed in the U.S. with service from Miami to New York in late December. Europe followed suit in January 2021 when the European Union Aviation Safety Agency (EASA) and the U.K. Civil Aviation Authority (CAA) certified the aircraft for service.

In May 2020, Boeing resumed production of the 737 MAX. The 737 program began building airplanes at a low rate as it implemented more than a dozen initiatives focused on enhancing workplace safety and product quality. The 737 program will gradually ramp up production. No details or specific figures were announced.

In late January 2020, Boeing temporarily suspended production of 737 aircraft. No layoffs were announced with the stoppage. The company continues to work with the FAA and other global regulators on the process

laid out for certifying the 737 MAX software and related training updates.

Earlier, in April 2019, Boeing announced a temporary cut in the 737 production rate from the current 52 per month to 42 per month. Aircraft rolling off the production line were placed into storage pending clearance by regulators of the MAX family's return to flight. Boeing's plans for a production increase to 57 by mid-2019 were upended by two fatal crashes of MAX 8 aircraft in early service – a Lion Air aircraft in October 2018 and an Ethiopian Airlines aircraft in March 2019. Initial conclusions from investigators pointed at problems caused by the MAX's new automated anti-stall system, the MCAS. Regulators grounded the aircraft as Boeing developed and implemented any necessary changes to the aircraft's systems to make it safe to fly.

In January 2020, Boeing said that concessions and other considerations related to the 737 MAX grounding would likely surpass \$18 billion. According to Boeing's 2019 10-K filing, the company "recorded an earnings charge and corresponding liability of \$6.1 billion in the second quarter of 2019. The second quarter estimate of \$6.1 billion was updated in the third and fourth quarters of 2019." The filing further stated, "The remaining liability of \$7.4 billion at December 31, 2019 represents Boeing's current best estimate of future concessions and other considerations we expect to provide to customers." Further adding to the \$18 billion total is an estimated \$4 billion related to shutting down and eventually restarting the 737 production facility. In addition, the company dedicated \$50 million of a pledged \$100 million to near-term relief for families of the victims of the Lion Air Flight 610 and Ethiopian Airlines Flight 302 accidents. In 2021, this total was raised to \$500 million.

787 Production Consolidated in South Carolina.

In October 2020, Boeing announced it would consolidate production of 787 jets at its facility in North Charleston, South Carolina, starting in mid-2021. The decision comes as the company is strategically taking action to preserve liquidity and reposition certain lines of business in the current global environment to enhance efficiency and improve performance for the long term.

The company began assembling 787-8 and 787-9 airplanes at its Everett site in 2007 and brought the North Charleston facility on line as a second final assembly line in 2010. However, only the North Charleston site is set up to build the larger 787-10 model. Production of the smaller 787 models will continue in Everett until the program transitions to the announced production rate of five airplanes a month in 2021.

Boeing

Additional Freighter Conversion Lines. In September 2020, Boeing announced it would open additional 737-800 Boeing Converted Freighters (BCF) conversion lines in Guangzhou, China, and Singapore to meet market demand. The new 737-800BCF line at Guangzhou Aircraft Maintenance Engineering Company Ltd (GAMECO) was scheduled to open in early 2021, marking the MRO's second conversion line for the 737-800BCF. Boeing also added a second conversion line for its widebody converted freighter, the 767-300BCF, at ST Engineering's facility in Singapore in late 2020.

WTO Tariffs. After 16 years of litigation at the World Trade Organization (WTO), Airbus and Boeing appear to be settling their dispute over the issue of aircraft subsidies – with damaging tariffs.

In July 2020, Airbus agreed with the governments of France and Spain to make amendments to the A350 Repayable Launch Investment (RLI) contracts. Under the agreement, Airbus would accept higher interest rates on RLI loans from European governments. In May 2020, the U.S. moved to put itself in compliance by eliminating aerospace industry tax breaks that primarily helped Boeing.

The push to settle was no doubt driven by an October 2019 WTO decision that allowed the U.S. to move ahead with some \$7.5 billion in tariffs on a variety of EU goods. Since no negotiated settlement could be reached between the European Union and U.S., the WTO moved in October 2020 to allow the EU to raise tariffs up to \$4 billion worth of imports from the U.S. as a countermeasure for illegal subsidies to Boeing.

As a result, Airbus and Boeing aircraft were subject to tit-for-tat 15 percent tariffs when imported to the U.S. and the European Union, respectively.

In June 2021, a ceasefire in the subsidy dispute was agreed to between the U.S. and EU. According to news reports, subsidies will be limited and the sides agreed that future funding will not harm the other side. The shift was driven as both the U.S. and the EU work to counter China's emergence into the commercial aerospace sector.

COVID-19 Impacts. In April 2020, Boeing said it would cut 16,000 employees – or 10 percent of its workforce of 161,000 – in response to the pandemic. In August, the company announced it would extend cuts beyond the 10 percent target. In October, Boeing's CEO said the company expects to have 130,000 employees by the end of 2021, down 19 percent from 2019. The company also plans to cut its real estate footprint by up to about 30 percent. One of the bigger cuts will be the consolidation of the 787 to a single production site in

South Carolina beginning in mid-2021. Currently, 787s are produced at the Boeing facilities in both Washington State and South Carolina.

Aviall Brand Name Retired. In January 2020, Boeing announced it would retire the Aviall brand name. Parts, equipment, and supply chain solutions previously sold by Aviall will be offered directly by Boeing through its portfolio of aerospace aftermarket supply chain service offerings under the Boeing Distribution subsidiary. The change is part of the company's plan to integrate and align its businesses under the Boeing brand.

Missile Facility Expansion. In October 2019, Boeing began construction on a new 35,000-square-foot manufacturing facility to support increased production for the Harpoon and SLAM-ER programs. Construction is expected to be completed in 2021.

Space and Launch HQ Moves to Florida. In June 2019, Boeing began relocating the headquarters of its Space and Launch division to Titusville, on Florida's Space Coast, from its old location in Arlington, Virginia. Space and Launch is a division of Boeing Defense, Space & Security.

New Components Facility in Sheffield. In October 2018, Boeing opened its new fabrication factory in Sheffield, U.K. The new factory, the company's first manufacturing site in Europe, makes actuation system components for the 737 and 767 jets from raw materials sourced in the U.K. The 6,200-square-meter factory represents a Boeing investment of more than GBP40 million.

Disruptive Computing and Networks Unit Formed. In October 2018, Boeing announced a new Disruptive Computing and Networks (DC&N) organization to develop computing and communications solutions for advanced commercial and government aerospace applications. By leveraging core technologies in quantum communications and computing, neuromorphic processing, and advanced sensing, the new organization will enable Boeing to develop breakthrough solutions in secure communications, artificial intelligence, and complex system optimization.

In addition to building internal capabilities, DC&N will also work closely with Boeing HorizonX, the company's innovation cell, to identify external partners for collaboration to accelerate growth. DC&N will be based in southern California and operate as part of Boeing Engineering, Test & Technology.

Boeing NeXt. In mid-2018, Boeing established a new organization to study and develop future commercial mobility solutions. The Boeing NeXt portfolio will

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include passenger and cargo air vehicles; commercial, small autonomous systems; and passenger-carrying hypersonic aircraft. In addition, the unit will focus on technologies needed to allow piloted and autonomous vehicles to fly safely in the same airspace. In September 2020, Boeing closed the operation in order to cut costs in the wake of the 737 MAX groundings and the impact of the COVID-19 pandemic.

Aerospace & Autonomy Center. In August 2018, Boeing announced plans to open the new Boeing Aerospace & Autonomy Center in Cambridge, Massachusetts, near the Massachusetts Institute of Technology campus. Boeing leased 100,000 square feet of research and lab space inside a new 17-floor building at 314 Main Street in Cambridge. The new center houses employees from Boeing and subsidiary Aurora Flight Sciences, who focus on designing, building and flying autonomous aircraft and developing enabling technologies. The facility opened in 2020.

Website: <https://www.boeing.com/company/key-orgs/aerospace-autonomy-research-center/>

Defense, Space & Security Reorganized. In March 2018, Boeing announced plans to reorganize its Defense, Space & Security with two new divisions – a Commercial Derivative Aircraft division and a Missile and Weapon Systems division. The Development division was eliminated and its programs absorbed into the new divisions and the newly renamed Space and Launch division as appropriate.

New Mid-market Airplane Program Office. In September 2017, Boeing formed a program office to support the New Mid-market Airplane (NMA) effort. The office is in discussions over the possible launch of a new family of composite aircraft that would target the airline market between the 737 MAX 10 and the 787-8 Dreamliner. The office is currently led by Mike Sinnott.

Earlier, in 2016, Boeing began a study to evaluate a possible NMA that would fit into the large market space between the 737 narrowbody and the 787 small widebody. Such a middle-of-the-market (MoM) aircraft, which could ultimately emerge as a family of two variants, would likely seat 200-260 passengers and have a range of approximately 3,500-5,000 nautical miles. So far undetermined is whether the new aircraft would be a narrowbody or widebody design. The new aircraft would counter the Airbus A320neo family on the market.

Helena 777X Expansion. In August 2017, Boeing opened a 90,000-square-foot expansion of Boeing Helena (Montana) to support 777X airplane production. The \$12 million facility is also being equipped with new machine tools to fabricate titanium parts for the 777X.

With a facility now more than 257,000 square feet in size, Boeing Helena specializes in machining hard metals for all Boeing Commercial Airplanes models. The new parts machined in Helena for the 777X will include side-of-body chords, plus terminal end fittings that connect the airplane's wings to the fuselage.

Boeing Avionics Unit Formed. In July 2017, Boeing announced plans to develop and build aircraft avionic systems as part of an effort to reduce costs. The new Boeing AvionX is focused on producing navigation, flight control, and information systems for both commercial and military aircraft. AvionX is researching both in-production and aftermarket opportunities. The subsidiary is located in Plano, Texas, the headquarters for Boeing Global Services, which will oversee AvionX. The unit competes against avionic suppliers, including GE Aviation, Honeywell, and Rockwell Collins.

Boeing Global Services Starts Up. In June 2017, Boeing launched its third major business unit, Boeing Global Services. This new business provides a broad portfolio of advanced services and incorporates the capabilities of various Boeing subsidiaries, including Aviall (now Boeing Distribution) and Jeppesen, as well as military and space support services formerly under the Defense, Space & Security aegis. Boeing Global Services employs some 20,000 people and is headquartered in Dallas, Texas. Plans for the new unit were first announced in November 2016.

Website: <http://www.boeing.com/services>

Boeing AnalytX Formed. In June 2017, Boeing launched Boeing AnalytX, a new unit that focuses on transforming data into actionable insights and customer solutions. With some 800 employees, Boeing AnalytX unites existing analytics services and products across Boeing's commercial, defense, and services businesses.

Website: <http://www.boeing.com/company/key-orgs/analytx/index.page>

Defense and Space Ops Streamlined. In June 2017, Boeing restructured its Defense, Space & Security unit by eliminating a layer of executive oversight. About 50 positions were affected by the change, which saw the current Boeing Military Aircraft and Network & Space Systems segments divided into smaller entities. The new hierarchy consists of four units: Autonomous Systems; Space and Launch; Strike, Surveillance and Mobility; and Vertical Lift. The Development, Global Operations, and Phantom Works segments were largely unchanged by this restructure.

Boeing HorizonX Formed. In April 2017, Boeing formed a new group, HorizonX, to focus on emerging technologies and business models. The company

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describes the operation as "an innovation cell focused on accelerating potentially transformative aerospace technologies, manufacturing innovations and emerging business models." Boeing HorizonX will make targeted investments in new ventures and startups, seek unique business opportunities for the company's aerospace technology, and assess disruptive innovations and business strategies.

Website:

<http://www.boeing.com/company/key-orgs/horizon-x>

Mergers/Acquisitions/Divestitures

TECT Aerospace Acquired. In July 2021, Boeing was named the winning bidder for the manufacturing assets of bankrupt TECT Aerospace Group Holdings Inc. Boeing offered \$19.8 million for the Kansas-based aerospace component supplier. In addition, *The Wall Street Journal* reported that Boeing has provided \$60 million in financing for the company to continue operations. TECT Aerospace was pushed into bankruptcy by the COVID-19 pandemic and the grounding of 737 MAX, for which it produces mechanical and structural assemblies.

Website: <https://www.tectaero.com>

Quickstep Buys Aussie MRO Operation. In November 2020, Australia's Quickstep acquired Boeing Defence Australia's MRO capability, based in Tullamarine, Victoria. Under the agreement, the wholly owned Quickstep Aerospace Services subsidiary acquired the operating assets, inventories, and certain customer contracts from Boeing Australia Component Repairs (BACR) for \$1.91 million.

Inventory Locator Service Divested. In November 2019, Boeing sold its Inventory Locator Service (ILS) to Hearst's CAMP Systems International. Terms were not disclosed.

EnCore Group Acquisition. In June 2019, Boeing agreed to acquire California-based EnCore Group, an aerospace interiors company that designs, certifies and produces airplane galleys and seats for airlines. EnCore Group has been a supplier to Boeing since its formation in 2011. With approximately 700 employees, EnCore Group is headquartered in Huntington Beach, California, with facilities in California and Mexico. Terms were not announced.

Website: <https://encoregroup.aero>

ForeFlight Acquired. In March 2019, Boeing completed the acquisition of ForeFlight, a provider of mobile and Web-based aviation applications. ForeFlight had partnered with Boeing during the prior two years to bring Jeppesen's aeronautical data and charts through ForeFlight's mobile platforms. Now, the

teams have been integrated to bring expanded digital solutions to all segments of the aviation industry. Headquartered in Houston, Texas, ForeFlight has approximately 180 employees. Terms were not reported.

Website: <https://foreflight.com>

KLX Acquired. In October 2018, Boeing completed its \$4.25 billion acquisition of KLX Inc in a deal to enhance its services business. KLX's Aerospace Solutions Group is an independent provider of aviation parts and services in the aerospace industry. Its capabilities include global parts distribution and supply chain services for aerospace and defense industries worldwide. The company is also a supplier of chemical composites. KLX is now known as Boeing Distribution Services and was fully integrated with Aviall. KLX's Aerospace Solutions Group FY17 revenue was \$1.4 billion. The company is located in Miami, Florida, and employs some 2,000 people at service centers in more than 15 countries. The deal was first announced in April 2018.

Website: <https://www.boeingdistribution.com>

Millennium Space Systems Acquired. In September 2018, Boeing completed the acquisition of Millennium Space Systems, a provider of small-satellite solutions. Millennium Space Systems operates under Boeing Phantom Works as a subsidiary called Millennium Space Systems, A Boeing Company. The deal was first announced in August 2018. Terms were not announced.

Website: <http://millennium-space.com>

Aurora Flight Sciences Acquired. In November 2017, Boeing completed the acquisition of Aurora Flight Sciences, a specialist in unmanned aircraft and autonomous systems. Aurora operates under Boeing Engineering, Test & Technology as a subsidiary called Aurora Flight Sciences, A Boeing Company. The unit retained its operational independence. Headquartered in Manassas, Virginia, Aurora has more than 550 employees and operates in six locations, including research and development centers in Cambridge, Massachusetts, and Luzern, Switzerland; manufacturing facilities in Bridgeport, West Virginia, and Columbus, Mississippi; and offices in Dayton, Ohio, and Mountain View, California. The deal was first announced in October. Terms were not reported.

Website: <https://www.aurora.aero/>

Liquid Robotics Acquisition. In December 2016, Boeing agreed to acquire Liquid Robotics, a producer of autonomous maritime systems and developer of the

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Wave Glider ocean surface robot, to grow its seabed-to-space autonomous capabilities. Liquid Robotics has approximately 100 employees in California and Hawaii. Terms of the transaction were not announced.

Teaming/Competition/Joint Ventures

AAR. In September 2011, Boeing and AAR Aircraft Component Services - Amsterdam signed a letter of intent to cooperate on component MRO capabilities to support Royal Netherlands Air Force rotorcraft operations.

ABMS. In June 2020, the U.S. Air Force awarded development contracts to 28 vendors for its Advanced Battle Management System that could be worth \$950 million over five years. The ABMS program is the Air Force's distributed concept for multidomain battle management command and control. It was born out of the termination of the E-8C Joint Surveillance and Target Attack Radar System (JSTARS) aircraft.

The 28 vendors included in the contract are Alion Science and Technology, Apogee Research, World Wide Technology, BAE Systems, Boeing Defense Systems, Borsetta, CACI, Chooch Intelligence Technologies, Collins Aerospace Co, Dell Technologies, Fregata Systems, General Dynamics, Hellebore Consulting Group, Honeywell Aerospace, Immersive Wisdom, L3Harris, Lockheed Martin, Northrop Grumman, Palantir, Parsons Government Services, Persistent Systems, Raytheon Technologies, Secuboration, Silvus Technologies, Simple Sense, Solid State Scientific, Viasat, and Wind Talker Innovations.

The IDIQ contracts allow the vendors to compete for individual task orders through May 28, 2025.

ADASI. In February 2013, Boeing and Abu Dhabi Autonomous Systems Investments Company signed a teaming agreement for the two companies to address the growing Middle East market for unmanned systems. The agreement expands on a previous agreement between ADASI and Insitu, a wholly owned Boeing subsidiary that makes the ScanEagle and Integrator. That collaboration allowed for support and sustainment of Insitu's unmanned ISR products and services.

Adient Aerospace. In October 2018, Boeing and Adient completed the formation of Adient Aerospace, a joint venture that develops and manufactures a portfolio of seating products and sells them to airlines and aircraft leasing companies. Adient is the majority stakeholder in the new company (with a 50.01 percent share), with Boeing holding the remainder (as a 49.99 percent partner). Adient Aerospace's operational headquarters, technology center, and initial production plant are located in Kaiserslautern, Germany. The joint venture's

initial customer service center is based in Seattle. Aftermarket spare parts distribution is performed exclusively through the Boeing Distribution (formerly Aviall) subsidiary.

Website: <https://www.adient-aerospace.com/#1>

Aerion Supersonic. In February 2019, Boeing announced a partnership with Aerion focused on developing next-generation supersonic aircraft. As part of the agreement, Boeing made a significant investment in Aerion to accelerate technology development and aircraft design, and unlock supersonic air travel for new markets. Terms of the deal were not disclosed.

Boeing was to provide engineering, manufacturing and flight test resources, as well as strategic vertical content, to bring Aerion's AS2 supersonic business jet to market. First flight of the AS2 had been planned for 2025, with service entry slated for 2027.

However, in May 2021, Aerion ceased operations, citing difficulty in securing the financial investments needed to bring its AS2 supersonic business jet into production. The company said that "in the current financial environment, it has proven hugely challenging to close on the scheduled and necessary large new capital requirements to finalize the transition of the AS2 into production."

Air 6002 Phase 1. In June 2020, Australia issued a Request for Information on a new advanced jet trainer to replace BAE Systems Hawk 127s operated by the Royal Australian Air Force. The Future Lead-In Fighter Training System (LIFTS) project is estimated at \$4 billion to \$5 billion and is scheduled to begin in 2022 and run through 2033. The RAAF currently operates 33 Hawk 127s and associated ground and support systems. Competitors are expected to include BAE Systems' upgraded Hawk T2/128, Boeing's T-7A Red Hawk, Leonardo's M-346, and Korea Aerospace Industries' T-50.

AH-X. Japan is seeking to expand its attack helicopter capacity through an emerging AH-X (New Attack Helicopter) competition. In May 2018, the government issued Requests for Information regarding a potential acquisition of 30-50 aircraft that would serve as a replacement for the Ground Self-Defense Force's fleet of AH-1S Cobras produced under license by Fuji Heavy Industries (now Subaru).

However, the updated Mid-Term Defense Plan released in December 2018 and covering the period 2019-2023 does not include the AH-X project. Nonetheless, the Ministry of Defense appears intent on pushing forward with the project, as the Army considers it an urgent requirement.

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Six companies responded to the earlier RFI, including Airbus (proposing its H-Force modular systems concept), Bell (offering up its AH-1Z Viper, likely with longtime partner Subaru), Boeing (AH-64D Apache), Kawasaki Heavy Industries (featuring an upgraded OH-1 observation helicopter), Leonardo (AW249), and Mitsubishi Heavy Industries (potentially a heavily armed version of the Sikorsky UH-60).

One Japanese requirement that will factor into selecting a winning bid is that the platform be capable of operating from ships.

Alliance Future Surveillance and Control (AFSC). In December 2019, the NATO Support and Procurement Agency (NSPA) awarded six contracts for the Alliance Future Surveillance and Control (AFSC) effort, which aims to replace the organization's Airborne Warning and Control (AWACS) aircraft in 2035. The contract winners include the Boeing - ABILITI Consortium (which includes Thales, Leonardo, Indra Systems, and Inmarsat), General Atomics, Lockheed Martin, Airbus, MDA and the L3Harris Consortium (composed of Musketeer Solutions Ltd, Videns Ltd, 3SDL Ltd, Synergeticon, Hensoldt Sensors GmbH, IBM UK Ltd, and Deloitte Consulting & Advisory CVBA). High-level concepts proposed by the six contractors will be assessed by NATO to identify the most promising. In 2021, NATO will launch a call for a round of more detailed studies to assess the feasibility of the proposed concepts.

Australian ARH. In January 2021, Boeing's AH-64E Apache Guardian was selected to fulfill Australia's Armed Reconnaissance Helicopter (ARH) requirement from 2025. Under Project LAND 4503, which was initiated in July 2019, Australia plans to acquire up to 29 attack helicopters. The helicopters are being sought to replace the country's fleet of 22 Tigers. The program is estimated to be worth \$3 billion to \$3.8 billion, with first helicopters to be operational by 2026. The company faced the Bell AH-1Z Viper and Airbus' updated Tiger in the competition.

Australian Space Agency. In April 2019, Boeing and the Australian Space Agency signed a Statement of Strategic Intent to help advance the agency's goal to expand Australia's domestic space industry. By 2030, Australia would like to grow the space market segment from AUD3.9 billion to AUD12 billion and double space industry employment from about 10,000 today to 20,000. The agreement features Boeing support for investments in R&D, innovation, STEM education, and government programs aligned with the Australian Space Agency's priorities.

Aviation Partners Boeing. In June 1999, Boeing and Aviation Partners formed a joint venture to provide

winglets for in-service Boeing commercial aircraft. The venture designs, develops, and manufactures winglets and installs them on in-service Boeing aircraft. Boeing was to provide technical data and marketing support, while Aviation Partners was to provide winglet technology, design, and program management.

Website: <http://www.aviationpartnersboeing.com>

Aviation Training International. In February 1998, Boeing and Leonardo formed a joint company to provide training services for the British Army's WAH-64 Apache helicopters. The joint company, Aviation Training International Ltd (ATIL), was awarded a \$1.07 billion contract to establish training facilities at British bases. Effective 2019, the company became a wholly owned subsidiary of Boeing.

Website: <https://www.boeing.co.uk/products-services/subsidiaries/atil.page>

BMW Group. In December 2012, Boeing and the BMW Group signed an agreement to participate in joint research on carbon-fiber recycling and share knowledge about carbon-fiber materials and manufacturing. As part of the agreement, Boeing and the BMW Group would also share carbon-fiber manufacturing process simulations and ideas for manufacturing automation.

Boeing Business Jets. In July 1996, Boeing and General Electric announced the formation of a joint venture aimed at building a long-range business jet based on Boeing's 727-700 that is capable of flying from New York to Tokyo. GE purchased the first two aircraft for its own use.

Website: <http://www.boeing.com/commercial/bbj>

Boeing Sikorsky Aircraft Support. Formed in 1993, this is a 50-50 joint venture between Sikorsky Support Services Inc and Boeing Aerospace Operations Inc. BSAS supports the U.S. Army's 26 MH-47E and 23 MH-60K Special Operations aircraft located at the 160th Special Operation Aviation Regiment at Fort Campbell, Kentucky.

Boeing Sikorsky International Services. In 2013, Sikorsky and Boeing formed a joint venture to compete for sustainment services in support of the Kingdom of Saudi Arabia's rotorcraft fleet. Contracts the joint venture will pursue are administered by the U.S. government as part of its FMS program. An equal-share joint venture, BSIS offers comprehensive in-country logistics, fleet and supply-chain management, maintenance support, and aircraft modifications, as well as training for aircrews and maintainers.

Boeing Tianjin Composites. In April 2011, Boeing and Aviation Industries Corporation of China (AVIC) opened a new factory that doubles the footprint of their

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joint venture Boeing Tianjin Composites Co Ltd. Boeing Tianjin Composites produces components for all of Boeing's in-production programs, including the 737, 747-8, 767, 777, and 787. Boeing invested \$21 million to develop the new factory, which was built next to the existing factory in the Tianjin New Binhai Area. Boeing Tianjin Composites was founded in 1999 and operates as a subsidiary of Boeing.

Canadian Fighter Replacement. In February 2018, Canada announced that five manufacturers would be invited to bid to provide the replacement for Canada's Boeing F/A-18, currently in service. The list included Boeing, Lockheed Martin, Airbus (with the Eurofighter), Saab, and Dassault. However, by year-end 2018 Dassault had withdrawn from the competition. This was followed by Airbus' withdrawal of the Eurofighter in September 2019.

In July 2020, Canada received bids from the three remaining contractors: Boeing with the F/A-18E/F Super Hornet, Lockheed Martin with the F-35, and Saab with the Gripen E. A contract award is expected in 2022.

COMAC. In September 2017, Boeing and Commercial Aircraft Corp of China formalized their joint venture with the signing of an agreement on their 737 completion center. The Boeing (Zhoushan) Completion Center opened in 2018, and its first 737 was delivered before the end of the year. Earlier, in October 2016, Boeing and COMAC selected the island city of Zhoushan on China's mideastern coast for a new 737 completion site. The venture got its start in September 2015, when Boeing announced that it would open its first foreign completion and delivery center in China in partnership with COMAC. Green aircraft will be flown to the site from the U.S. There, the facility will install the interiors, paint the airframe, and handle final delivery to Chinese customers. The facility is the first of its kind outside the United States for Boeing.

Website: <http://www.boeingzhoushan.com/en/aboutUs/>

In October 2014, Boeing and COMAC opened a demonstration facility that will turn waste cooking oil, commonly referred to as "gutter oil" in China, into sustainable aviation biofuel. The two companies estimate that 500 million gallons (1.8 billion liters) of biofuel could be made annually in China from used cooking oil. Boeing and COMAC are sponsoring the facility as part of the China-U.S. Aviation Biofuel Pilot Project. The facility will use a technology developed by Hangzhou Energy & Engineering Technology Co Ltd (HEET) to clean contaminants from waste oil and convert it into jet fuel at a rate of 170 gallons (650 liters) per day. The project's goal is to assess the

technical feasibility and cost of producing higher volumes of biofuels.

ecoDemonstrator. In July 2017, Boeing and FedEx Express announced that they would collaborate on the next ecoDemonstrator. In early 2018, flight testing began of a new Boeing 777 Freighter made for FedEx Express and turned into an ecoDemonstrator. Being tested are emerging technologies, such as propulsion advancements and flight deck innovations. The ecoDemonstrator program, now in its fifth iteration, encompasses a series of flying testbeds that are designed to improve the environmental performance and safety of future airplanes.

Previously, in June 2015, Boeing and Embraer announced that they would test environment-focused technologies through the ecoDemonstrator program in a joint effort to improve aviation's environmental performance. Boeing launched its ecoDemonstrator program in 2011 to accelerate the testing and use of new technologies that can reduce fuel use, carbon emissions, and noise. In addition, in 2015, Boeing and Embraer opened a joint biofuel research center in São José dos Campos, Brazil, to perform biofuel research and coordinate research with Brazilian universities and other institutions. Through their collaboration, Boeing and Embraer began conducting ecoDemonstrator tests with an Embraer E170 jet in 2016.

Website (PDF): <http://bit.ly/1CCjPEg>

Elbit Systems. In February 2013, Boeing and Elbit Systems signed a Memorandum of Understanding (MoU) that supports the growth of both companies through the joint pursuit of self-defense solutions for Boeing military aircraft in international markets. The companies would offer Elbit Systems' Directed Infrared Countermeasure (DIRCM) systems for a range of Boeing military fixed-wing and vertical-lift aircraft.

ELG Carbon Fibre. In December 2018, Boeing and ELG Carbon Fibre announced a partnership to recycle excess aerospace-grade composite material, which will be used by other companies to make products such as electronic accessories and automotive equipment.

Embraer. In April 2020, Boeing terminated its Master Transaction Agreement (MTA) with Embraer, stating, "Boeing exercised its rights to terminate after Embraer did not satisfy the necessary conditions."

Both the commercial joint venture, Boeing Brasil – Commercial, and the military venture, Boeing Embraer – Defense, were canceled as a result of this decision.

Embraer responded by saying in a statement that Boeing "has manufactured false claims as a pretext to seek to

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avoid its commitments to close the transaction and pay Embraer the US\$4.2 billion purchase price. We believe Boeing has engaged in a systematic pattern of delay and repeated violations of the MTA, because of its unwillingness to complete the transaction in light of its own financial condition and 737 MAX and other business and reputational problems."

Boeing/Embraer Merger Timeline. In July 2018, Boeing and Embraer signed an MoU to establish a new commercial aircraft entity, majority-owned by Boeing. Under the terms of the agreement, Boeing was to pay \$4.2 billion for an 80 percent stake in the joint venture, up from \$3.8 billion when originally proposed, valuing it at \$5.25 billion – up from \$4.75 billion when it was originally proposed. Embraer was to own the remaining 20 percent.

On finalization, the commercial aviation joint venture would have been led by Brazil-based management, including a president and chief executive officer. Boeing would have had operational and management control of the new company, which would have reported directly to Boeing's CEO. In May 2019, Boeing announced the venture was to be called Boeing Brasil – Commercial. No decision had been made as to whether the aircraft would be rebranded as Boeing models.

In addition, the companies agreed to the terms of another joint venture to promote and develop new markets for the rebranded C-390 Millennium airlifter and the KC-390 aerial refueling variant. In November 2019, Boeing and Embraer announced this joint venture would be called Boeing Embraer – Defense. Under the terms of this partnership, Embraer was to own a 51 percent stake in the venture, with Boeing owning the remaining 49 percent.

Embraer planned to hold on to its Executive Aviation unit, which produces the Legacy and Praetor business jets. In June 2019, Embraer announced it would be shifting business jet production from Sao Jose dos Campos to Gavião Peixoto as it readied for the merger with Boeing. Since Boeing Brasil – Commercial was expected to assume regional jet production in Sao Jose dos Campos, Embraer began shifting Legacy 450/500 and Praetor 500/600 business jet manufacturing to its facility in Gavião Peixoto. The business jets would be manufactured at this location and then sent to Melbourne, Florida, for finishing.

Talks on the possible tie-up began in December 2017. Driving this deal was Airbus' takeover of Bombardier's CSeries commercial jetliner program, now known as the Airbus A220. A teaming between Boeing and Embraer would have allowed the two firms to better compete against the A220, which has been the focus of several trade disputes in both Brazil and the U.S.

Evolved Strategic SATCOM. In October 2020, Boeing received one of three development contracts to build a satellite payload prototype and develop a new secure, resilient satellite communications architecture for the U.S. Space Force's Evolved Strategic SATCOM (ESS) program. ESS will be a military satellite communications (milsatcom) system designed to serve as a replacement for the Advanced Extremely High Frequency constellation. Boeing's initial ESS development contract is valued at \$298 million. Competitors include Northrop Grumman with a \$298 million award and Lockheed Martin with a \$258 million award. Contracts for the full ESS system are expected to be awarded in 2025.

Future Attack Reconnaissance Aircraft. Part of the Future Vertical Lift Capability Set 1 effort, the FARA program aims to replace U.S. Army OH-58D scout helicopters currently in service. In April 2019, the U.S. Army awarded five initial design contracts to the AVX/L3 team, Bell, Boeing, Karem Aircraft, and Sikorsky. Three other proposals that did not meet minimum mandatory requirements were rejected. Under the Army's aggressive schedule, the winning design will enter low-rate production in 2028.

In March 2020, the Army selected two contractors to develop competitive prototypes: Bell and Sikorsky. Bell is offering the Bell 360 Invictus, which is based on some of the technologies developed for its 525 Relentless program. Sikorsky is offering its Raider X, a compound coaxial helicopter based on research and testing of its high-speed X2 technology demonstrator and S-97 Raider test aircraft. Flight tests are expected to begin in late 2022 and run through 2023. The engineering and manufacturing development phase will follow in FY24.

Future Long Range Assault Aircraft. In March 2020, Bell's "Team Valor" and Sikorsky were selected for the competitive demonstration and risk reduction effort as part of the U.S. Army's Future Long Range Assault Aircraft (FLRAA) program. Under the \$84 million contract, Bell will deliver a refined V-280 Valor design along with supporting technical documentation. The competing Sikorsky/Boeing design was awarded \$97 million to refine its SB-1 Defiant design, which is based on Sikorsky's X2 high-speed technology demonstrator.

The competitors will face off in 2022, with a winning design expected to begin replacing UH-60 Black Hawk helicopters in 2030. This program falls under Future Vertical Lift Capability Set 3.

The program is being informed by the JMR technology demonstrator effort, which involves the Bell V-280 Valor and Sikorsky/Boeing's SB-1 Defiant.

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GKN Aerospace. In December 2016, Boeing Business Jets partnered with GKN Aerospace's Fokker unit to develop and produce the SkyView Panoramic window for a range of BBJ models. The SkyView Panoramic Window, measuring approximately 4.5 feet by 1.5 feet (1.4 m x 0.5 m), is created by effectively joining three existing 737 windows. It will be available as a feature on the BBJ, BBJ 2, and all three members of the BBJ MAX family – including the new BBJ MAX 7.

Ground-based Midcourse Defense. In December 2011, Boeing and partner Northrop Grumman received a \$3.48 billion, seven-year development and sustainment contract from the U.S. Missile Defense Agency for future work on the GMD system. Boeing and Northrop Grumman teamed up in October 2010 to pursue this U.S. ballistic missile defense system contract. Other partners include Alaska Metrology Calibration Services, All Points Logistics, Davidson Technologies, Delta Industrial Services, DESE Research, Dynetics, L3Harris, Issac Corp, Jeskell, nLogic, Orbital ATK (now part of Northrop Grumman), Oregon Iron Works, Penta Research, Raytheon Missile Systems, Trident Group, and Victory Solutions. The team faced a competing bid from a team composed of Lockheed Martin and Raytheon. (See **Program Activity** for details.)

Hellfire Systems LLC. Hellfire Systems LLC of Orlando, Florida, a joint venture of Boeing and Lockheed Martin, manufactures the HELLFIRE missile. Boeing builds all HELLFIRE seekers and several components, while Lockheed Martin acts as systems integrator and is responsible for other components. This partnership excludes the Longbow-HELLFIRE and Brimstone systems. In 1999, Lockheed Martin and Boeing agreed that Lockheed Martin Electronics & Missiles would assume responsibility for all HELLFIRE missile operations previously combined under Hellfire Systems LLC.

Huey Replacement. In September 2018, a team of Boeing and Leonardo won the U.S. Air Force's competition to replace its UH-1N "Huey" fleet. Under an estimated \$2.4 billion effort, the team will produce the MH-139 Grey Wolf helicopter, a militarized version of the Leonardo AW139 helicopter that incorporates a number of modifications to meet USAF requirements. The partners beat rival offerings from Lockheed Martin Sikorsky (Black Hawk-derived HH-60U) and Sierra Nevada Corp (an upgraded version of the U.S. Army's old UH-60Ls). The Boeing-Leonardo partnership was first announced in March 2017 (see **Program Activity**).

HX Competition. In October 2015, Finland launched its HX program to identify a successor for its F/A-18 Hornets. Finland seeks a multirole jet fighter to introduce into service on a rolling basis as it begins

phasing out its Hornets in 2025. Competitors for the requirement include Boeing's F/A-18E/F Super Hornet, Lockheed Martin's F-35 Lightning II, the Eurofighter Typhoon, Dassault Aviation's Rafale, and Saab's Gripen E and dual-seat Gripen F. These five contenders submitted initial proposals for the estimated \$13 billion program in February 2019. A test and evaluation event dubbed the HX Challenge began in early 2020. Best and final offers were submitted in April 2021. A winner is expected to be selected in late 2021. The new aircraft is planned to enter service in 2025.

IAI. In January 2002, Israel Aerospace Industries and Boeing signed a strategic teaming agreement under which Boeing produced approximately 51 percent of the components for IAI's Arrow missile.

In February 2006, Boeing and IAI agreed to pursue the new Israeli Short-Range Ballistic Missile Defense program. Through this agreement, the two companies partnered to potentially provide the Israel Missile Defense Organization with a robust, all-weather defense capability against short-range ballistic missiles and long-range artillery rockets.

Indian Fighter Competition, Take 3. In April 2018, India, for the third time, initiated a competition to supply 110 fighters to the Indian Air Force. Competitors will include the Boeing F/A-18E/F Block III, Dassault Rafale F3R, Eurofighter Typhoon, Lockheed Martin F-16V, United Aircraft Corp MiG-35, and Saab Gripen E. The program stipulates that some 85 percent of the aircraft should be produced in India under that country's "Made in India" initiative.

An earlier procurement attempt was scrapped in 2018, as it did not consider both single- and twin-engine aircraft. Prior to that, the Medium Multi-Role Combat Aircraft (MMRCA) program to supply 126 fighters, which was won by Dassault's Rafale, was canceled in 2015. At that time, the government opted instead to buy 36 Rafales in a government-to-government deal.

Joint Multi-Role/Future Vertical Lift. In February 2013, Sikorsky and Boeing submitted a joint proposal to build a demonstrator aircraft based on Sikorsky's X2 Technology rotorcraft design – dubbed the SB-1 Defiant. In August 2014, Bell Helicopter and the Sikorsky/Boeing team were selected to build helicopters for the U.S. Army's Joint Multi-Role (JMR) Technology Demonstrator (TD) program, beating out AVX Corporation and Karem Aircraft. Sikorsky/Boeing are developing the SB-1 Defiant, an aircraft based on Sikorsky's X2 coaxial proof-of-concept helicopter. Bell, meanwhile, is testing its V-280 Valor tiltrotor. The JMR TD program is the science and technology precursor to the Department of Defense's estimated \$100 billion Future Vertical Lift (FVL)

Boeing

program, which is supposed to see the development of new rotorcraft to replace thousands of various utility and attack helicopters across U.S. military fleets.

The FVL program spans multiple classes of helicopters, or what are being called Capability Sets 1 to 5, ranging from light helicopters to medium- and heavy-lift variants.

Capability Set 1, dubbed the Future Armed Reconnaissance Aircraft (FARA), will fill the armed scout role for the Army (see entry above).

Capability Set 2 is envisioned as a replacement for the Navy's MH-60R and MH-60S Seahawks.

Capability Set 3, known as the Future Long-Range Assault Aircraft (FLRAA), will replace the Army's Black Hawk helicopters (see entry above).

Capability Set 4 involves a medium-class rotorcraft larger than the Capability Set 3 platform that may be used to replace the V-22.

Capability Set 5 is a heavy rotorcraft intended to complement, and possibly replace, the CH-47F and CH-53K.

Kawasaki Heavy Industries. In June 2017, Boeing and Kawasaki Heavy Industries (KHI) agreed to enhance industrial cooperation, including joint exploration of advanced manufacturing techniques and potential future collaboration on Boeing Commercial Airplanes programs. Current production for Boeing spans models from the 767 and 777 to the 787 Dreamliner and 777X.

KC-Y Bridge Tanker. In June 2021, the U.S. Air Force issued a sources sought notice for a tanker aircraft that would bridge the gap between the KC-46 and a next-generation tanker (KC-Z) beginning in 2029. The USAF expects to receive its last KC-46 in 2029, and the service needs an aircraft to supplement the fleet once deliveries are complete. Boeing is expected to offer the KC-46 against Airbus' A330 Multi-Role Tanker Transport (MRTT). The service is looking to acquire between 140 and 160 new bridge tankers at a rate of 12 to 15 per year starting in 2029. A formal competition is expected to be launched in 2022.

Kitty Hawk. In June 2019, Boeing and Kitty Hawk Corporation announced a strategic partnership to collaborate on future efforts to advance safe urban air mobility. The partnership will bring together the innovation of Kitty Hawk's Cora division with Boeing's scale and aerospace expertise. Kitty Hawk is developing the Cora, a two-person air taxi, and the Flyer, a vehicle for personalized flight.

Website: <https://kittyhawk.aero>

Korean Air. In October 2017, Boeing and Korean Air's Aerospace Division (KAL-ASD) signed an MoU to collaborate on upgrading five CH-47D Chinook heavy-lift helicopters currently in Korean service. The firms will partner in offering Chinook modifications, flight-testing, and air worthiness upgrades. As part of this effort, the two companies will also seek opportunities for other South Korean upgrade programs and logistic services.

In November 2013, Boeing and Korean Air broke ground on construction of a new aviation training facility located in the Incheon Free Economic Zone (IFEZ). The new campus allowed Boeing to expand the scope of its training business in South Korea and continue its long-standing training relationship with Korean Air. The facility, which opened in 2016, houses 12 full-flight simulators for Korean Air's pilot training programs.

Korean Attack Helicopter. In April 2021, South Korea's Defense Acquisition Program Administration (DAPA) selected the Korea Aerospace Industries' armed Surion Marine Attack Helicopter (MAH) as the next attack helicopter for the ROK Marines. The project, initially budgeted at KRW1.6 trillion (\$1.44 billion), looks to produce 20 to 24 rotorcraft from 2022 through 2031. The selection eliminated competing bids from Bell Textron (proposing its AH-1Z Viper), Boeing (AH-64E Apache Guardian), Turkish Aerospace (T-129 ATAK), and Lockheed Martin-Sikorsky (S-70i).

Joint Project (JP) 9102. This is an Australian project to develop a sovereign Defence Satellite Communications System. The new system would enable the joint command and control of deployed Joint Task Forces by leveraging communications technology with enhanced range and capability. Boeing Defence Australia (BDA) leads an industry team of Leidos Australia, Viasat, Saber, ClearBox, and the Indigenous Defence and Infrastructure Consortium (iDiC). Competitors include Airbus, Viasat and Lockheed Martin.

LAND 2097 Phase 4. Under LAND 2097 Phase 4, Australia is looking to acquire up to 16 helicopters to provide support for special operations. Boeing intends to propose the AH-6i Little Bird light attack / reconnaissance helicopter. Other potential contenders include the Airbus Helicopters H145M, the Bell 407 and 429, and the Leonardo AW109 Trekker.

In 2020, three bidders publicly announced their interest in the requirement: Babcock Australia and Hawker Pacific, both with the Bell 429, and Airbus Helicopters with the H145M. Plans call for deliveries of the helicopters to begin in 2023.

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Liquid Robotics. In September 2014, Boeing and Liquid Robotics signed a global, multiyear agreement for collaboration on product development, maritime services, and operational deployments. The initial focus of the collaboration will be on developing total integrated solutions for anti-submarine warfare, maritime domain awareness, and other maritime defense applications.

Lockheed Martin. In January 2007, Boeing and Lockheed Martin formed a strategic alliance to promote advancement of the future U.S. air transportation system. The collaboration combines Lockheed Martin's air traffic management experience in the domains of en route, oceanic, terminal, and airport surface operations with Boeing's strengths in aircraft systems, avionics, aviation operations, and airspace simulation and modeling.

Mayhem. In August 2020, the U.S. Air Force released a solicitation for the Expendable Hypersonic Multi-Mission Air-Breathing Demonstrator (Mayhem) Program. The Mayhem System Demonstrator (MSD) will need to be capable of carrying large payloads over distances farther than current hypersonic capabilities allow. Boeing, Lockheed Martin, and Raytheon will compete to develop an operational prototype under contracts slated to be awarded in 2021.

Website: <https://bit.ly/3iJURIW>

Mitsubishi Heavy Industries. In July 2020, Boeing and MHI signed a Direct Commercial Sale agreement to support upgrades to Japan's F-15J fleet. The upgrades will introduce state-of-the-art electronic warfare and weapons. Under the agreement, Boeing will provide MHI with retrofit drawings, ground support equipment, and technical publications for the upgrade of the first two F-15J aircraft to the Japan Super Interceptor configuration. MHI will develop the detailed modification plan for the jets and prepare for the induction and upgrade of up to 98 aircraft beginning in 2022.

In July 2000, Boeing and MHI reinforced their commitment to the future of the International Space Station. Additionally, they agreed to explore new opportunities in the field of aerospace as they jointly expand their global aerospace businesses. Under the teaming agreement, Boeing and MHI would work cooperatively to ensure an integrated global approach for the long-term support of the ISS. The agreement includes a range of U.S. payload integration for the H-II Transfer Vehicle, systems integration support for the Centrifuge Accommodation Module, U.S. payload accommodation analysis for Kibo (the Japanese Experimental Module), and logistics activities related to those key elements.

MUX Payload Prize Challenge. This was a U.S. Marine Corps challenge that sought to obtain information, performance capabilities, and technical data on mission system payload technologies to inform the development and acquisition strategy for the Marine Air Ground Task Force, Unmanned Aircraft System, Expeditionary (MUX) Program. In November 2019, the Navy announced the winners in the various categories. In the MUX Data Relay Payload Prize Challenge, Boeing took first place and a \$700,000 prize, Northrop Grumman second place (\$200,000), and Cubic Defense third place (\$100,000).

Nammo. In June 2019, Boeing and Nammo teamed to develop and produce the next generation of extended-range artillery projectiles. The work will be performed by Nammo's development team at Raufoss in Norway and by Boeing's Phantom Works advanced research division in St. Charles, Missouri. In addition, Boeing's investment in the 25-year agreement will support the company's industrial participation plan for the five P-8A Poseidon maritime patrol aircraft acquired by the Royal Norwegian Air Force in 2017.

Network-Centric Operations Industry Consortium. Formed in August 2004, the NCOIC is a not-for-profit international entity committed to convening members of industry to integrate existing and emerging open standards into a common evolving global framework that employs a common set of principles and processes to assist with the rapid global deployment of network-centric applications.

Website: <https://www.ncoic.org/home>

Next Generation Interceptor. The Next Generation Interceptor (NGI) is an element of the U.S. Missile Defense Agency's Ground-based Midcourse Defense (GMD) system, which is the primary U.S. missile defense system used to defend the country from long-range ballistic missile attacks. The NGI replaces the Redesignated Kill Vehicle Boeing and Raytheon were developing. That program was canceled in August 2019 due to technical issues.

In March 2021, the MDA selected Lockheed Martin and partner Aerojet Rocketdyne along with a competitor teaming of Northrop Grumman/Raytheon Missiles & Defense to develop and flight-test an NGI. Lockheed Martin's award was \$3.6 billion, while Northrop Grumman's contract was valued at \$3.9 billion. With an estimated maximum value of \$1.6 billion through fiscal year 2022, this contract is structured to carry two designs into the technology development and risk reduction phase of the acquisition program.

A competing offer from a third team led by Boeing was not selected to move forward.

Boeing

Oerlikon. In February 2018, Boeing and Oerlikon signed a five-year collaboration agreement to develop standard materials and processes for metal-based additive manufacturing. The research will initially focus on industrializing titanium powder-bed fusion additive manufacturing and ensuring that parts made using this process meet the flight requirements of the U.S. FAA and Department of Defense.

Orca XLUUV. In June 2017, Boeing and Huntington Ingalls Industries teamed on the design and production of unmanned undersea vehicles (UUVs) in support of the U.S. Navy's Extra Large UUV (XLUUV) program. The partnership will leverage design and production facilities in Huntington Beach, California, Newport News, Virginia, and Panama City, Florida, and will offer access to the expertise and capability of Boeing and HII.

Boeing has been testing its newest XLUUV, Echo Voyager. The fully autonomous vehicle is designed for multiple missions and can operate at sea for months before returning to port. In October 2017, the Navy awarded contracts to Boeing (\$42.3 million) and Lockheed Martin (\$43.2 million) for the design phase of the Orca XLUUV system, as well as the delivery of a technical data package. Boeing won the XLUUV contract in February 2019. Deliveries will run through 2022. Further production contract awards are planned for 2023 and 2024.

Paramount Group. In July 2014, Boeing and Paramount Group, Africa's largest privately owned defense and aerospace business, signed a Memorandum of Collaboration to jointly develop defense and security opportunities in key international markets. The agreement will allow Boeing and Paramount to apply their complementary strengths in providing aircraft and land systems solutions for customers in Africa and other major markets that face a range of security challenges. Those include border security; heavy airlift of products and personnel across vast distances; coastal piracy and anti-poaching; and disaster and humanitarian relief as part of future coalition efforts. In March 2016, the two firms announced that they would collaborate to develop a mission system for Paramount's Mwari reconnaissance and light attack aircraft. The aircraft is a variant of the AHRLAC (Advanced High Performance Reconnaissance Light Aircraft), developed by AHRLAC Holdings, a joint venture between Paramount Group and Aerosud.

PGZ. In July 2015, Boeing and members of its AH-64E Apache industry team – General Electric, Lockheed Martin, Raytheon Technologies, and Longbow Ltd – launched an initiative with Polish Armaments Group (PGZ) to explore opportunities for collaboration with Polish industry. In September 2015, the firms signed a

broad-based agreement that outlined areas where Boeing and PGZ member companies may collaborate in support of the Technical Modernization Plan of the Polish armed forces.

Polish Attack Helicopters. In November 2014, several competitors were announced for Poland's upcoming requirement – known as the Kruk attack helicopter project – for up to 32 attack helicopters to replace the Polish Army's fleet of aging Mil Mi-24s. Boeing's AH-64E Apache is a candidate. Kruk competitors include Airbus with the EC 665 Tiger, Bell Helicopters with the AH-1Z Cobra, and Turkish Aerospace Industries with the T129 ATAK. The program has suffered delays and was being recalibrated by Poland in early 2021.

Robotic Skies. In October 2018, Boeing and its subsidiaries Jeppesen and Boeing Distribution (Aviall) joined with Robotic Skies, a commercial unmanned aircraft system (UAS) support services provider, to develop and deliver supply chain management and optimization, analytics, and MRO services for the commercial and civil UAS markets.

Website: <https://roboticskies.com>

root9B. In April 2014, Boeing teamed with root9B to provide cybersecurity training and simulations to assist customers in addressing cyber threats. Combining the Boeing Cyber Range-in-a-Box training and simulation tool with content from root9B, the two companies offer tailored virtual environments that help users broaden skills, identify and address their network deficiencies, and respond more quickly to network security threats.

Saab. In 2018, Boeing and Saab won the U.S. Air Force's T-X program with a clean-sheet jet trainer design (see T-7 entry in **Program Activity**).

In June 2015, the two extended their cooperation agreement to include trials of a new application for Boeing's Small Diameter Bomb Increment I (SDB I). The companies are testing a ground-launched SDB that utilizes a booster rocket to propel the weapon from a guided multiple launch rocket system (GMLRS).

Safran. In September 2019, Boeing and Safran jointly invested in Electric Power Systems (EPS), a company offering a suite of "safe, certifiable and lightweight" energy storage products that provide high-quality power for aerospace and other markets. Boeing HorizonX Ventures and Safran Corporate Ventures jointly invested in EPS during a Series A funding round.

In November 2018, Boeing and Safran received approval for their new joint venture to design, build and service auxiliary power units (APUs). Both companies will have a 50 percent stake in the partnership, which

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will be based in the United States. The companies also named Etienne Boisseau as CEO of the joint venture. In February 2019, Boeing and Safran announced that this new joint venture would be named Initium Aerospace. From its Latin root, initium means "the beginning" or "to start."

However, in February 2021 the partners decided to freeze the joint venture due to the COVID-19 pandemic and its impact on the aerospace industry.

Website: <https://initiumaerospace.com>

The two firms are also 50-50 partners in MATIS Aerospace. MATIS Aerospace (Morocco Aero-Technical Interconnect Systems) was founded in 2001 by Boeing, Safran Electrical & Power, and Royal Air Morocco (which has since withdrawn from the venture). MATIS produces interconnection systems and electrical harnesses for several airframe and engine companies.

Website: www.safran-electrical-power.com/company/matis-aerospace

Schwerer Transporthubschrauber (STH).

Announced in December 2017, this is a German program to acquire a new heavy-lift rotorcraft to replace CH-53G models currently in service. Circa January 2020, Boeing was offering the CH-47F Chinook against a rival offering of the CH-53K King Stallion from the team of Rheinmetall/Sikorsky. The program, which will replace between 44 and 60 helicopters, is valued at about EUR4 billion (\$4.72 billion). A winner was expected to be selected in 2021, but in September 2020, the German Defense Ministry opted to scrap the competition due to cost concerns.

In January 2021, however, Germany relaunched the STH program, seeking new bids from Boeing and the Rheinmetall/Sikorsky team. This latest effort will be conducted via the U.S. Foreign Military Sales process. Such a program typically provides for the purchase of a baseline version of the aircraft.

Siemens. In August 2011, Boeing and Siemens teamed for a project to bring smart grid technology to the U.S. Department of Defense. The goal of the program is to make the power supply at U.S. military bases more secure while lowering costs and increasing energy efficiency. Under the agreement, Boeing supplied system technologies and Siemens supplied microgrid management solutions.

SkyGrid. In November 2018, Boeing and SparkCognition announced plans to launch SkyGrid, a new company that will develop a software platform to ensure the safe, secure integration of autonomous cargo and passenger air vehicles in the global airspace.

Website: <https://skygrid.com>

SkyNRG. In July 2021, Boeing, SkyNRG and SkyNRG Americas announced a partnership focused on scaling the availability and use of sustainable aviation fuels (SAF) globally. Boeing will also invest in SkyNRG Americas' SAF production project, for which Alaska Airlines is a previously announced partner. The team will work together to accelerate SAF development globally, focusing on scaling production capacity, building awareness, and engaging stakeholders throughout the value chain, including airlines, governments, and environmental organizations.

Sojitz Corporation. In September 2012, Boeing and Sojitz Corporation agreed to work together to offer advanced cybersecurity solutions in Japan to help protect critical government, civil, and commercial information technology infrastructure. The agreement called for Boeing to provide advanced network and data analysis tools, cybersecurity training and simulation platforms, and network protection solutions. Boeing provided training to support Japan's need for more cybersecurity experts. Sojitz contributed its Japanese market expertise, information technology professionals, and strong local partnerships.

Spirit AeroSystems. As part of Onex's 2005 deal to acquire Boeing Wichita, Spirit AeroSystems entered into a long-term supply agreement under which the company acts as Boeing's exclusive supplier for substantially all of the products and services provided by Boeing Wichita prior to the acquisition. These include components for Boeing 737, 747, 767, and 777 airliners.

Website: <https://www.spiritaero.com>

Strategic Tanker Transport Capability. In February 2021, Canada posted a notice for companies to qualify for its Strategic Tanker Transport Capability (STTC) program. The STTC program seeks to replace the Royal Canadian Air Force's CC-150 Polaris strategic airlift fleet. This new fleet will conduct multiple tasks, such as in-flight refueling of other aircraft, airlift of military personnel and cargo, medical evacuations, and strategic transport of Canadian government officials. In April, Airbus Defence and Space's A330 MRTT was qualified to bid on the project. Boeing's KC-46 Pegasus was not selected to move forward. A Request for Proposals for four aircraft is expected in late 2021.

Website: <https://www.canada.ca/en/departement-national-defence/services/procurement/strategic-tanker-transport-capability-project.html>

Sukhoi. In June 2007, Boeing signed an agreement with Sukhoi to expand collaboration between the two companies. As a result, Boeing broadened its advisory role on the program to develop the Sukhoi regional jet,

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known as the Sukhoi Superjet 100 (SSJ). In 2002, before the Russian government had designated Sukhoi the leader of Russia's regional jet program, Sukhoi selected Boeing to serve as a consultant to Sukhoi and its program partners in the areas of program management, engineering, marketing, product development, certification, supplier management, and customer support.

Sustainable Bioenergy Research Consortium.

In January 2014, Boeing and research partners in the United Arab Emirates made breakthroughs in sustainable aviation biofuel development. The group found that desert plants fed with seawater could produce biofuel more efficiently than other well-known feedstocks. The Sustainable Bioenergy Research Consortium, affiliated with the Masdar Institute of Science and Technology in Abu Dhabi, would test these findings in a project that could support biofuel crop production in arid countries, such as the UAE. Funded by Boeing, Etihad Airways, and Honeywell UOP, the SBRC is dedicated to the development and commercialization of sustainable aviation biofuel that emits 50 to 80 percent less carbon through its life-cycle than fossil fuel.

Swiss Fighter Competition. Under Switzerland's Air 2030 initiative, the country evaluated five aircraft types to replace aging F-5s and F/A-18C/Ds currently in service. In January 2019, the government received proposals from five competitors. These consisted of the Boeing F/A-18E/F Super Hornet, the Dassault Rafale, the Eurofighter Typhoon, the Lockheed Martin F-35A, and the Saab Gripen E. The Air 2030 modernization program will expend \$6.5 billion for 30-40 new aircraft and \$2 billion for a ground-based, air defense system. In June 2021, Switzerland announced it would buy 36 Lockheed Martin F-35As in a procurement valued at \$5.48 billion (CHF5.07 billion). Deliveries are expected to begin in 2027. Meanwhile, the Raytheon Patriot system was selected to fulfill the air defense requirement over the Eurosam SAMP/T.

Skyborg. This is a U.S. Air Force program to develop an artificially intelligent software – and related programs and hardware – to control autonomous unmanned air vehicles (UAVs). In 2020, the USAF placed 13 development contracts with Boeing, General Atomics Aeronautical Systems, Kratos Unmanned Aerial Systems, Northrop Grumman, AeroVironment, Autodyne, BAE System Controls, Blue Force Technologies, Fregata Systems, Lockheed Martin Aeronautics, NextGen Aeronautics, Sierra Technical Services, and Wichita State University. These firms will compete to develop drones, sensors, weapons, and software.

In July 2020, Boeing, General Atomics Aeronautical Systems, Kratos Unmanned Aerial Systems, and Northrop Grumman were awarded IDIQ contracts with a shared ceiling of \$400 million for all subsequent competitively selected delivery orders in support of the Skyborg Vanguard Program. The Skyborg prototyping, experimentation and autonomy development contract will be used to deliver missionized prototypes in support of operational experimentation, and to develop the first Skyborg air platform with modular hardware and software payloads. The platform will incorporate the Skyborg autonomy core system and enable manned/unmanned teaming.

In December 2020, three contractors were selected to build Skyborg prototypes: Boeing, which received a \$25.7 million contract; General Atomics Aeronautical Systems, \$14.3 million; and Kratos Unmanned Aerial Systems, \$37.8 million. Prototypes will begin testing in 2021, according to the current schedule.

Website:

<https://afresearchlab.com/technology/vanguards/success-stories/skyborg>

Tata Advanced Systems. In November 2015, Boeing and India's Tata Advanced Systems announced a joint venture that will manufacture aerostructures for aircraft and collaborate on integrated systems development opportunities in India. The JV will initially create a manufacturing center to produce aerostructures for the AH-64 Apache helicopter and to compete for additional manufacturing work packages across Boeing platforms, both commercial and defense. Earlier, in July 2015, the two companies signed an agreement to jointly develop UAVs. Tata is currently working on aerostructures for Boeing's CH-47 Chinook and AH-6i helicopters, as well as power and mission equipment cabinets and APU door fairings for the Boeing P-8I Poseidon. On the commercial side, Tata is developing composite floor beams for the 787-9 Dreamliner.

Teledyne. In October 2016, Boeing and Teledyne Controls teamed to combine their ground-based operational data products to create the new Fleetwide Data Manager program. The goal is to provide a unified solution for airlines that will transfer data to and from airplanes more efficiently across fleet-wide operations. The new Fleetwide Data Manager will allow for the transfer of navigation databases, software updates, and quick access recorder (QAR) data between an airline's maintenance facilities and its airplane fleet.

United Launch Alliance. In December 2006, Boeing and Lockheed Martin completed the transaction

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to combine their expendable launch vehicle businesses, forming the 50-50 joint venture called United Launch Alliance LLC. ULA combines the production, engineering, test, and launch operations associated with U.S. government launches of Boeing Delta and Lockheed Martin Atlas rockets. The joint venture was first announced in May 2005. ULA is headquartered in Denver, Colorado.

Website: <http://www.ulalaunch.com>

V-22 Osprey. Bell and Boeing produce this tiltrotor aircraft for the U.S. Marine Corps. (See **Program Activity** for more information.)

VARDEC. In December 2012, Boeing and Canadian research organization Mitacs created a new visual analytics consortium to bring together Canadian academics, research agencies, and industry to expand VA technology into aerospace-related markets. VA allows analysts to rapidly explore and synthesize large, complex sets of data using interactive visual tools to obtain new business insights and make better-informed decisions. The Visual Analytics Research and Development Consortium of Canada (VARDEC) will focus on expanding VA to industry sectors such as

defense, maintenance, simulation and training, engineering, and manufacturing.

Website: <http://www.vardec.ca>

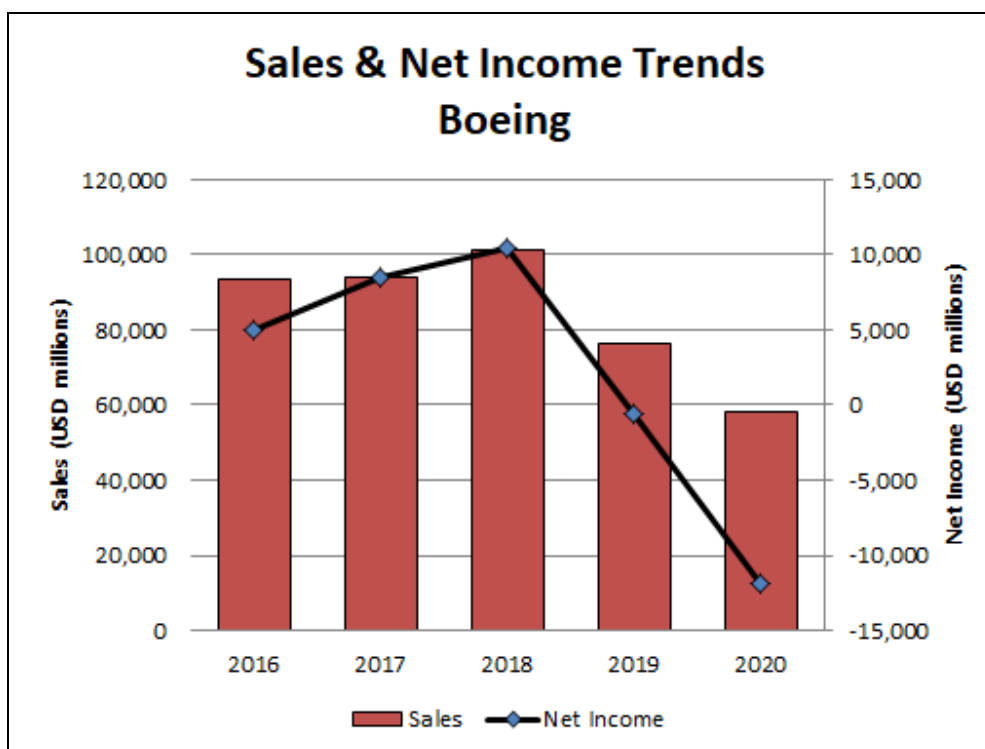
VSMPO-Avisma. In August 2007, Boeing and titanium producer VSMPO-Avisma formalized a joint venture to produce rough titanium forgings for the 787. The equally owned operation, called Ural Boeing Manufacturing, built an 8,900-square-meter plant in Verkhnyaya Salda, Russia, the town in the Ural Mountains where VSMPO-Avisma is headquartered. The venture began production in July 2009. In September 2018, the venture was expanded with the opening of a second Ural Boeing Manufacturing production facility.

In January 2021, the partners signed a long-term contract for the supply titanium products. The contract stipulates that VSMPO-Avisma will supply Boeing and its suppliers with titanium forgings to meet the requirements to manufacture civil aircraft of various models, specifically Boeing's 787 Dreamliner, 777, 767, and 737 airplanes. VSMPO-Avisma said that Ural Boeing Manufacturing would machine many of these forgings at its facility in Russia.

Financial Results/Corporate Statistics

For 2020, Boeing reported revenues of \$58.2 billion, down 24 percent compared to \$76.6 billion in 2019. The company posted a loss of \$11.9 billion, compared to a loss of \$638 million in 2019. The 2020 results reflect lower commercial deliveries and services volume, primarily due to COVID-19, as well as 787 production issues. In addition, the results reflected a \$6.5 billion pretax charge on the 777X program and a tax valuation allowance, partially offset by a lower 737 MAX customer considerations charge. The 2019 loss for the year is attributed to the 737 MAX crisis. The latest full-year statistics are provided in the following table. Percent Gov't Sales are primarily from Global Services and Defense, Space & Security.

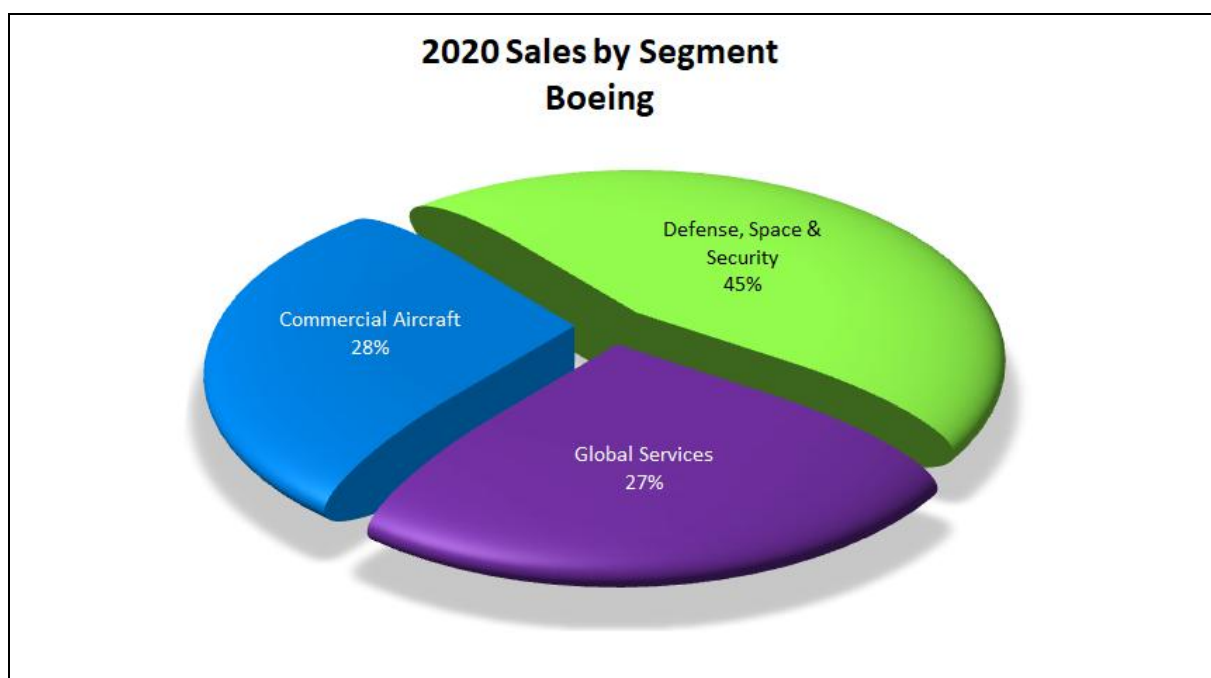
Boeing (NYSE: BA)					
(USD millions)	2016	2017	2018	2019	2020
Net Sales	93,496	94,005	101,127	76,559	58,158
Net Income	5,034	8,458	10,460	-636	-11,941
Sales to Gov't	21,751	28,951	31,349	29,858	29,661
Percent Gov't Sales	23%	31%	31%	39%	51%
R&D Expenditures	4,626	3,179	3,269	3,219	2,476
Backlog (Total)	473,492	474,640	490,481	463,403	363,404
Long-Term Debt	9,568	9,782	10,657	19,962	61,890
Shareholder Equity/ Deficit	817	1,656	339	-8,617	-18,316
Debt-to-Equity Ratio	11.71	5.9	31.43	-2.31	-3.37
Employees	150,500	140,800	153,000	161,100	141,000

Boeing**Industry Segments**

The following is a breakdown of Boeing's revenues and operating income by major business segment for the past five years. Results have been restated to conform to the company's current presentation.

SALES	2016	2017	2018	2019	2020
(USD millions)					
Commercial Airplanes	59,378	54,612	57,499	32,255	16,162
Defense, Space & Security	20,180	23,938	26,392	26,227	26,257
Global Services	13,819	14,611	17,056	18,468	15,543
Boeing Capital	298	307	274	244	261
Unallocated Items & Eliminations	-179	537	-94	-635	-65
TOTAL	93,496	94,005	101,127	76,559	58,158
OPERATING INCOME	2016	2017	2018	2019	2020
(USD millions)					
Commercial Airplanes	1,981	5,285	7,830	-6,657	-13,847
Defense, Space & Security	1,678	2,383	1,657	2,608	1,539
Global Services	2,159	2,251	2,536	2,697	450
Boeing Capital	59	114	79	28	63
Unallocated Items & Eliminations	-707	-1,127	-1,442	-2,066	-2,355
TOTAL	5,170	8,906	10,660	-3,390	-14,150

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Segment Details

Below is a detailed breakdown of key financial data for the company's major business segments and geographic regions for the past five years.

COMMERCIAL AIRPLANES		2016	2017	2018	2019	2020
(USD millions)						
Net Sales		59,378	54,612	57,499	32,255	16,162
Operating Income		1,981	5,285	7,830	-6,657	-13,847
R&D Expenditures		3,706	2,247	2,118	1,956	1,385
Backlog		413,036	410,986	408,140	376,593	281,588
Backlog (units)		5,715	5,864	5,951	5,625	4,997
DEFENSE, SPACE & SECURITY		2016	2017	2018	2019	2020
(USD millions)						
Net Sales		20,180	23,938	26,392	26,227	26,257
Operating Income		1,678	2,383	1,657	2,608	1,539
R&D Expenditures		815	834	788	758	713
Backlog		44,825	44,049	61,277	63,908	60,847
GLOBAL SERVICES		2016	2017	2018	2019	2020
(USD millions)						
Net Sales		13,819	14,611	17,056	18,468	15,543
Operating Income		2,159	2,251	2,536	2,697	450
R&D Expenditures		152	140	161	121	138
Backlog		15,631	19,605	21,064	22,902	20,632

Boeing

GEOGRAPHIC SALES	2016	2017	2018	2019	2020
(USD millions)					
United States	40,307	43,706	44,676	42,681	36,979
Asia, other than China	9,892	9,195	12,141	10,662	4,128
Europe	13,018	11,240	12,976	10,366	7,961
Middle East	12,251	11,433	9,745	9,272	5,308
China	10,289	11,932	13,764	5,684	1,803
Canada	2,084	2,212	2,583	2,019	1,302
Oceania	1,693	1,931	2,298	2,006	832
Africa	1,990	815	1,486	1,113	114
Latin America, Caribbean & other	1,972	1,541	1,458	1,015	229
Estimated potential concessions and other considerations to 737 MAX customers	-	-	-	-8,259	-498
TOTAL	93,496	94,005	101,127	76,559	58,158

Defense, Space & Security Deliveries

Boeing's major defense- and space-related program deliveries for each of the last five years are as follows.

Defense, Space & Security	2016	2017	2018	2019	2020
AH-64 (new)	31	11	-	37	19
AH-64 (remanufactured)	34	57	23	74	52
CH-47(new)	25	9	13	13	27
CH-47 (remanufactured)	25	35	17	22	3
C-17	4	-	-	1	-
C-40A	-	-	-	2	-
F-15	15	16	10	11	4
F/A-18	25	23	17	23	20
KC-46 Tanker	-	-	-	28	14
P-8A Poseidon	18	19	16	18	15
Satellites (commercial & military)	7	4	1	2	-

Commercial Aircraft Orders and Deliveries

In the first half of 2021, Boeing booked 599 gross orders and received 356 cancellations, for a gain of 243 net orders. In 2020, Boeing accumulated a total of 184 gross orders and received 655 cancellations, for a loss of -471 net new orders. For the full year 2019, Boeing booked 243 gross orders and 330 cancellations, for a loss of -87 net new orders. Data for the past five years is presented below.

NET ORDERS	2016	2017	2018	2019	2020	1st half 2021
737	550	745	675	-183	-511	188
747	17	-2	18	0	-1	2
767	26	15	40	26	11	45
777	17	60	51	-4	10	24
787	58	94	109	74	20	-16
TOTAL	668	912	893	-87	-471	243

Boeing

GROSS ORDERS	2016	2017	2018	2019	2020	1st half 2021
737	640	843	760	67	130	516
747	18	6	18	0	1	5
767	26	15	40	26	11	45
777	23	60	59	38	13	24
787	80	107	131	112	29	9
Cancellations	-119	-119	-115	-330	-655	-356
TOTAL	668	912	893	-87	-471	243
DELIVERIES	2016	2017	2018	2019	2020	1st half 2021
737	490	529	580	127	43	113
747	9	14	6	7	5	2
767	13	10	27	43	30	13
777	99	74	48	45	26	14
787	137	136	145	158	53	14
TOTAL	748	763	806	380	157	156
BACKLOG	2016	2017	2018	2019	2020	1st half 2021
737	4,452	4,668	4,763	4,585	4,031	4,106
747	28	12	24	17	11	11
767	93	98	111	94	75	107
777	442	428	431	383	367	377
787	700	658	622	546	513	483
TOTAL	5,715	5,864	5,951	5,625	4,997	5,084

Total Orders and Deliveries

Data for Boeing's orders, deliveries, and unfilled orders for all models through the end of 2020 is presented below.

AIRCRAFT MODEL	GROSS ORDERS	DELIVERIES	UNFILLED
707/720*	1,016	1,010	0
717*	205	155	0
727*	1,900	1,831	0
737 -100/-200*	1,198	1,144	0
737 -300/-400/-500*	2,385	1,988	0
737 -600/-700/-800/-900 (incl BBJ)	7,933	7,068	42
737 MAX	5,370	414	3,989
747	1,763	1,560	11
757*	1,217	1,049	0
767	1,464	1,206	75
777	1,881	1,653	58
777X	350	0	309
787	1,882	992	513
TOTAL	28,564	20,070	4,997

*Out of production. Source: <http://www.boeing.com/commercial/#/orders-deliveries> (Report by model series)

Boeing**Production Rates**

Data for Boeing's production rate by model and quantity manufactured per month.

737 – Boeing decreased production to 42 per month in April 2019. Production was temporarily halted in January 2020 as Boeing worked toward securing recertification of the 737 MAX. Production resumed in May 2020. In June 2020, Boeing reported low production rates in 2021, with a gradual increase to 31 per month planned by late 2021. However, Reuters reported in May 2021 that Boeing plans to reach a rate of 26 per month by the end of 2021, then move to 31 per month in March 2022. Boeing said any further increases will correspond to market demand.

747 – No changes in production planned. Company confirmed production will end in 2022.

767 – No changes in production planned.

777 – In June 2020, Boeing announced plans to gradually reduce production to two per month in 2021.

787 – In December 2020, company said it planned to reduce production to five per month in 2021.

PRODUCTION RATES	737	747	767	777	787
September 2018	52	0.5	2.5	5	12
March 2019	52	0.5	2.5	5	14
December 2019	42	0.5	2.5	5	14
June 2020	?	0.5	3	5	10
December 2020	3.5*	0.5	3	5	10
June 2021	16	0.5	3	2	5

*Estimated, as Boeing had not announced official production rates for the 737.

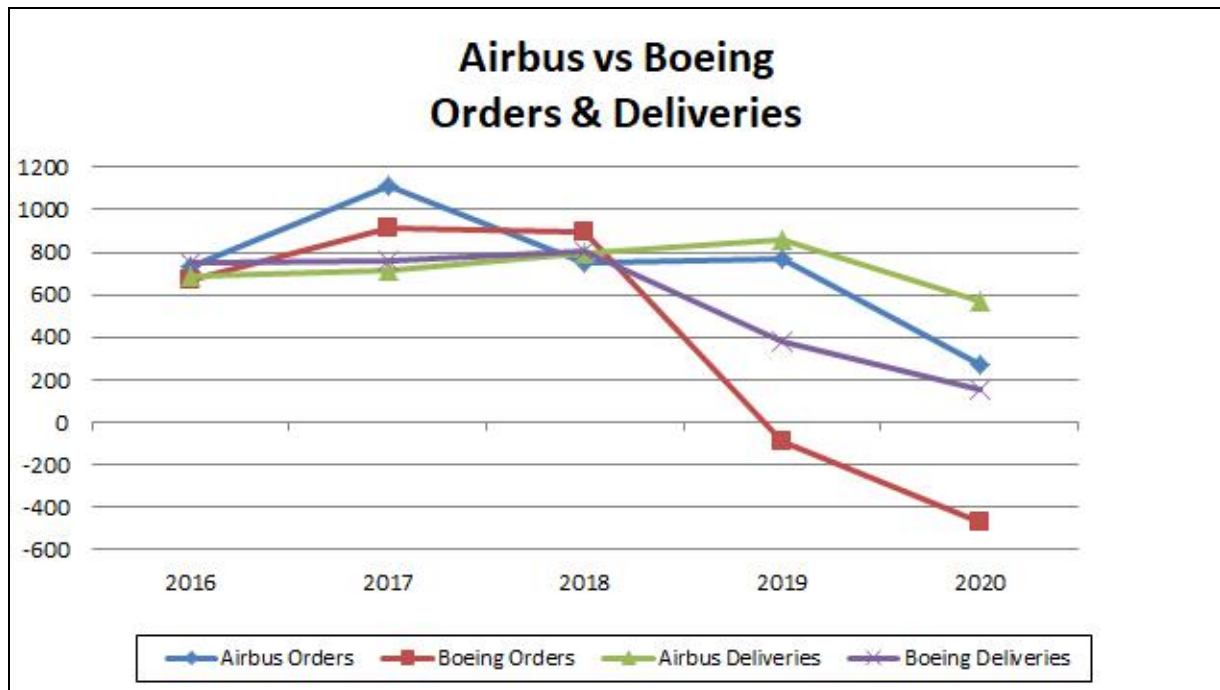
Source: <http://investors.boeing.com/investors/fact-sheets/default.aspx>

Airbus vs. Boeing

As Airbus and Boeing are a duopoly in the airliner market, a comparison of their orders and deliveries is provided below.

NET ORDERS	2016	2017	2018	2019	2020	1st half 2021
Airbus	731	1,109	747	768	268	38
Boeing	668	912	893	-87	-471	243
DELIVERIES	2016	2017	2018	2019	2020	1st half 2021
Airbus	688	718	800	863	566	297
Boeing	748	763	806	380	157	156

Boeing



Sources:

Airbus net orders - <http://www.airbus.com/aircraft/market/orders-deliveries.html>

Boeing net orders - <http://www.boeing.com/commercial/#/orders-deliveries>

Major Competitors

In the commercial aircraft market, Boeing's key competitors are Airbus, Bombardier, and Embraer. In addition, firms such as COMAC, Mitsubishi Aircraft, and United Aircraft Corp are seeking to gain market share.

In the defense and space markets, the company faces competition from Airbus, BAE Systems, General Dynamics, Lockheed Martin, Northrop Grumman, Raytheon, and SpaceX.

Strategic Outlook

With air travel resuming, Boeing's prospects are also rising. The company returned to profitability in the second quarter of 2021 with net income of \$567 million, compared to a loss of \$2.4 billion a year ago. Boeing reported revenues of \$17.0 billion for the quarter, up 44 percent compared to \$11.8 billion in the second quarter of 2020.

Key to the bottom line was the rise in deliveries of aircraft to 156 planes, compared to 70 in the first half of 2020. Deliveries are critical, as they are what give the company most of the cash from the aircraft sale.

These latest results are welcome news for the company following a brutal past two years, which saw the company lose \$638 million in 2019 and an eye-watering \$11.9 billion in 2020. The 2020 results reflected depressed deliveries due to COVID-19, ongoing struggles with the 737 MAX, and a \$6.5 billion charge on the 777X program.

The two fatal crashes of Boeing's 737 MAX, the aircraft's subsequent grounding, and the elusiveness in completing recertification dominated 2019 and most of 2020. Finally, after nearly two years of development, the aircraft's Maneuvering Characteristics Augmentation System (MCAS) has been redesigned and officially certified. The aircraft ultimately returned to service in December 2020.

The unprecedented scale of the crisis rattled the aerospace giant. It seemed unable to find stability as the months dragged on, and the 737's return was continually delayed and uncertain. The firm's reputation was further sullied as ugly internal messages emerged, impinging the company's safety and engineering culture. Boeing's board finally had enough. In December, the board replaced CEO Dennis A. Muilenburg with industry veteran and Boeing board member David L. Calhoun.

Boeing

Then a global pandemic hit, stopping all air travel and plunging the industry into uncharted territory as it dealt with the crisis. Production lines were temporarily shuttered, production schedules were revised, and suppliers struggled to stay open. Although the situation is beginning to improve, air travel is not forecast to reach its prepandemic levels until 2024 at the earliest – that is, barring a major resurgence of the virus thanks to the new Delta variant.

The company received a welcome boost in the first half of 2021 when United Airlines placed an order for 200 737 MAX narrowbodies. This helped push the company's backlog up to 5,084 aircraft at the midyear point, compared to 4,997 aircraft at the end of 2020. The 737 MAX accounts for the majority of the company's order book, with 4,106 orders as of June 30, compared with 3,989 on order at the end of 2020.

Another victim of the crisis has been the 777X program. In January 2021, Boeing announced it would cut the forecast production by almost 13 percent, from 400 aircraft to 350. The reduction was attributed to the long-term effects of the pandemic, which has reduced demand for widebody aircraft such as the 777. Boeing now anticipates that the first 777X delivery will occur in late 2023, rather than 2022. This schedule, and the associated financial impact, reflects a number of factors, including an updated assessment of global certification requirements, the company's latest assessment of COVID-19 impacts on market demand, and discussions with customers with respect to aircraft delivery timing, the company said. As a result, Boeing, as mentioned above, took a \$6.5 billion charge on the 777X program in the fourth quarter of 2020.

Diminishing the recent success were issues with another Boeing program, the 787. The 787 suffered a new production bottleneck in mid-2021 involving the fuselage skin in areas where fuselage sections come together. This new problem will slow delivery of stored aircraft built in 2020 and will lead to a temporary cut in the current production rate of five aircraft per month as Boeing works through the issue.

The current forecast is for the commercial aerospace sector to rebound to prepandemic levels in the 2024-2025 timeframe. According to Forecast International's *Civil Aircraft Forecast*, a complicating factor here is the large number of aircraft the airlines have idled. Many of these aircraft, perhaps even most, can be expected to return to service, thus dampening the immediate demand for new aircraft as air traffic starts to turn around. Eventually, however, the revival of air traffic will result in carriers becoming once again willing to take delivery of aircraft in significant quantities. Airlines and leasing companies will also begin placing

new orders for aircraft, as the recent United Airlines order can attest.

Defense Remains Stable

While its commercial operations struggled, Boeing's defense unit has been relatively stable, with sales up slightly to \$26.3 billion in 2020, compared to \$26.1 billion in 2019. Modest growth for this sector continued, with the unit increasing revenue to \$6.9 billion in the second quarter, from \$6.6 billion a year ago.

Over the past few years, Boeing's defense unit has won several major competitions, providing it with a solid backlog of work. In 2018, the company won contracts for the U.S. Air Force's Huey Replacement Program with the MH-139, the U.S. derivative of the Leonardo AW139; the Navy's carrier-based MQ-25 Stingray unmanned tanker aircraft; and its biggest prize, the Air Force's T-X trainer won in a competition in partnership with Saab.

The wins represent a big turnaround for the company, which was without a next-generation military aircraft project prior to the awards. C-17 production is complete, and the company's F/A-18 and F-15 programs are winding down. Now these three new programs will replace them.

But here's the rub. The company went in with very low bids in order to secure the wins. Boeing's aggressive pricing strategy and willingness to accept the risks shut out its competitors so hard that not one filed a protest of any of the awards. The company is banking on the hope that the lucrative long-term support for these programs will balance the initial out-of-pocket investment in the development and production phases. To meet this challenge, Boeing has decided to move its defense services and support work out of the high-cost Seattle, Washington, area to the lower-cost regions of St. Louis, Missouri, and Oklahoma City, Oklahoma – with the goal of turning its Midwest operations into a solid defense manufacturing base.

Not unexpectedly, the T-7A program has run into some development issues that have caused the schedule to shift to the right. The aircraft has been delayed by a year or more due to technical issues and COVID-19 related parts shortages. Due to these issues, the Milestone C review, which is required before the aircraft can enter full production, has been pushed back about 15 months.

Despite the problems, the sheer size and longevity of the T-7A program will make up for any near-term delay. Judging by the past success of earlier U.S. trainer programs, the contract opens the field to Boeing and Saab for additional trainer and basic fighter aircraft needs around the world.

Boeing

The company's legacy defense programs continue to receive congressional support. Recent appropriations included funding for major Boeing programs such as the F/A-18 Super Hornet, F-15EX, CH-47 Chinook, AH-64 Apache, V-22 Osprey, KC-46A Tanker, P-8 Poseidon, and Space Launch System.

However, there has been some struggle in the defense division too. Delays and issues with the KC-46A program have led to several billion in losses since 2016. These costs were attributed to various issues, such as certification, flight-testing, and incorporating changes into the aircraft, among others. The program continues to deal with technical deficiencies, which have slowed delivery plans. The USAF procured 94 production

aircraft through FY21 and had taken delivery of 46 by the end of 2020. The service has delayed a decision on full-rate production to mid-2024 as it waits to make sure Boeing can deliver an upgraded remote vision system and other improvements.

In addition, the CST-100 Starliner spacecraft racked up over \$400 million in losses, primarily for provision of another uncrewed mission following a truncated mission in December 2019. The program was dealt another setback in early 2021 when the Space Launch System rocket test was aborted shortly after it began. A second test in the summer of 2021 was also scrubbed, due to technical problems with valves.

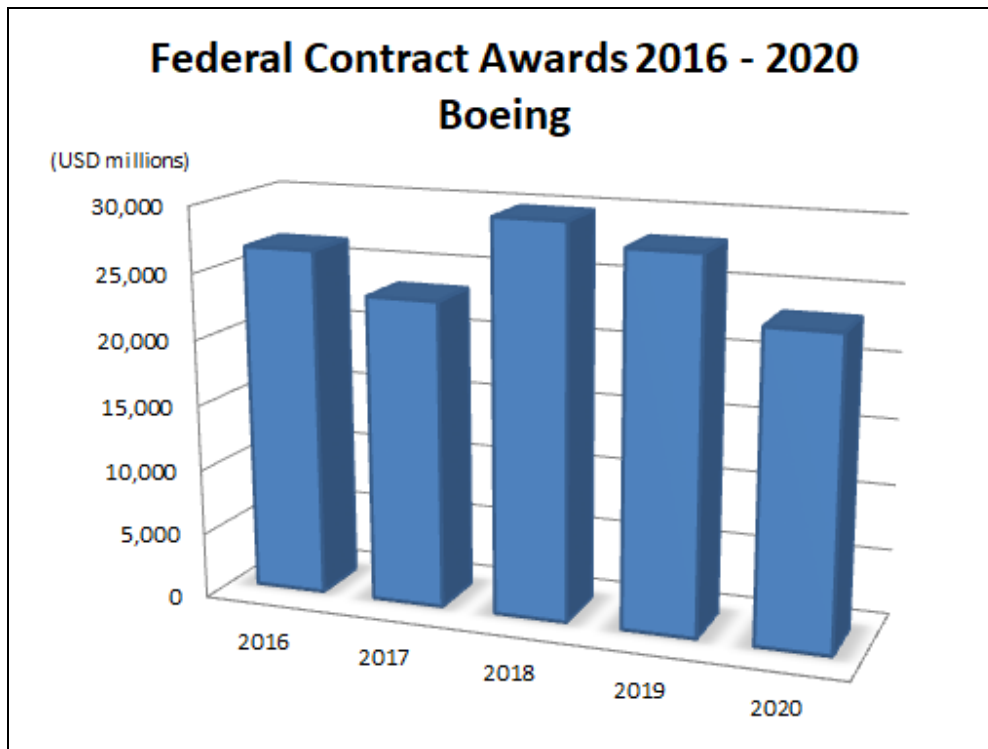
Prime Award Summary

The following table and chart show the dollar volume of federal prime contract awards and the company's rank (if applicable) among the top 100 federal contract award recipients for 2016 through 2020. For more information, refer to Appendix I, "Recipients of Federal Contract Awards."

Boeing	2016	2017	2018	2019	2020
(USD millions)					
Rank	2	2	2	2	4
Total Federal Awards	26,497	23,362	29,756	28,089	23,256

Federal contract awards for the Bell-Boeing joint venture are as follows. These figures are *not* included in the preceding Boeing totals.

Bell-Boeing	2016	2017	2018	2019	2020
(USD millions)					
Rank	23	23	29	41	41
Total Federal Awards	2,282	2,510	2,449	1,724	1,969

Boeing

Source: U.S. General Services Administration's System for Award Management (SAM) Top 100 Contractors Report
(<https://sam.gov/reports/awards/static>)

Program Activity

The following outlines some aerospace and government programs currently underway at Boeing. The briefs are intended to provide a listing of programs that are of major importance to the company. For detailed information on or analysis of specific aerospace and defense programs or equipment, please refer to the applicable Forecast International service (for example, *Civil Aircraft*, *Military Aircraft*, *Military Vehicles*, *Warships*, *Missiles*, *Electronic Systems*, and *Aviation Gas Turbines*). The company's business interests are as follows:

Aircraft

- Avionics
- C4I Systems
- Civil and Military Fixed-Wing Aircraft
- Civil and Military Helicopters
- Military Electronic Systems
- Missiles
- Space Systems
- Systems Integration
- Unmanned Vehicles

Contract Vehicles

Contract vehicles provide federal agencies with a convenient and easy-to-use mechanism for obtaining a wide variety of management and technology services.

Indefinite delivery/indefinite quantity contracts provide for an indefinite quantity of services for a fixed time. They are used when the U.S. General Services Administration (GSA – www.gsa.gov) can't determine, above a specified minimum, the precise quantities of supplies or services that the government will require during the contract period. IDIQs help streamline the contract process and speed service delivery. IDIQ contracts are most often used for service contracts and architect-engineering services.

Under the GSA Schedules Program (GSA schedules are also referred to as Multiple Award Schedules and Federal Supply Schedules), the GSA establishes long-term government-wide contracts with commercial firms to access over 11 million commercial supplies (products) and services.

Boeing

Boeing delivers services and products to federal customers through a variety of IDIQ contracts, GSA schedules, and Department of Defense Other Transaction Authority (OTA) consortia.

Contract Vehicles

- Advanced Battle Management Systems (ABMS)
- Advanced Technology Support Program IV (ATSP4)
- Automated Test Equipment and Test Program Sets Integration (ATE) (TPS)
- Contracted Maintenance, Modification, Aircrew and Related Services (CMMARS)
- Global Tactical Advanced Communication Systems and Services II (GTACS II)
- GSA OASIS
- IT 70 Schedule
- Mission Planning Enterprise Contract II (MPEC II)
- Professional Services Schedule (00CORP)
- Science and Technology for Autonomous Teammates (STAT) (SKYBORG)
- Seaport NxG
- Training Data Products Contract (TDPC)
- Training Services Contract IV (TSC IV)

OTA Memberships

- Consortium for Command, Control, and Communications in Cyberspace (C5)
- Naval Aviation Systems Consortium (NASC)
- System of Systems Consortium (SOSSEC)
 - U.S. Army COBRA
 - Air Force Research Laboratory
 - AFLCMC Propulsion Acquisition Directorate
 - National Geospatial Intelligence
 - Supply Chain Consortium Initiative (SCCI)
 - U.S. Army Engineer, Research and Development Center (ERDC)
- Sensors, Communications, Electronics (SCE) Consortium
- Vertical Lift Consortium
- Defense Innovation Unit
- Aviation Propulsion Consortium
- National Spectrum Consortium (NSC)
- Undersea Technology Innovation Council (UTIC)
- Naval Surface Technology & Innovation Consortium
- Space Enterprise Consortium (SPeC)
- Aviation and Missile Technology Consortium (AMTC)
- National Advanced Mobility Consortium (NAMC)
- National Armament Consortium
- The Autonomy Research Collaboration Network (ARCNet)

- Information Warfare Research Project (IWRP) Consortium
- Metals Affordability Initiative Consortium
- National Security Technology Accelerator (NSTXL)
- The Digital Manufacturing Institute (MxD)
- Lightweight Innovations for Tomorrow (LIFT)
- Advanced Robotics for Manufacturing (ARM)
- Flexible Hybrid Electronics Manufacturing (NEXTFLEX)
- AIM Photonics
- The Composites Institute (IACMI)
- America Makes

For the latest details on Boeing's IDIQ contracts, GSA schedules, and OTA memberships, please visit: <https://om.govwin.com/boeing/contract/index>

Commercial Aircraft Programs

Boeing 737

The 737 is a twin-engine, short- to medium-range, single-aisle, narrowbody transport aircraft. The 737 is designed for short- to medium-haul scheduled passenger transportation. In August 2011, Boeing announced its 737 MAX, a new-engine variant of its Next Generation 737 design. The aircraft is designed to be a direct competitor to the Airbus A320neo. The new family of aircraft consists of three models: the 737 MAX 7, 737 MAX 8, and 737 MAX 9. The jetliner is powered by the CFM International LEAP-1B engine, and was expected to have 16 percent lower fuel consumption than the current Airbus A320 and 4 percent lower consumption than the A320neo, its main competitor. First flight of the 737 MAX occurred in January 2016; deliveries to customers began in 2017.

In August 2020, the FAA proposed four key changes to address safety issues with the 737 before it could return to service. According to reports, the agency issued a proposed airworthiness directive to require updated flight-control software and revised display-processing software to generate alerts, plus revisions to certain flight-crew operating procedures and changing the routing of some wiring bundles.

The flagship aircraft's deliveries were suspended and in-service fleets grounded as Boeing developed a fix for the 737 MAX's Maneuvering Characteristics Augmentation System. Both crashes were traced to the MCAS. Return to service occurred in December 2020. For more details, see **Plant Expansion/Organization Update**.

Boeing**Boeing 737 BBJ**

The 737 Boeing Business Jet is a twin-engine, high-capacity, long-range executive transport aircraft. A joint venture between Boeing and General Electric's GE Aircraft Engines Business Group, the BBJ was launched in July 1996 in response to what Boeing described as market demand for a larger, more capable corporate aircraft offering a range in excess of 6,000 nautical miles.

Boeing 747

The 747 is an intercontinental-range, four-engine, widebody commercial transport aircraft designed for very long-range, high-density scheduled passenger and cargo transportation. Military applications include airborne strategic communications and VIP transport. The 747-8 program has long suffered from weak demand. Boeing delivered only seven aircraft in 2019, up from six the year before. Boeing has cut production periodically since 2015, with the latest rate cut – to 0.5 aircraft per month – likely to be the last. In July 2020, Boeing's management confirmed that it planned to terminate production of the 747 when the current backlog is exhausted in 2022.

Air Force One. In January 2015, the USAF selected Boeing as the prime contractor for the next U.S. presidential transport. The aircraft will be based on Boeing's 747-8 airframe. The Air Force budgeted \$1.6 billion for research through 2019 on the presidential aircraft replacement program. The Air Force is seeking to replace its aging Boeing 747-200 aircraft, which reached the end of their planned 30-year service life in 2017. Once the new Air Force One is delivered, it will be tested before entering service. Testing was originally scheduled for FY23, but may be delayed until 2025 due to COVID-19 related supply issues.

Boeing 757

The 757 is a twin-engine, high-capacity, medium-range, narrowbody commercial transport. Other applications include scheduled small package and general freight transportation. Boeing has ended the 757 line; the manufacturer's 787 Dreamliner is the heir apparent to both the 757 and 767 models. The 757 production line closed in 2004.

Boeing 767

The 767 is a twin-engine, high-capacity, widebody commercial transport aircraft designed for medium- and long-range medium-density passenger transportation. The 787 will replace the 767 in the Boeing lineup, at least as a civil passenger airliner. Current 767 production is focused on freighters. The 767-2C serves as the basis for the U.S. Air Force KC-46A tanker.

Boeing 777

The 777 is an advanced-technology, twin-engine, high-capacity, widebody commercial transport aircraft. The 777 is designed for medium- to long-range high-density scheduled passenger transportation. Extended-range versions are available with 7,000-plus-nautical-mile ranges. The 777 has additional long-term potential as a dedicated freighter and military transport/tanker and as a special-purpose aircraft. Airbus' new A350 XWB looms as a major competitive threat to the 777 family. In response, Boeing is considering various options to improve or replace the 777.

In November 2013, Boeing launched the 777X program at the 2013 Dubai Air Show with a record 259 customer orders and commitments, representing the largest product launch in commercial jetliner history by dollar value. Orders and commitments for the 777X include Lufthansa with 34 airplanes, Etihad Airways with 25, Qatar Airways with 50, and Emirates with 150. The combined value of the agreements is more than \$95 billion at list prices. In November 2015, Boeing dropped the X suffix from its individual stretched 777 variants, although it will retain the designation for the overall family. The 777X family includes the 777-8 and 777-9. The 777-9 offers seating for more than 400 passengers, depending on an airline's configuration choices, and a range of more than 8,200 nautical miles (15,185 km). The second member of the family, the 777-8 will seat 350 passengers and offer a range of more than 9,300 nautical miles (17,220 km). The new aircraft will be powered by the GE Aviation GE9X engine and have an all-new high-efficiency composite wing that has a longer span than that of the 777.

First flight of the 777X powered by two GE9X engines occurred in January 2020. In January 2021, Boeing postponed initial delivery of the 777-9, the lead variant in the 777X series, to the fourth quarter of 2023. It had previously been scheduled for 2022.

In July 2020, Boeing had postponed initial delivery of the 777-9 to 2022 from 2021. Boeing indicated that the delay reflected a number of factors, including an updated assessment of global certification requirements, an assessment of the impact of the COVID-19 pandemic on market demand, and discussions with customers regarding aircraft delivery schedules.

The 777-8 model had been scheduled to enter service in 2022 but, in August 2019, Boeing said that this would be postponed. The manufacturer did not specify how long the postponement would last, but has emphasized that it remains fully committed to the variant.

Boeing 787 Dreamliner

This is a long-range, twin-engine commercial transport. The main design goals of this aircraft are increased fuel

Boeing

efficiency and reduced maintenance costs. Program launch occurred in April 2004 with a record order from All Nippon Airways. The aircraft seats 200 to 250 passengers and offers ranges of 7,000 to 8,000 nautical miles; it is the intended successor to both the 757 and 767 models.

Order intake for the 787 has weakened in recent years, with backlog shrinking to 513 at the end of 2020 from 546 at year-end 2019, which was down from 622 at the end of 2018.

The 787 suffered a new production bottleneck in mid-2021 involving the fuselage skin in areas where fuselage sections come together. This new problem will slow delivery of stored aircraft built in 2020 and will lead to a temporary cut in the current production rate of five aircraft per month as Boeing works through the issue.

Electronics Programs

(Airborne Electronics)

Joint STARS

The Joint Surveillance Target Attack Radar System is an airborne, multimode, advanced synthetic aperture radar system. The JSTARS program has developed a radar for mounting on the USAF E-8A airframe (modified Boeing 707). The JSTARS was designed to locate, track, and classify tracked and wheeled vehicles, enabling ground commanders to attack targets beyond ground line of sight. Northrop Grumman is the prime contractor for this program. A JSTARS recapitalization program was canceled in 2018.

(C4I)

BMD C2BMC Program

The Ballistic Missile Defense (BMD) Command and Control, Battle Management, and Communications (C2BMC) program is a research and development effort of the U.S. Missile Defense Agency. The goal of the program is to deliver an integrated, layered ballistic missile defense system by networking and unifying individual element components (sensors, weapons systems, fire control systems) with all military echelons across the globe. Boeing is one of several contractors working on this effort. Specifically, Boeing is the lead system integrator for the Ground-based Midcourse Defense program (see entry in the **Missile Programs** section below).

EMARSS

The Enhanced Medium Altitude Reconnaissance Surveillance System is a U.S. Army project for an airborne manned, multisensor, intelligence collection platform. The EMARSS flies on board the C-12 (King Air 350) platform in various configurations.

Three new EMARSS variants (EMARSS-G, EMARSS-M, and EMARSS-V) will be created, based on the reconfiguration of existing C-12 aircraft. Boeing is the prime contractor.

Family of Advanced Beyond Line-of-Sight Terminals

The Family of Advanced Beyond line-of-sight Terminals is a transformational program intended to provide a multimission-capable family of satellite communications terminals. The FAB-T will be installed on airborne and ground-based command posts. The first increment includes the B-2, B-52, E-4B, E-6B, and RC-135 aircraft and ground-based posts. Future increments may include up to 41 additional airborne platforms. In June 2014, the Air Force awarded Raytheon (over original prime Boeing) a contract modification to produce FAB-T command post terminals.

PRQ-7 Combat Survivor Evader Locator (CSEL)

The Combat Survivor Evader Locator is a lightweight device that provides line-of-sight, over-the-horizon voice and data communications. Additionally, the CSEL radio contains a GPS module that permits search-and-rescue teams to accurately locate downed pilots. Production is ongoing.

(Land- and Sea-Based Electronics)

CASS

The Consolidated Automated Support System comprises a family of automatic test equipment for the U.S. Navy. This program is aimed at developing a modular, multifunctional automatic test system based on standard hardware and software elements for all U.S. Navy electronic systems. Boeing's RTCASS, or Reconfigurable Transportable CASS, is lighter, smaller, and less expensive than the standard CASS station. Boeing has been awarded steady contracts for production of its variant.

In September 2018, Lockheed Martin won a seven-year contract worth potentially more than \$500 million to build and deliver 200-plus eCASS units. eCASS is scheduled to replace the U.S. Navy's older CASS units.

USQ-82(V) GEDMS

The USQ-82(V) GEDMS (Gigabit Ethernet Data Multiplex System) is an information transfer system installed on U.S. Navy ships that manages data from a ship's navigation, steering control, damage control, machinery control, and combat and internal communications systems. It is designed to handle the information transmission requirements of a wide variety of vessels and installations, ranging from shore-based test facilities to aircraft carriers, frigates, and

Boeing

submarines. Boeing is the design agent and technical services provider for the USQ-82(V) family of systems, consisting of the Data Multiplex System, Fiber Optic Data Multiplex System (FODMS), and GEDMS.

Military Aircraft Programs

A-10 Wing Replacement

In August 2019, the U.S. Air Force ordered 27 A-10 wing sets under an initial \$240 million contract award. If all options to produce up to 112 wing sets and spare kits are executed, the contract will have a value of up to \$999 million. The contract runs through FY30. Under a previous contract, Boeing delivered 173 wing sets to the Air Force.

Boeing 767 AWACS

This is an airborne early warning and control (AEW&C) aircraft based on the Boeing 767. Japan was the launch customer for the 767 Airborne Warning And Control System (AWACS) program. Four 767 AWACS aircraft have been produced for Japan. Due to the high acquisition cost of the aircraft, further procurement is unlikely.

Boeing/BAE Systems T-45A

The T-45A is a single-engine, two-seat advanced naval flight training aircraft. Boeing (65 percent) and BAE Systems (35 percent) are the prime contractors. Production for the U.S. Navy ended in 2009.

Boeing C-17

The C-17 Globemaster III is a four-engine, strategic military heavy-lift transport aircraft designed for long-range intertheater cargo/personnel transportation, with intratheater applications. Additional heavy-lift missions are envisioned for NASA and other U.S. and international government agencies. Production of the C-17 ended in November 2015 with 279 Globemasters produced, 223 for the U.S. Air Force alone. In addition to the U.S., the C-17 is in service with the United Kingdom, Australia, Canada, Qatar, the United Arab Emirates, India, Kuwait, and the NATO Heavy Airlift Wing. With the completion of C-17 production, Boeing will continue providing support, maintenance, and upgrades to the worldwide fleet under the C-17 Globemaster III Integrated Sustainment Program (GISP) Performance Based Logistics (PBL) agreement.

Boeing EA-18G

The EA-18G will be the cornerstone of the naval airborne electronic attack (AEA) mission. Boeing and the U.S. Navy signed a five-year System Development and Demonstration (SDD) contract in December 2003. The U.S. Navy procured 160 Growlers through FY16. Boeing delivered the last of these in 2018. Australia ordered 12, all of which Boeing delivered by the end of

2017. In February 2019, the U.S. DoD approved Boeing's request to offer the Growler to Finland as part of that country's HX fighter procurement program.

Boeing F-15 Eagle

The F-15 is a twin-engine, single-seat, high-performance air superiority fighter and two-seat all-weather strike fighter aircraft designed for long-range air superiority and all-weather conventional and nuclear strikes. In 2009, Boeing announced a stealthier variant of the F-15E, designated the F-15SE, or Silent Eagle. Saudi Arabia ordered 84 new F-15SA aircraft in December 2011. Qatar ordered 36 new F-15QAs in June 2017 under a \$6.17 billion FMS contract (let in December 2017). In January 2020, the USAF began the process of acquiring an initial eight F-15EX aircraft (see **New Products and Services**).

Boeing F/A-18E/F Super Hornet

The F/A-18 is a twin-engine, single- and twin-seat, land- and sea-based, high-performance multirole fighter/attack aircraft. The Hornet is a carrier- and land-based fighter/interceptor and day/night strike aircraft. Its primary missions are fighter escort and interdiction, while its secondary missions are air defense, fighter escort, close air support, forward air control, and reconnaissance. Boeing is responsible for 60 percent of the production value. Northrop Grumman is the principal subcontractor, with a 40 percent production share.

Production of the F/A-18E/F Super Hornet family, which includes both the fighter and the EA-18G Growler electronic warfare variant, was once expected to end in 2017. However, the U.S. Navy is continuing to buy Super Hornet fighters to cover gaps caused by F-35C delays. To help cover the gap, Congress approved procurement of 14 more aircraft in FY17, 24 more in FY18, and another 24 in FY19. Meanwhile, Boeing is set to wrap up deliveries of 28 Super Hornets ordered by Kuwait in early 2021.

Currently the Super Hornet is a strong contender to fill requirements in Canada, Finland, and Germany.

Boeing KC-767/KC-46A Tanker

The KC-767 and KC-46A are twin-engine aerial tanker conversions of the commercial 767-200ER transport. Boeing announced its 767 tanker/transport version in 1995, primarily for a Japanese requirement. The U.S. manufacturer won the award for four aircraft in April 2003. In July 2001, the Italian Air Force bought four new-production 767 tankers in a deal worth \$618 million. In June 2015, the KC-46A lost a South Korean competition to Airbus' A330 MRTT.

In February 2011, Boeing was selected over rival Airbus parent EADS (now Airbus SE) in the long-

Boeing

running USAF KC-X Tanker program. Boeing's NewGen Tanker, dubbed the KC-46, will replace 179 of the service's 400-plus KC-135 tankers. The program passed its Critical Design Review (CDR) in 2013. Ultimately, the program could be worth more than \$30 billion in the coming years.

Boeing is taking a substantial financial risk under the program, since the deal includes provisions that put Boeing on the hook for a huge portion of any cost overruns; according to reports, the program has already experienced almost \$1.6 billion in overruns. First flight occurred in September 2015. The program slipped in July 2016 when Boeing announced that it would miss a contractual deadline to deliver 18 certified tankers to the fleet by August 2017. The Pentagon had awarded Boeing a firm-fixed-price incentive contract that required delivery of 18 new tankers by 2017. Boeing missed this deadline. A new schedule allowed Boeing to complete deliveries of the initial batch of 18 aircraft and nine sets of Wing Aerial Refueling Pods (WARPs) by October 2018.

In January 2019, the first two aircraft were delivered. The company said initial deliveries would rise sharply and then level off to three aircraft per month through the year. However, the program suffered yet another delay in the first half of 2019 when the USAF twice suspended deliveries after it discovered that aircraft were arriving with foreign objects and debris left inside the fuselage. In 2020, another issue with the aircraft's remote vision system was discovered. Boeing is redesigning the system at its own cost, which will take until 2023. One more problem is that the system cannot refuel A-10 aircraft, the USAF is footing the bill for this redesign. These issues and several others have delayed full-rate production until 2024.

Boeing P-8A Poseidon

Derived from the Boeing 737 commercial transport, this is a land-based, twin-engine maritime patrol/anti-submarine warfare (ASW) aircraft. In June 2004, the U.S. Navy selected a Boeing-led industry team as the winner of the \$3.89 billion Multimission Maritime Aircraft, or MMA, contract to build the Boeing P-8 Poseidon. They faced a competing bid from Lockheed Martin with the Orion 21 (a much-enhanced derivative of the P-3C). The total program acquisition value is estimated at \$20 billion. The Boeing team, which includes CFM International, Northrop Grumman, Raytheon Technologies, and Smiths Aerospace, produced seven test aircraft during the program's SDD phase. The P-8's first flight occurred in April 2009. The U.S. Navy procured a total of 120 production aircraft through FY20, and Congress added nine more aircraft in FY21.

Boeing is also working on export orders from Australia, Germany, India, New Zealand, Norway, South Korea, and the U.K.

Boeing/Saab T-7 Red Hawk

In September 2018, Boeing and teammate Saab were selected as the winners of the U.S. Air Force's long-running T-X trainer competition. The \$9.2 billion award funds 351 jets, 46 simulators, and associated ground equipment. The T-X replaces the aging T-38 Talon, which first entered service in 1959 and has been modified over the years into the current T-38C model. Saab will supply the aft fuselage and other components and systems. The Swedish company intends to perform this work at a new manufacturing facility in West Lafayette, Indiana. Final assembly will take place at Boeing's facility in St. Louis. The aircraft was officially named the T-7A Red Hawk by the U.S. Air Force in September 2019. Boeing believes that, over the life of the program, a market exists for up to 2,600 T-7s or T-7 derivatives for use in training, aggressor, or light attack roles. The first T-X trainers will enter service in 2023 at Randolph Air Force base; Full Operational Capability had been expected by 2024, but parts shortages, wing rock, and design delays have pushed the schedule back by some 15 months.

Website: <http://www.boeing.com/defense/t-7a/>

Lockheed Martin/Boeing F-22 ATF

This is a twin-augmented, turbofan-powered, single-seat, air-superiority fighter aircraft. Boeing was teamed with Lockheed (team leader) on this next-generation fighter aircraft. The Lockheed team was selected in April 1991 to enter engineering and manufacturing development. The first EMD aircraft flew in 1997; low-rate production was approved in December 1998. Production of the F-22 ended with delivery of the 187th production aircraft in December 2011. Efforts in Congress to extend production failed in the face of a veto threat by the White House.

Missile Programs

AGM-130A

The AGM-130 is an air-to-ground standoff missile based on the GBU-15 glide bomb.

AGM-114A/B HELLFIRE

The HELLFIRE is a modular laser-guided anti-tank/anti-ship missile system. Hellfire Systems LLC of Orlando, Florida, a joint venture of Boeing and Lockheed Martin, manufactures the HELLFIRE. Boeing builds all HELLFIRE seekers and several components, while Lockheed Martin acts as systems integrator and is responsible for other components.

Boeing**AGM-84E SLAM**

The first Stand-off Land Attack Missile was rolled out in November 1988. The SLAM is an air- and surface-launched missile system developed by Boeing that is used to attack land-based targets. Full-scale production was approved in May 2000. Production concluded in 2009.

AGM-86B ALCM/LRSO

The AGM-86 is an air-launched cruise missile (ALCM) developed and manufactured by Boeing. Production of the AGM-86 has been terminated. Some of the nuclear-armed AGM-86B inventory is being reconfigured as conventional cruise missiles, designated AGM-86Cs. The U.S. Air Force may keep this Conventional Air Launched Cruise Missile (CALCM) in service through 2020 or 2030. The Long-Range Standoff (LRSO) weapon program offers a replacement for the USAF's aging AGM-86B ALCM inventory; however, this program is encountering opposition from some members of Congress. So far, the arguments against LRSO are not strong enough to derail the program, and engineering development could perhaps start in 2022 or 2023. Production of the LRSO could begin sometime between 2026 and 2030.

AGM/RGM/UGM-84 Harpoon

The Harpoon is an all-weather family of anti-ship missiles developed and produced by Boeing. The Harpoon anti-ship missile remains available for export. The Block II version is very attractive to many navies because of its low-cost, low-risk approach to meeting anti-shipping needs in both blue water and littoral warfare environments.

Arrow

The Arrow is a theater tactical ballistic missile defense system being produced by Israel Aerospace Industries. In January 2002, Boeing and IAI signed a deal for the joint development and manufacture of the Arrow. Under this proposed deal, Boeing would produce 51 percent of the Arrow missile's components and parts. In this regard, Boeing is responsible for production of the Arrow's electronics section, its radome, motor cases for the booster and sustainer, and the canister that holds the interceptor in the missile launcher. Final assembly takes place at IAI's facility in Israel. The system is in production.

Ground-based Midcourse Defense

In January 2018, the U.S. Missile Defense Agency awarded Boeing a sole-source, \$6.6 billion contract extension (HQ0147-12-C-0004) to build a new silo and 20 more ground-based interceptors (GBI), as well as sustain the Ground-based Midcourse Defense (GMD) system. Boeing's teammates on the GMD program include Orbital ATK (since acquired by Northrop

Grumman), Northrop Grumman, and Raytheon. Under this effort, Boeing will deliver a new missile field with 20 additional silos, plus two additional silos to an existing missile field at Fort Greely, Alaska. There are currently 44 silos deployed – 40 at Fort Greely and four at Vandenberg Air Force Base in California. This contract extension brings the total program value to \$12.6 billion and runs through December 2023.

Redesigned Kill Vehicle. In May 2017, Boeing was awarded a \$58.6 million, 35-month contract from the U.S. Missile Defense Agency to demonstrate its Redesigned Kill Vehicle (also called the evolved Multi-Object Kill Vehicle, or MOKV), which increases interceptors' ability to locate and destroy missiles headed toward the United States. In August 2019, the DoD decided to cancel this redesign effort. Overcoming the difficulties with this program proved to be either insurmountable or just too costly.

LGM-30G Minuteman/GBSD

The Minuteman is a three-stage, solid-propellant, intercontinental ballistic missile developed and manufactured by Boeing. The missile is out of production, but upgrades continue. The Ground-Based Strategic Deterrent program will provide a Minuteman III replacement. Boeing and Northrop Grumman were competing to be the GBSD contractor, but Boeing dropped out in July 2019.

Ordnance Programs**GBU-29 JDAM**

The Joint Direct Attack Munition is a low-cost guidance kit that converts existing unguided free-fall bombs into highly accurate guided weapons. Boeing conducted EMD on the F-16, and integrated the lightweight JDAM on the U.S. Air Force's B-2 and U.S. Navy's F/A-18 aircraft. This smaller version of the baseline JDAM improves mission capability by allowing more JDAMs to be loaded on an aircraft, and the smaller warhead reduces damage around the intended target. The heavy employment of the Joint Direct Attack Munition in Iraq and Afghanistan has helped support a significant level of procurement by the U.S. Department of Defense. Further supporting the JDAM production line are international sales. Since 2008, countries asking permission to purchase the JDAM have included Israel, Japan, Morocco, Saudi Arabia, Singapore, South Korea, Taiwan, Turkey, and the United Arab Emirates.

Rotorcraft Programs**Bell/Boeing V-22 Osprey**

This is a pressurized, twin-engine, advanced-technology tiltrotor military transport rotorcraft. Its primary mission is airborne amphibious troop assault. Future



Boeing

missions include combat search and rescue, fleet logistics and special warfare, long-range special forces operations, defensive fire suppression, airborne early warning, and anti-submarine warfare. The Pentagon approved FRP of the V-22 in September 2005.

Current V-22 procurement plans are as follows: Marine Corps, 360 MV-22 aircraft; Navy, 48 CMV-22Bs; and Air Force, 56 CV-22s. The Japan Ground Self-Defense Force (JGSDF) has received funding for all 17 MV-22s that it currently plans to acquire.

A number of nations have shown interest in the V-22, among which are Australia, Brazil, France, India, Indonesia, Israel, Italy, Qatar, South Korea, Spain, the United Arab Emirates, and the United Kingdom.

Boeing AH-6

In October 2008, Boeing announced a new rotorcraft program, the AH-6 light attack/reconnaissance helicopter. Based on the MH-6 Little Bird and MD 500 family, the AH-6 features an electro-optical/infrared forward-looking sight system and a mount for weapons that have been qualified on the aircraft, including HELLFIRE missiles, the M260 seven-shot rocket pod, a machine gun, and a Minigun integrated with a sensor system. A communications package allows the AH-6 to connect to other aircraft and to ground stations. In September 2014, Boeing was formally awarded a \$234.7 million contract from Saudi Arabia for 24 AH-6i aircraft via a U.S. Foreign Military Sale. The AH-6i is the export version of the AH-6S that Boeing developed for the U.S. Army's now-canceled Armed Reconnaissance Helicopter program.

Boeing intends to propose the AH-6i for Australia's upcoming LAND 2097 Phase 4 requirement for at least 16 helicopters to provide support for special operations (see **Teaming/Competition/Joint Ventures** for details). Boeing produces the AH-6i at its facility in Mesa, Arizona.

Boeing AH-64 Apache

The Apache is a twin-engine, tandem-seat, heavy attack/close support helicopter. Its missions are primarily anti-armor attack and aerial fire support. The U.S. Army is acquiring both remanufactured and new-build examples of the AH-64E Guardian, Boeing's latest version of its Apache attack helicopter. Redeliveries to the service of AH-64Es remanufactured from AH-64Ds have been underway since 2011. Deliveries to the Army of new-build AH-64Es began in 2014. In 2018, the U.S. Army increased its Army Procurement Objective (APO) to 791 AH-64Es, including both remanufactured and new-build helicopters. The AH-64E is also being acquired by India, Indonesia, Qatar, Saudi Arabia, South Korea, Taiwan, and the U.K. The

helicopter is currently a candidate for Poland's Kruk project to acquire up to 32 attack helicopters.

Boeing is currently working under the AH-64E program's first multiyear contract, which it received from the U.S. Army in March 2017. Valued at \$3.3 billion, the contract covers the procurement of 244 remanufactured AH-64Es for the Army over the five-year period from FY17 through FY21. The Army intends to eventually award a second multiyear contract to Boeing that would cover the procurement of up to 600 remanufactured and/or new-build AH-64Es over the FY22-FY26 timeframe for the service and possible international customers. The U.S. Army plans to keep the AH-64E in service until 2060.

Boeing CH-47

The CH-47 is a twin-engine transport helicopter. It provides medium- and heavy-lift transportation for: 1) 33 to 55 troops (depending on seating configuration) in the main cabin, 2) 24 litters and two attendants, or 3) vehicles and bulk cargo. The MH-47E is a military special operations platform for insertion/extraction missions. The Army is nearing completion of the Block I program, as the service's plans call for the acquisition of 476 Block I CH-47Fs, which include both new-build and remanufactured rotorcraft. By the fall of 2020, the Army had taken delivery of more than 460 Block I helicopters. Export sales will keep the line running for some time, albeit at reduced rates.

The U.S. Special Operations Command (USSOCOM) took delivery of its initial Block II MH-47G in September 2020. The new-build helicopter was the first of 24 Block II MH-47Gs that Boeing is under contract to deliver, a total that includes five new-build units and 19 helicopters that are to be converted from existing Block I MH-47Gs. Overall, the U.S. Army and USSOCOM intend to convert 69 Block I MH-47Gs to the Block II configuration.

Meanwhile, the future of a similar Block II remanufacturing program for the Army's CH-47F Chinook transport helicopters is undecided. Boeing has converted three of the service's CH-47Fs to the Block II standard for use in development and testing. However, as of the early autumn of 2020, the service had not yet made a determination on whether to proceed with conversions of additional CH-47Fs in its fleet.

In June 2021, Boeing was awarded a \$578 million FMS contract to deliver 14 extended-range CH-47 Chinook Block II helicopters to the U.K. Royal Air Force. The United Kingdom will be the first international operator of a Block II Chinook. Deliveries are scheduled to start in 2026.

Boeing**Leonardo AW139/MH-139**

In September 2018, the team of Boeing and Leonardo was selected as the winner of the U.S. Air Force's UH-1N Huey replacement program. The venerable Huey will be replaced by the MH-139, a militarized version of the AW139, being built by a team of Boeing and Leonardo. The UH-1Ns primarily provide ballistic missile base security but also perform VIP transport and search-and-rescue operations. The program is valued at \$2.4 billion for up to 84 helicopters.

The service plans to procure about eight helicopters per year. Boeing and Leonardo are tasked with completing development of the MH-139 configuration and delivering an operational aircraft by FY21 under an initial \$375.6 million contract using RDT&E funding. This initial contract covers four aircraft for use in testing. The remaining 80 aircraft will be bought with procurement funding. Boeing is the prime contractor. It will take green AW139s from Leonardo's Philadelphia plant and install mission systems at its Ridley Park facility south of the city before delivering the completed aircraft to the USAF.

Space Systems – Launch Vehicles & Manned Platforms

CST-100

The Crew Space Transportation-100 Starliner is a capsule designed to carry humans to low-Earth orbit and return them safely to Earth. The CST-100 will be launched on board Atlas V launch vehicles. Boeing's CST-100 was selected for further development and eventual operational flights to the International Space Station (ISS) under NASA's Commercial Crew Transportation Capability (CCtCap) program. The company faced a rival offering from SpaceX for its Falcon 9/Crew Dragon spacecraft. Boeing was awarded \$4.2 billion under the CCtCap program in September 2014 to develop and fly the CST-100. The money will be used to complete development of the CST-100, and to conduct at least one test flight and between two and six operational flights to the ISS. Boeing experienced additional delays in 2018 after simulations revealed potential for problems during flights, and launch abort motor valves failed during a July test.

The first launch of the uncrewed Starliner occurred on December 20, 2019. Although the launch itself was successful, the spacecraft experienced an anomaly that caused it to burn too much fuel. The planned rendezvous with the ISS was canceled and the CST-100 was placed in an orbit to successfully return it to Earth. Due to the anomaly, Boeing decided to do a second

uncrewed mission. However, this launch was delayed in August 2021 due to problems with the propulsion systems' valves. Another launch attempt could occur before year end.

EELV

The Evolved Expendable Launch Vehicle is a class of rocket for medium and heavy payloads. In November 1997, the U.S. Air Force scrapped the winner-take-all competition for the EELV and instead split the \$1.5 billion development award between Boeing and Lockheed Martin. In December 2006, Boeing and Lockheed Martin formed a joint venture called United Launch Alliance to bring together the rocket manufacturing, engineering, testing, and launch operations for the Boeing Delta rockets and Lockheed Martin's Atlas boosters.

Although the Atlas V and Delta IV have been carrying U.S. government payloads into orbit for over a decade under the EELV program, operations of those two launch vehicles are being threatened by new market competition and reliance on Russian-built engines. In order to remain competitive, ULA intends to replace both the Atlas V and Delta IV with a single family of launch vehicles known as Vulcan. ULA has submitted the Vulcan to the Air Force under the Launch Service Agreement (LSA) program, intended to fund the design of new launch vehicles to improve competition and reduce the cost of launch services. ULA was awarded the LSA contract in October 2018. The Vulcan is expected to enter service in the mid-2020s.

International Space Station

The International Space Station is an orbiting, crewed research and work center. NASA is the overall program manager for the ISS program. NASA and Boeing signed an eight-year, \$5.63 billion contract (since raised to more than \$12.6 billion) in 1995 for the design, development, integration, and verification of the ISS. Boeing also provides the U.S. on-orbit segments of the station, consulting with ISS partners on technology to ensure element compatibility. In addition, Boeing provides critical systems software.

ISS Contract Extended. Although ISS operation was originally planned to continue only through 2015, the ISS partners extended the station's life through 2020. In September 2015, NASA awarded Boeing a contract to continue providing key engineering support services, resources, and personnel to the ISS program through September 30, 2020. The contract, valued at \$1.18 billion, covers a period of five years. Boeing's contract included the task of assessing the feasibility of extending the life of the station's primary structural hardware even further, through the end of 2028.

Boeing

In January 2021, Boeing received a contract modification under its ISS sustainment contract with NASA to deliver six additional solar arrays to NASA for installation beginning in 2021.

Phantom Express

In May 2017, Boeing was selected to build DARPA's XS-1 Spaceplane over competitors Masten Space Systems (working with XCOR Aerospace) and Northrop Grumman (working with Virgin Galactic). Boeing's spaceplane – dubbed the Phantom Express – was to be an autonomous, reusable spacecraft capable of carrying and deploying a small expendable upper stage to launch small (3,000 lb/1,361 kg) satellites into low-Earth orbit. Boeing and the Defense Advanced Research Projects Agency planned to jointly invest in the spacecraft's development. The Aerojet Rocketdyne AR-22 engine, a version of the legacy Space Shuttle main engine, was to power the spaceplane. Flight testing was expected to begin in 2021. However, in January 2020 Boeing ended its role in the XS-1 Spaceplane program, which led DARPA to scrap the project.

Space Launch System (SLS)

The Space Launch System (SLS) is part of NASA's flagship program to revitalize deep space exploration. In June 2014, Boeing finalized a contract with NASA to develop the core stage of the Space Launch System, a rocket with which NASA expects to resume deep space exploration. The \$2.8 billion contract followed Boeing's earlier selection as the prime contractor on the SLS core stage, including the avionics, under an undefinitized contract authorization. In addition, Boeing has been tasked with studying the SLS Exploration Upper Stage, which will further expand mission range and payload capabilities.

The Critical Design Review was completed in October 2015, and Congress ordered NASA to conduct a first flight of the SLS by 2016. However, NASA said this date was too ambitious considering the technical hurdles it needed to overcome and the budget constraints it faced.

Originally planned to launch in 2017, the SLS has faced delays caused by problems with development of the Orion service module as well as the SLS core stage. In addition, many smaller problems have cascaded to produce the years-long delays. In early 2021, the SLS core stage test was truncated due to an out-of-limits reading of hydraulic pressure in the thrust vector control mechanism, as well as component failure, which was described as minor. First launch may occur in late 2021, depending upon analysis of the test results.

Space Systems – Satellites & Spacecraft

Boeing 702

The Boeing 702 is a communications satellite designed for deployment in geosynchronous orbit. Boeing 702 satellites fill a variety of telecommunications applications, including video, telephone, direct broadcast satellite (DBS), and high-speed data transfer. The Boeing 702 will continue to be popular in the satellite market, serving both government and commercial users; however, production will decline as the market for geosynchronous communication satellites shrinks.

In September 2019, Boeing announced a new 702X model that will form a family of "software-defined satellites." The 702X is planned to be less expensive than earlier models, with its lower cost achieved by using different manufacturing techniques. The first operational satellites are planned to be delivered in 2022.

In August 2020, Boeing received a contract to build four additional 702X satellites from SES as the global content connectivity provider increases the number of O3b mPOWER satellites in its Medium Earth Orbit (MEO) to 11. Boeing is currently building the first seven O3b mPOWER satellites for SES. The first operational satellites are planned to be delivered in 2022.

Enhanced Polar System

The Polar Satellite Communications, or Polar MILSATCOM, program resulted from the revamping and restructuring of the Advanced Polar System (APS) program. The two-satellite constellation will provide a next-generation, protected, extremely high-frequency (EHF) satellite communications capability (especially for submarines) in the north polar Arctic region. EPS launches are classified, but the system is believed to be operational as of 2018.

Inmarsat

In June 2010, Inmarsat awarded Boeing a contract for three satellites to be based on Boeing's 702HP bus. These satellites will be the fifth generation of Inmarsats. Inmarsat 5s will operate in the Ka-band, allowing Inmarsat to provide high-speed mobile broadband capabilities to its customers. The satellites will be used for Inmarsat's new Global Xpress broadband service.

Intelsat

Intelsat is an international satellite telecommunications system produced by the International

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Telecommunications Satellite consortium. Boeing (Hughes) produced the Intelsat 6 series, and was responsible for design, development, and fabrication of the Intelsat 1, 2, 4, and 4A. In September 2012, Intelsat ordered four high throughput satellites (HTSs) from Boeing. The new technologies have allowed Intelsat to serve more customers with each of its satellites as a way to counteract declining prices.

Partially due to the COVID-19 pandemic, Intelsat filed for Chapter 11 bankruptcy in May 2020.

Navstar Global Positioning System

The Navstar GPS is a constellation of U.S. Navstar satellites used for three-dimensional position and velocity determination. Boeing is the prime contractor for Navstar GPS Block II and Block IIF satellites. The first Block IIF satellite was delivered into orbit in May 2010. Boeing and Northrop Grumman declined to submit bids for the GPS III program, leaving Lockheed Martin as the sole contractor for 22 GPS III satellites. This was confirmed in September 2018 when Lockheed Martin was indeed selected to produce the GPS III satellites.

Optus

The Optus (formerly Aussat) domestic satellite telecommunications system provides five main services to mainland Australia, Papua New Guinea, and New Zealand. Boeing was the prime contractor for the Boeing 376 satellites used for the Aussat A1/A2/A3 satellites (since retired) and is the prime contractor for the Boeing 601 used for the Aussat B1/2/3 satellites. The Optus C1, D1, D2, D3, and 10 are operational.

Viasat Satellite Services

Viasat operates a network of geosynchronous satellites to provide broadband Internet and high-speed data services. All three Viasat-3 satellites will be built by Boeing. Of the three satellites that will make up the constellation, one will cover the Americas; one will cover Europe, the Middle East and Africa; and the final satellite will cover the Asia-Pacific region. The first launch of a Viasat-3 satellite, on an unspecified launch vehicle, will be delayed to 2022.

Wideband Global Satcom

The Wideband Global Satcom (WGS) system (previously known as Wideband Gapfiller Satellite system) augments the current Defense Satellite Communications System and Global Broadcast Service military satellite communications (milsatcom) operations to allow dissemination of real-time information to forces and commanders on the ground, at sea, and in the air.

The Boeing Satellite Development Center began building the WGS satellites on its BSS-702 platform in

2001 under an initial \$160.3 million USAF contract. Congress added two additional WGS satellites in the FY18 omnibus spending bill. The Air Force is working with Boeing to streamline the acquisition process for the satellites and to further improve capabilities. Boeing now expects to build the satellites in three years rather than four as stated in the past. WGS-11 is planned to be delivered by November 2023.

Unmanned Vehicle Programs

A160 Hummingbird

In December 2005, the A160 Hummingbird unmanned rotorcraft made its first test flight. The A160 Hummingbird is being developed and tested by Boeing Phantom Works under a contract with DARPA. Phantom Works currently is under contract for eight A160 UAVs for DARPA and 10 for the Naval Air Systems Command.

MQ-25 Stingray

In August 2018, Boeing was selected as the winner of the U.S. Navy's MQ-25 unmanned aerial refueling aircraft tanker competition. The company was awarded an initial \$805 million contract to design, develop, fabricate, test and deliver four MQ-25 aircraft. The Navy is looking to procure 72 aircraft at an estimated cost of \$15.2 billion. This fleet is aimed at relieving F-18s from refueling duties so that the aircraft can be utilized for other missions. Once this version enters service, another model could follow – the so-called MQ-25B. This version could include a more robust strike capability. The B model will also offer a higher speed than the original. First flight of the MQ-25 occurred in September 2019, and Initial Operational Capability is scheduled for 2024. The MQ-25 completed its first refueling with a Navy F/A-18 Super Hornet in June 2021.

QF-16

In September 2013, Boeing and the U.S. Air Force completed the first unmanned QF-16 full-scale aerial target flight, demonstrating the next generation of combat training and testing. The milestone flight initiated a live-fire test at Holloman Air Force Base, New Mexico. The Navy, Army, and Air Force will ultimately use QF-16s for weapons testing and other training. Boeing has modified six F-16s into the QF-16 configuration. Low-rate initial production began in 2013, with the first production target drone delivered in March 2015. The USAF expects to receive 126 QF-16s, but procurement could reach 210.

ScanEagle

In April 2005, Boeing received a \$14.5 million contract from the U.S. Navy to provide UAV services in support of Operation Iraqi Freedom and the global war on terror.



Boeing

Boeing agreed to provide ScanEagle UAVs, communication links, and ground equipment to support the Navy's requirements. The Navy is using the ScanEagle systems during naval Expeditionary Strike Group (ESG) missions to provide persistent ISR coverage and to increase oil platform security in the Persian Gulf. The UAVs supporting ESG missions are ship-launched and -recovered. Boeing subsidiary Insitu unveiled the upgraded ScanEagle 2 UAV in October 2014 and the ScanEagle 3 in May 2018. ScanEagle production is ongoing for customers worldwide.

UCAV

Boeing's Phantom Works was selected to proceed with Phase II of the unmanned combat air vehicle advanced-technology demonstration program. However, development was reconsidered. The program has since been restructured and refocused. The effort is now centered on the MQ-25 Stingray Unmanned Carrier Aviation Air System (UCAAS) competition, which will provide the U.S. with an unmanned tanker system (see entry above).

U.S. UUVs

The Surface Mine Countermeasure (SMCM) UUV will equip the U.S. Navy's Littoral Combat Ships. Development is continuing.

The Near-term Mine Reconnaissance System (NMRS) was deployed in March 1999.

The U.S. Navy will forgo full-scale production of the Long-term Mine Reconnaissance System, but Boeing will produce LMRS engineering design models. Technology from the Boeing and Lockheed Martin efforts will support development of the Mission Reconfigurable Unmanned Undersea Vehicle (MRUUV).

In October 2017, the U.S. Navy awarded contracts to Boeing (\$42.3 million) and Lockheed Martin (\$43.2 million) for the design phase of the Orca Extra Large UUV (XLUUV) system, as well as delivery of a technical data package. Boeing won the XLUUV contract in February 2019 (see **Teaming/Competition/Joint Ventures** for more details).

U.S. Contract Awards

The following is a listing of major contracts awarded to Boeing from the U.S. government from 2019 through the first half of 2021 (contracts as of press date). Note that the Description section is excerpted directly from U.S. DoD listings. For full details on contracts and their associated modifications, visit <https://www.defense.gov/Newsroom/Contracts/>

Date	Award (USD millions)	Contract #	Description
2019			
1/2/19	22.5	FA8604-19-D-4022	FORMATION OF A COLLABORATIVE WORKING GROUP VARIOUS INDUSTRY PARTNERS TO WORK AS SINGLE EXTENDED ENTITY TO DEVELOP, EVOLVE, UPDATE VIA PRE-PLAN PRODUCT IMPROVEMENT INITIATIVES, AS WELL AS MANAGE & PROVIDE CONFIGURATION CONTROL OF THE OPEN MISSION SYSTEMS & UNIVERSAL COMMAND & CONTROL INTERFACE STANDARDS, COLLECTIVELY REFERRED TO AS THE OPEN ARCHITECTURE STANDARDS.
1/9/19	9.3	N00024-13-C-6402	AIR LAUNCH ACCESSORY & ALA SHIPPING CONTAINER FOR THE ALA OF THE HIGH ALTITUDE ANTI-SUBMARINE WARFARE WEAPON CAPABILITY IN SUPPORT OF THE P-8A INTEGRATION EFFORTS.

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Date	Award (USD millions)	Contract #	Description
1/22/19	?	N61340-19-D-1005	THESE CONTRACTS PROVIDE FOR LOGISTICS SERVICES FOR THE CONTRACTED MAINTENANCE, MODIFICATION, AIRCREW & RELATED SERVICES (CMMARS) PROGRAM IN SUPPORT OF AVIATION PLATFORMS OF VARIOUS NAVY & AIR FORCE TYPE/MODEL/SERIES AIRCRAFT, INTER-RELATED SYSTEMS, SUBSYSTEMS, AND SERVICES. THE ESTIMATED AGGREGATE CEILING FOR ALL CONTRACTS IS \$12,599,999,930, WITH THE COMPANIES HAVING AN OPPORTUNITY TO COMPETE FOR INDIVIDUAL ORDERS.
1/25/19	13.9	N00019-19-D-0010	ENGINEERING, TRAINING, INTEGRATED LOGISTICS SUPPORT, INSTALLATION/CHECKOUT OF DEVELOPED SYSTEMS & SUPPORT SERVICES FOR HARPOON SHIP COMMAND LAUNCH CONTROL SET, ENCAPSULATED HARPOON COMMAND & LAUNCH SYSTEMS, AND ADVANCED HARPOON WEAPON CONTROL SYSTEM, STANDOFF LAND ATTACK MISSILE EXPANDED RESPONSE, AND HARPOON MISSILES.
1/25/19	2,458.7	N00019-14-C-0067	PRODUCTION & DELIVERY OF 19 P-8A LOT 10 AIRCRAFT TO INCLUDE 10 FOR THE NAVY, FOUR FOR THE GOVERNMENT OF THE U.K. & FIVE FOR THE GOVERNMENT OF NORWAY. IN ADDITION, THIS MODIFICATION INCLUDES ECP 4 SILVERBLOCK FOR THE GOVERNMENT OF THE U.K. & LOT 10 EFFORTS CONSISTING OF UNKNOWN OBSOLESCENCE, CLASS I CHANGE ASSESSMENTS & OBSOLESCENCE MONITORING.
1/28/19	56.7	N61340-19-D-0003	PROGRAM MANAGEMENT SUPPORT AS WELL AS ENGINEERING & INTEGRATED LOGISTICS SUPPORT BY THE OEM FOR THE POST-PRODUCTION SUPPORT PHASE OF THE T-45 AIRCRAFT LIFE-CYCLE.
1/30/19	16.0	N00019-16-G-0001	PROCUREMENT OF 79 HARPOON BLOCK II PLUS TACTICAL MISSILE UPGRADE KITS FOR THE NAVY.
2/1/19	39.0	H92241-18-F-0022	FINALIZATION OF FOUR NEW-BUILD MH-47G WING AIRCRAFT.
2/7/19	23.1	N00383-18-G-AY01	REPAIR OF VARIOUS AVIONICS EQUIPMENT USED ON THE F/A-18 AIRCRAFT.
2/13/19	43.0	N00024-17-C-6307	FABRICATION, TEST, AND DELIVERY OF FOUR ORCA EXT LARGE UNMANNED UNDERSEA VEHICLES (XLUUV'S) & ASSOCIATED SUPPORT ELEMENTS.
2/15/19	12.8	W58RGZ-19-C-0020	POST-PRODUCTION SUPPORT SERVICES FOR THE QATAR ARMED FORCES AH-64E APACHE HELICOPTER FLEET.
2/15/19	17.8	N00019-18-D-0001	THIS MODIFICATION INCREASES THE CEILING OF THE CONTRACT TO PROCURE UP TO AN ADDITIONAL QUANTITY OF TWO F/A-18E/F AIRCRAFT, MODIFIED EXTEND THE SERVICE LIFE OF THE AIRCRAFT.
2/21/19	259.0	FA8681-19-D-0006	WEAPON PLANNING SOFTWARE (WPS).
2/21/19	24.1	FA8634-17-C-2650	F-15 EAGLE PASSIVE ACTIVE WARNING SURVIVABILITY SYSTEM ENGINEERING & MANUFACTURING DEVELOPMENT & INITIAL OPERATIONAL TEST & EVALUATION.

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Date	Award (USD millions)	Contract #	Description
2/27/19	157.7	N61340-19-C-0004	PROCURE OPERATIONAL FLIGHT TRAINERS, TWO WEAPONS TACTICS TRAINERS; SIX BRIEF/DEBRIEF STATIONS TO INCLUDE TWO OFT BDSS, TWO WTT BDSS; & TWO WEAPONS SYSTEM TRAINER BDSS; ONE PART TASK TRAINER, TEN ELECTRONIC CLASSROOMS, TWO SCENARIO GENERATION STATIONS, ONE TRAINING SYSTEM SUPPORT CENTER, TWO VIRTUAL MAINTENANCE TRAINERS & SUPPORTING TECHNICAL DATA SUCH AS SOFTWARE, BOOKS & OTHER PUBLICATIONS.
2/28/19	19.9	FA8214-15-C-0001	MINUTEMAN III INTERCONTINENTAL BALLISTIC MISSILE FLIGHT TEST, TELEMETRY, AND TERMINATION PROGRAM.
2/28/19	428.9	N00019-14-C-0067	LONG-MATERIAL & ACTIVITIES IN SUPPORT OF 16 P-8A LOT 11 AIRCRAFT TO INCLUDE SIX FOR THE NAVY, FOUR FOR GOVERNMENT OF NEW ZEALAND, AND SIX FOR THE REPUBLIC OF KOREA.
3/4/19	40.0	FA8634-18-C-2697	INFRA-RED SEARCH & TRACK BLOCK II SHIP SETS.
3/13/19	250.0	FA2103-19-D-3000	LONG RANGE STAND-OFF CRUISE MISSILE WEAPON SYSTEM INTEGRATION.
3/19/19	326.3	N00019-16-G-0001	DEVELOP, INTEGRATE & TEST INCREMENT 3 BLOCK CAPABILITIES INTO THE P-8A AIRCRAFT FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
3/20/19	4,040.4	N00019-18-C-1046	FULL-RATE PRODUCTION & DELIVERY OF 78 F/A-18 AIRCRAFT, SPECIFICALLY 61 F/A-18E & 17 F/A-18F AIRCRAFT FOR FISCAL YEARS 2018 THROUGH 2021.
3/22/19	7.1	SPE4A1-19-G-0013	TURRET DRIVE UNITS FOR THE P-8 AIRCRAFT.
3/22/19	4,141.3	HQ0147-12-C-0004	GROUND-BASED MIDCOURSE DEFENSE (GMD) DEVELOPMENT & SUSTAINMENT CONTRACT.
3/22/19	20.0	FA8650-19-D-2055	ADVANCED TURBINE TECHNOLOGIES FOR AFFORDABLE MISSION-CAPABILITY PHASE I.
3/26/19	29.0	HQ0277-18-C-0003	CONTRACTOR WILL COMPLETE THEIR LASER SCALING & BEAM DCR IN SUPPORT OF THE LOW POWER LASER DEMONSTRATOR RISK REDUCTION.
3/27/19	46.7	N00024-17-C-6307	ORCA EXTRA LARGE UNMANNED UNDERSEA VEHICLE (XLUUV) PROGRAM.
3/28/19	16.2	?	ENGINEERING SERVICES IN SUPPORT OF THE DEVELOPMENT OF THE T/AV-8B AIRCRAFT, INCLUDING SYSTEM CONFIGURATION SET UPDATES, AVIONICS & WEAPONS INTEGRATION, AND AVIONICS OBSOLESCENCE MITIGATION.
3/28/19	71.3	N00019-19-D-0004	ENGINEERING & INTEGRATED LOGISTICS SUPPORT TO MAINTAIN THE T/AV-8B HARRIER DURING THE AIRCRAFT'S POST-PRODUCTION SUPPORT PHASE.
4/1/19	91.3	FA8634-18-C-2698	F-15 ADVANCED DISPLAY CORE PROCESSOR II (ADCPII) LRIP 3.
4/1/19	250.0	FA8681-19-D-0005	JOINT DIRECT ATTACK MUNITION/LASER JOINT DIRECT ATTACK MUNITION (JDAM/LJDAM) TECHNICAL SERVICES, AIRCRAFT INTEGRATION, AND SUSTAINMENT.
4/4/19	36.8	N68335-15-G-0022	PROCUREMENT OF 82 PECULIAR SUPPORT EQUIPMENT END ITEMS IN SUPPORT OF THE F/A-18 RETURN-TO-READINESS INITIATIVE.
4/5/19	7.7	P00021-17-F-0001	LASER POD RESEARCH & DEVELOPMENT.
4/11/19	93.6	N00019-1G-0-001	MANUFACTURE, TEST, INSTALLATION, INTEGRATION, AND QUALIFICATION OF UP TO EIGHT WIDEBAND SATELLITE COMMUNICATION KITS IN 8A POSEIDON AIRCRAFT FOR THE NAVY.

Boeing

Date	Award (USD millions)	Contract #	Description
4/12/19	21.6	FA8681-18-D-0007	GBU-57 MASSIVE ORDNANCE PENETRATOR SUSTAINMENT.
4/12/19	14,314.3	FA8628-19-D-1000	MODIFICATION, MODERNIZATION, ENGINEERING, SUSTAINMENT TEST OF THE B-1/B-52 WEAPONS SYSTEMS. THIS B-1/B-52 FLEXIBLE ACQUISITION & SUSTAINMENT CONTRACT PROVIDES FOR THE UPCOMING MODERNIZATION & SUSTAINMENT EFFORTS TO INCREASE LETHALITY, ENHANCE SURVIVABILITY, IMPROVE SUPPORTABILITY, AND INCREASE RESPONSIVENESS.
4/15/19	65.0	FA8681-19-D-0009	INTEGRATION, SUSTAINMENT & SUPPORT OF THE SMALL DIAMETER BOMB INCREMENT I MINIATURE MUNITION & CARRIAGE SYSTEM ON VARIOUS FMS AIRCRAFT PLATFORMS.
4/16/19	30.1	N00019-18-C-1057	PHASE I DESIGN MATURITY, ANALYSIS & TEST PLANNING FOR THE STAND-OFF LAND ATTACK MISSILE – EXPANDED RESPONSE (SLAM-ER) PRODUCTION LINE FOR THE GOVERNMENT OF SAUDI ARABIA.
4/19/19	605.0	FA8808-10-C-0001	PRODUCTION OF THE WIDEBAND GLOBAL SATELLITE COMMUNICATION SPACE VEHICLE 11.
4/24/19	8.6	FA8621-17-C-6398	F-15SA AIRCREW TRAINING DEVICES (ATD'S).
4/25/19	89.0	N00019-19-D-0021	TECHNICAL & ENGINEERING SERVICES TO INTEGRATE VARIOUS EXTERNAL STORES ALTERNATIVE MISSION EQUIPMENT ONTO THE F/A-18E/F & EA-18G AIRCRAFT.
4/26/19	171.9	W58RGZ-19-C-0024	PERFORMANCE-BASED LOGISTICS SERVICE IN SUPPORT OF THE AH-64E APACHE ATTACK HELICOPTER FLEET.
4/26/19	127.6	FA2103-18-C-0061	B61-12 LIFE EXTENSION PROGRAM. THIS MODIFICATION PROVIDES FOR THE INITIATION OF AN UNDEFINITE CONTRACT ACTION FOR LOT 1 & LOT 2 LONG LEAD ITEMS.
4/29/19	39.5	W58RGZ-17-C-0031	POST-PRODUCTION SYSTEM SUPPORT, WHICH INCLUDES INTEGRATED PRODUCT SUPPORT, OF THE AH-64 AIRCRAFT IN SUPPORT OF THE SAUDI ARABIA NATIONAL GUARD.
4/29/19	5,700.0	FA8609-19-D-0007	KC-46 PEGASUS COMBAT CAPABILITY (PC2). THIS CONTRACT PROVIDES FOR A BROAD RANGE OF POST-PRODUCTION RELATED NON-RECURRING & RECURRING REQ CENTERED ON USER-DIRECTED & FEDERAL AVIATION ADMINISTRATION-MANDATED KC-46 AIR VEHICLE NEEDS.
4/30/19	21.1	N00019-16-G-0001	INLET RETROFIT KITS FOR THE T-45 AIRCRAFT, INCLUDING SUPPORT EQUIPMENT & SPECIAL TOOLING & ENGINEERING & LOGISTICS SUPPORT FOR INSTALLATIONS.
5/6/19	35.8	FA8634-19-F-0009	RADAR MODERNIZATION PROGRAM (RMP) COMMON CONFIGURATION GENERAL PURPOSE PROCESSORS (GPP3) & WAVEFORM GENERATORS.
5/10/19	11.2	FA8505-00-0-1	F-15 SUSTAINING ENGINEERING SERVICES.
5/13/19	139.8	N00019-16-D-1002	THIS MODIFICATION INCREASES THE CEILING OF THE CONTRACT TO PROCURE UP TO 12,000 ADDITIONAL PRECISION LASER GUIDANCE SETS FOR THE LASER JOINT DIRECT ATTACK MUNITION.
5/14/19	15.0	N00024-17-C-4108	PRODUCTION OF USQ-82(V) GIGABIT ETHERNET DATA MULTIPLEX SYSTEMS & PROCUREMENT OF CORRESPONDING SPARE PARTS.

Boeing

Date	Award (USD millions)	Contract #	Description
5/14/19	10.9	N00019-19-C-0016	OBSOLESCENCE REDESIGN EFFORTS IN SUPPORT OF THE PRODUCTION & DELIVERY OF HARPOON BLOCK II MISSILES FOR THE GOVERNMENT OF SAUDI ARABIA.
5/15/19	13.3	N00024-18-C-4103	DESIGN AGENT & TECHNICAL SERVICES FOR THE USQ-82(V) FAMILY OF SYSTEMS CONSISTING OF THE DATA MULTIPLEX SYSTEM, FIBER OPTIC DATA MULTIPLEX SYSTEM, AND GIGABIT ETHERNET DATA MULTIPLEX SYSTEM.
5/17/19	8.4	W58RGZ-14-0-055	FMS (SAUDI ARABIA) CONTRACT FOR POST-PRODUCTION SUPPORT SERVICES FOR THE AH-64 APACHE ATTACK HELICOPTER.
5/17/19	163.9	N00019-18-D-0001	SERVICE LIFE MODIFICATION OF UP TO 10 F/A-18E/F SUPER HORNET AIRCRAFT.
5/21/19	18.9	W58RGZ-19-F-0045	IMPLEMENT, INTEGRATE, TEST, UPGRADE & FIELD TO THE LONGBOW CREW TRAINER GENERATION 4 & GENERATION 5.
5/22/19	40.9	FA8621-16-C-6397	F-15C & F-15E MISSION TRAINING CENTER SERVICES CONTRACTOR-FURNISHED HIGH-FIDELITY SIMULATION EQUIPMENT TO PROVIDE SIMULATION CAPABILITY TO TRAIN PILOTS & WEAPONS SYSTEM OPERATORS.
5/24/19	51.5	N00019-19-D-002	SUSTAINMENT ENGINEERING SERVICES IN SUPPORT OF UP TO 17 C-AIRCRAFT.
5/31/19	7.4	SPRTA1-19-F-0372	KC-135 AIRCRAFT RUDDEVATOR BOOM.
5/31/19	35.0	FA8681-19-D-0009	INTEGRATION, SUSTAINMENT & SUPPORT OF THE SMALL DIAMETER BOMB INCREMENT I MINIATURE MUNITION FOR FMS COUNTRIES.
6/6/19	40.6	N00019-14-C-0067	THIS MODIFICATION PROCURES 13 MECHANISMS TO BE PROVIDED AS ANCILLARY EQUIPMENT FOR U.S. NAVY P-8A AIRCRAFT & TWO FORWARD MECHANISMS TO BE PROVIDED AS ANCILLARY EQUIPMENT FOR THE P-8A TRAINERS.
6/7/19	10.1	W58RGZ-17-C-0059	SUPPORT CH-47F BLOCK II ENGINEERING & MANUFACTURING DEVELOPMENT PROGRAM.
6/10/19	22.8	N00019-16-G-0001	ADDITIONAL ACOUSTICS SOFTWARE SUPPORT ACTIVITY & ENGINEERING SUPPORT FOR THE P-8A POSEIDON AIRCRAFT.
6/12/19	194.2	W91215-16-G-0001	PROCURE SIX RENEW-BUILD & ONE NEW-BUILD MH-47G ROTARY WING AIRCRAFT.
6/12/19	41.0	N68335-15-G-0022	PROCURE 2,763 PIECES OF PECULIAR SUPPORT EQUIPMENT, SUPPORT EQUIPMENT SPARES & TEST EQUIPMENT FOR THE MAINTENANCE & REPAIR OF F/A-18E/F AIRCRAFT FOR THE GOVERNMENT OF KUWAIT.
6/13/19	30.8	W91215-16-G-0001	PROCURE COMPONENTS & PARTS IN SUPPORT OF MH-47G ROTARY WING AIRCRAFT.
6/14/19	6,534.3	FA8213-15-D-0002	JOINT DIRECT ATTACK MUNITION (JDAM) TAIL KITS, SPARES, REPAIRS & TECHNICAL SERVICES.
6/27/19	47.7	W58RGZ-16-C-0023	VERSION 6/IMPROVED DRIVE SYSTEM-ENHANCEMENT CUT-IN ON THE APACHE ATTACK HELICOPTER (AH)-64E PRODUCTION LINE & FOR THE APACHE LONGBOW CREW TRAINERS.
6/28/19	70.9	FA8625-11-C-6600	KC-46 INTERIM CONTRACTOR SUPPORT YEAR THREE.
7/1/19	42.9	N00019-16-G-0001	PROCUREMENT OF 48 TRAILING EDGE FLAPS FOR F/A-18 AIRCRAFT.
7/8/19	21.6	W58RGZ-17-D-0052	FMS (UNITED KINGDOM) CONTRACT FOR ENGINEERING SERVICES.

Boeing

Date	Award (USD millions)	Contract #	Description
7/11/19	23.4	N00019-19-F-4058	THIS ORDER PROCURES CONTRACTOR LOGISTICS SUPPORT FOR THE UNITED KINGDOM'S (UK'S) P-8A PROGRAM & AIRCRAFT.
7/12/19	96.9	W58RGZ-16-C-0023	FMS (UNITED ARAB EMIRATES) CONTRACT FOR APACHE AIRCRAFT INTEGRATED LOGISTICS SUPPORT, PRODUCT ASSURANCE & LONGBOW CREW TRAINERS.
7/29/19	9.2	FA8634-17-F-0002	F-15 ADVANCED DISPLAY CORE PROCESSOR II LOW-RATE INITIAL PRODUCTION LOT 1.
7/29/19	10.4	FA8634-17-F-0002	F-15 ADVANCED DISPLAY CORE PROCESSOR (ADCP II) LRIP LOT 1.
7/30/19	10.6	N00019-14-C-0067	THIS MODIFICATION PROCURES 16 P-8A A-KITS & 16 TURRET DEPLOYMENT UNITS LOTS 8 & 9 FULL-RATE PRODUCTION AIRCRAFT.
7/31/19	17.6	N00019-1G-0-001	PRODUCTION & DELIVERY OF 27 SIXTH MISSION CREW WORKSTATION RETROFIT B-KITS FOR THE NAVY IN SUPPORT OF P-8A ONE THROUGH THREE AIRCRAFT, AND FOUR SIXTH MCW RETROFIT B-KITS FOR THE GOVERNMENT OF AUSTRALIA IN SUPPORT OF P-8A LOT SIX AIRCRAFT.
7/31/19	25.3	N00019-18-C-1057	PHASE I DESIGN MATURITY, ANALYSIS TEST PLANNING FOR THE STAND-OFF LAND ATTACK MISSILE – EXPANDED RESPONSE (SLAM-ER) PRODUCTION LINE FO THE GOVERNMENT OF SAUDI ARABIA.
7/31/19	16.8	N00019-12-C-0112	PRODUCTION & DELIVERY OF 2 SIXTH MISSION CREW WORKSTATION RETROFIT B-KITS IN SUPPORT OF P-8A PRODUCTION LOTS FOUR & FIVE.
8/2/19	55.5	FA8625-11-C-6600	KC-46 ENGINEERING, MANUFACTURING & DEVELOPMENT.
8/2/19	8.9	N00019-16-C-0032	CONTINUE SOFTWARE DEVELOPMENT EFFORTS FOR CALENDAR YEAR 2019 IN SUPPORT THE NEXT GENERATION JAMMER.
8/5/19	32.1	N00019-14-C-0067	THIS MODIFICATION PROVIDES FOR THE PERFORMANCE OF DAMAGE TOLERANCE ANALYSIS ON THE P-8A AIRCRAFT TO DETERMINE THE DAMAGE TOLERANCE RATING.
8/20/19	154.9	W58RGZ-16-C-0023	PROCURE NEW-BUILD APACHE AH 64E HELICOPTERS.
8/21/19	999.0	FA8202-19-D-0004	CONTRACT FOR A-10 WING REPLACEMENTS. THIS CONTRACT PROVIDES FOR UP TO 112 NEW A-10 WING ASSEMBLIES & UP TO 15 WING KITS.
8/21/19	145.9	W58RGZ-16-C-0023	FMS (NETHERLANDS) CONTRACT FOR THE REMANUFACTURE OF 11 AIRCRAFT & NEW BUILD LONGBOW CREW TRAINER & SPARES.
8/22/19	23.7	N00019-16-G-0001	ENGINEERING, LOGISTICS, AND PROGRAM MANAGEMENT OF F/A-18A-D, E/F, AND EA-18G AIRCRAFT IN SUPPORT OF REDUCING FLEET OUT OF REPORTING RATES & MAINTENANCE PLANNING.
8/28/19	33.6	W58RGZ-19-C-0054	NON-RECURRING ENGINEERING DESIGN ACTIVITIES FOR INTEGRATING THE IMPROVED TURBINE ENGINE INTO THE AH-64E APACHE HELICOPTER.
8/28/19	27.0	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST A FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD FOR E-6B REPAIR.
8/28/19	500.0	FA3002-19-D-A007	QATAR EMIRI AIR FORCE (QAEF) F-15QA AIRCREW & MAINTENANCE TRAINING.
8/29/19	14.7	W58RGZ-16-C-0023	REMANUFACTURE OF LONGBOW CREW TRAINERS & SPARES.

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Date	Award (USD millions)	Contract #	Description
8/29/19	10.9	N00019-16-G-0001	TACTICAL OPEN MISSION SOFTWARE AIRBORNE WEAPONS SIMULATOR (AWS) SOFTWARE CAPABILITY FOR THE P-8A TO SERVE AS A TRAINING TOOL FOR THE COMBAT AIRCREWS.
8/30/19	122.9	FA8204-19-C-0001	INTERCONTINENTAL BALLISTIC MISSILE CRYPTOGRAPHY UPGRADE INCREMENT II (ICU II) PRODUCTION.
9/4/19	25.0	SPE4AX-18-D-9450	ENGINEERING & SUPPLY CHAIN ANALYSIS SUSTAINMENT SUPPORT & FOR VARIOUS SPARE PARTS.
9/4/19	7.5	FA8119-14-D-0003	BASIC CONTRACT FOR AIR LAUNCHED CRUISE MISSILE WARHEAD ARMING DEVICES REMANUFACTURE.
9/11/19	45.8	N00019-19-G-0002	PROCURE P-8A AIRCREW TRAINING SYSTEM PRODUCTION CONCURRENCY UPGRADES FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
9/12/19	15.1	N00019-16-G-0001	NON-RECURRING ENGINEERING FOR INTEGRATION OF THE AAQ-24 LAIRCM SYSTEM ONTO ONE C-40A AIRCRAFT FOR THE U.S. NAVY.
9/17/19	10.8	N00024-17-C-6307	ENGINEERING SERVICES IN SUPPORT OF THE EXTRA LARGE UNMANNED UNDERSEA VEHICLE (XLUUV) PROGRAM.
9/17/19	11.4	N00019-18-C-1057	OPTION FOR PHASE 1 DESIGN MATURITY, ANALYSIS & TEST PLANNING FOR THE STAND-OFF LAND ATTACK MISSILE EXPANDED RESPONSE PRODUCTION FOR THE GOVERNMENT OF SAUDI ARABIA (FMS).
9/18/19	30.9	N68335-19-C-0543	ESTABLISH ORGANIC DEPOT & INTERMEDIATE LEVEL MAINTENANCE REPAIR CAPABILITY OF THE CONSOLIDATED AUTOMATED SUPPORT SYSTEM OPERATIONAL TEST PROGRAM SETS FOR STORES MANAGEMENT SYSTEM COMPONENTS IN SUPPORT OF THE P-8A POSEIDON MMA.
9/19/19	156.9	FA3002-13-D-0012	BILATERAL CONTRACT MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR THE FMS ROYAL SAUDI AIR FORCE (RSAF) F-15SA ORIGINAL EQUIPMENT MANUFACTURER TRAINING PROGRAM.
9/20/19	51.6	N00019-19-C-0073	PROCURE 136 ADVANCED CAPABILITY MISSION COMPUTERS IN SUPPORT OF THE F/A-18 AIRCRAFT.
9/20/19	9.6	N00383-19-D-VA01	REPAIR & UPGRADE OF THE COMBAT SURVIVOR & EVADER LOCATOR HANDHELD RADIO SYSTEM, GROUND SUPPORT EQUIPMENT COMPONENTS.
9/23/19	227.0	N00383-17-G-A301	PROCUREMENT OF MAIN & NOSE LANDING GEAR ASSEMBLIES IN SUPPORT OF F/A-18E/F & EA-18G AIRCRAFT.
9/24/19	22.6	FA8621-15-C-6397	F-15C & F-15E MISSION TRAINING CENTER. THE CONTRACT MODIFICATION IS FOR IMPLEMENTATION OF SUITE 9.1/EAGLE PASSIVE ACTIVE WARNING SURVIVABILITY SYSTEM (EPAWSS) INTO F-15C & F-15E MTCS TO UPDATE F-15 MTCS WITH SUITE 9.1 & ADD EPAWSS CAPABILITIES TO THE F-15E MTC SIMULATORS.
9/25/19	10.7	SPE4A1-19-G-0013	DELIVERY ORDER AGAINST A FIVE YEAR BOA FOR AIRCRAFT MOVEABLE CANOPIES.
9/25/19	11.8	SPE4A1-19-G-0013	DELIVERY ORDER AGAINST A FIVE YEAR BOA FOR F/A-18 AIRCRAFT RADOMES.

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Date	Award (USD millions)	Contract #	Description
9/25/19	16.0	N00019-14-C-0067	LOTS 6-8 RETROFIT OF OPTICAL SENSOR CAPABILITY A-KITS, AIRCRAFT UPDATES, REMOTE INTERFACE UNIT WIRING & THE DRY BAY FIRE PROTECTION SYSTEM AS WELL AS THE LOTS 9-10 PRODUCTION & DELIVERY OF THE OPTICAL SENSOR CAPABILITY & THE DRY BAY FIRE PROTECTION SYSTEM FOR THE NAVY & THE GOVERNMENTS OF AUSTRALIA, THE U.K. & NORWAY IN SUPPORT OF P-8A AIRCRAFT RETROFITS & PRODUCTION.
9/25/19	11.9	FA8625-11-C-6600	RADIO FREQUENCY SIMULATOR EQUIPMENT & SUPPORT.
9/26/19	280.0	FA8672-19-D-0003	SMALL DIAMETER BOMB I (SDB) INTEGRATION & ENGINEERING SUPPORT FOR THE FIELDIED SDB I WEAPON SYSTEM.
9/26/19	32.5	N00167-19-D-0009	MATERIAL DEVELOPMENT, DESIGN & ENGINEERING EFFORTS, FIRST ARTICLE PRODUCTION, AND PRODUCTION OF SHIP SET MATERIALS.
9/26/19	13.5	N00019-16-G-0001	SUPPLIES & ENGINEERING SERVICES IN SUPPORT OF GOVERNMENT FLIGHT OPERATIONS ON THE P-8A FLIGHT TEST AIRCRAFT & THE NAVAL AIR STATION SYSTEM INTEGRATION LABORATORY.
9/27/19	8.5	FA8634-18-C-2697	IRST LRIP 2.
9/27/19	13.4	FA8634-17-D-2696	DELIVERY ORDER FOR F-15 NON-ADCP II VIDEO SITUATIONAL DISPLAY REPLACEMENT (NA-VSDR) PROGRAM.
9/27/19	13.5	N00019-16-G-0001	SUPPLIES & ENGINEERING SERVICES IN SUPPORT OF GOVERNMENT FLIGHT OPERATIONS ON THE P-8A FLIGHT TEST AIRCRAFT & THE NAVAL AIR STATION SYSTEM INTEGRATION LABORATORY.
9/27/19	11.2	N68335-15-G-0022	THIS DELIVERY ORDER PROCURES 34 PECULIAR SUPPORT EQUIPMENT (PSE) END ITEMS & RADAR PSE FOR THE APG-79 ANTENNA IN SUPPORT OF ORGANIZATIONAL & INTERMEDIATE LEVELS OF MAINTENANCE FOR THE F/A-18E/F & EA-18G AIRCRAFT.
9/27/19	2,628.0	FA8625-11-C-6600	MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR LOT 5 PRODUCTION KC-46 AIRCRAFT, INITIAL SPARES, AND SUPPORT EQUIPMENT. THE CONTRACT MODIFICATION PROVIDES FOR THE EXERCISE OF AN OPTION FOR AN ADDITIONAL QUANTITY OF 15 KC-46 AIRCRAFT, DATA, TWO SPARE ENGINES, FIVE WING REFUELING POD KITS, INITIAL SPARES, SUPPORT EQUIPMENT, SUBSCRIPTIONS & LICENSES, AND G081 FLAT FILE BEING PRODUCED UNDER THE BASIC CONTRACT.
9/30/19	70.0	FA8681-19-D-0008	PROCUREMENT OF GBU-57 MASSIVE ORDNANCE PENETRATORS.
9/30/19	10.3	47QTCA-19-D-00G3	PROVIDES SUPPORT FOR INTEGRATED COMPUTERIZED DEPLOYMENT SYSTEM, A JOINT DECISION-SUPPORT SYSTEM DEVELOPED TO ASSIST USERS WITH THE STAGING & LOAD-PLANNING REQ FOR MULTIPLE MILITARY & COMMERCIAL MODES OF TRANSPORTATION FOR THE MILITARY SURFACE DEPLOYMENT & DISTRIBUTION COMMAND.

Boeing

Date	Award (USD millions)	Contract #	Description
9/30/19	70.8	N00019-19-D-0003	OPTION TO PROVIDE F/A-18 E/F & EA-18G AIRCRAFT INSPECTIONS, MODIFICATIONS & REPAIRS AS WELL AS F/A-18E/F & EA-18G INNER WING PANEL MODIFICATIONS & REPAIRS.
9/30/19	15.5	N00019-16-G-0001	DESIGN & DEVELOPMENT OF THE ENVIRONMENTAL CONTROL SYSTEM, TEST ARTICLE, AND ASSOCIATED UNIQUE INSTRUMENTATION & EQUIPMENT FOR THE F/A-18E/F & EA-18G AIRCRAFT.
9/30/19	17.6	N00019-16-G-0001	NON-RECURRING ENGINEERING SUPPORT TO DESIGN, DEVELOP, VALIDATE & VERIFY THE CABIN PRESSURE & ON-BOARD OXYGEN GENERATION SYSTEM MONITORING SYSTEM KIT.
10/2/19	7.9	W58RGZ-16-C-0023	COMMUNICATION INTERFACE SYSTEM OBSOLESCENCE FOR THE APACHE AH-64E FULL-RATE PRODUCTION.
10/16/19	193.3	N00019-18-D-0113	THIS MODIFICATION PROVIDES CFM56-7B27A/3 & CFM56-7B27AE ENGINE DEPOT MAINTENANCE & REPAIR, FIELD ASSESSMENT, MAINTENANCE REPAIR & OVERHAUL ENGINE REPAIR, AND TECHNICAL ASSISTANCE FOR REMOVAL & REPLACEMENT OF ENGINES FOR THE P-8A POSEIDON AIRCRAFT IN SUPPORT OF THE NAVY, THE GOVERNMENT OF AUSTRALIA & FMS CUSTOMERS.
10/25/19	17.0	FA8628-20-C-2269	A 16,699,088 COST-PLUS, FIXED-FEE CONTRACT FOR UNIVERSAL ARMAMENT INTERFACE. THIS CONTRACT PROVIDES FOR SYSTEM ENGINEERING & PROGRAM MANAGEMENT UNIVERSAL ARMAMENT INTERFACE DEVELOPMENT.
10/30/19	62.3	W58RGZ-19-C-0024	PERFORMANCE-BASED LOGISTICS SUPPORT FOR THE AH-64D/E APACHE ATTACK HELICOPTER.
10/30/19	17.6	N00019-16-G-0001	PERFORM 27 MODIFICATIONS IN SUPPORT OF THE INCREMENT 3 BLOCK 1 RETROFIT REQUIREMENT FOR P-8A AIRCRAFT FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
10/31/19	22.6	FA8204-19-C-0001	ICBM CRYPTOGRAPHY UPGRADE INCREMENT II (ICU II) PRODUCTION.
10/31/19	10.0	N00019-19-C-0016	OBSOLESCENCE REDESIGN IN SUPPORT OF THE PRODUCTION & DELIVERY OF HARPOON BLOCK II MISSILES FOR SAUDI ARABIA.
11/4/19	34.2	N00019-16-G-0001	THIS ORDER PROVIDES FOR THE NON-RECURRING ENGINEERING, LOGISTICS PRODUCT DATA, 28 GROUP A-1 RETROFIT KITS, 28 GROUP A-2 RETROFIT KITS, AND 28 GROUP B RETROFIT KITS FOR INCORPORATION OF THE DISTRIBUTED TARGETING PROCESSOR-NETWORK INTO THE F/A-18 AIRCRAFT FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
11/7/19	22.5	FA8656-19-F-1005	LASER SDB ALL UP ROUNDS & WARHEAD SHIPPING CONTAINERS.
11/8/19	11.3	SPE4A1-19-G-0013	DELIVERY ORDER AGAINST A FIVE-YEAR BOA FOR AIRCRAFT MOVABLE CANOPIES.
11/19/19	232.0	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST A FIVE-YEAR BOA FOR THE AH-64 CH-47 GLOBAL MATERIAL SUPPORT PROGRAM.

Boeing

Date	Award (USD millions)	Contract #	Description
11/21/19	128.7	W58RGZ-16-C-0023	FMS (NETHERLANDS) FOR THE ROYAL NETHERLANDS AIR FORCE UNIQUENESS ON 11 APACHE ATTACK HELICOPTER (AH)-64E AIRCRAFT, RECURRING & NON-RECURRING SCOPE, VERSION SIX INTEGRATION, INTEGRATED LOGISTICS SUPPORT, PRODUCT ASSURANCE, LONGBOW CREW TRAINERS & INITIAL PECULIAR GROUND SUPPORT EQUIPMENT.
11/21/19	24.1	N00019-16-G-0001	PROCURE 34 GROUP A-1 RETROFIT KITS, 34 GROUP A-2 RETROFIT KITS, AND 34 GROUP B RETROFIT KITS FOR INCORPORATION OF THE DISTRIBUTED TARGETING PROCESSOR-NETWORK INTO THE EA-18G AIRCRAFT FOR THE U.S. NAVY.
11/21/19	43.7	N00019-16-G-0001	MANUFACTURE, TEST & DELIVERY OF 48 TRAILING EDGE FLAP RETROFIT REDESIGN KITS IN SUPPORT OF THE F/A-18E/F AIRCRAFT.
11/22/19	10.7	W58RGZ-20-C-0001	INTEGRATION & RETROFIT OF 23 AH-6I AIRCRAFT WITH DVR, EQUIPMENT STOWAGE, AND APKWS II CAPABILITIES.
11/25/19	172.2	N00019-18-D-0001	THIS MODIFICATION INCREASES THE CEILING OF THE CONTRACT TO CONTINUE SERVICE LIFE MODIFICATIONS TO EXTEND THE OPERATIONAL SERVICE LIFE FROM 6,000 FLIGHT HOURS TO 10,000 FLIGHT HOURS OF UP TO 23 F/A-18E/F AIRCRAFT.
11/26/19	13.7	N00019-16-G-0001	PRODUCTION ENGINEERING SUPPORT FOR THE INSTALLMENT & INTEGRATION OF WEAPON SYSTEMS ON THE F/A-18E/F & EA-18G AIRCRAFT.
12/10/19	9.5	N00019-16-G-0001	THIS ORDER PROVIDES HARPOON/SLAM-ER MISSILE SYSTEM & HARPOON LAUNCH SYSTEMS FOLLOW-ON INTEGRATED LOGISTICS & ENGINEERING SERVICES SUPPORT FOR THE NAVY & VARIOUS FMS CUSTOMERS.
12/10/19	21.3	FA8819-15-C-0007	EXERCISE OPTION 5 FOR SPACE BASED SPACE SURVEILLANCE BLOCK 10 SUSTAINMENT.
12/12/19	12.0	FA8625-16-C-6599	INCORPORATION OF TWO ENGINE AIRWORTHINESS DIRECTIVES (ADS) & 29 ENGINE SERVICE BULLETINS (SBS) ON THE PROGRAM'S EIGHT GENX-2B ENGINES. THIS CONTRACT MODIFICATION WILL ALLOW FOR VC-25B OPERATIONAL BENEFITS & COST EFFICIENCIES, WITH THE WORK BEING PERFORMED CONCURRENTLY WITH THE VC-25B-SPECIFIC MODIFICATIONS TO THE PROGRAM'S 747-8 AIRCRAFT ENGINES.
12/16/19	15.8	HQ0277-18-C-0003	CONTRACTOR WILL DEMONSTRATE A SUCCESSFUL TRANSITION OF FIBER COMBINED LASER TECHNOLOGY FROM THE MA INSTITUTE OF TECHNOLOGY LINCOLN LABORATORY.
12/16/19	835.7	SPRPA1-14-D-002U	MODIFICATION EXERCISING THE FIVE-YEAR OPTION PERIOD OF A FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD FOR PERFORMANCE-BASED SUPPORT OF CONSUMABLE ITEMS FOR VARIOUS AVIATION PLATFORMS.
12/18/19	564.5	W58RGZ-16-C-0023	FMS (NETHERLANDS, UAE & U.K.) FOR THE REMANUFACTURE OF APACHE AH-64E AIRCRAFT.

Boeing

Date	Award (USD millions)	Contract #	Description
12/18/19	92.3	N68936-20-D-0007	ENGINEERING TECHNICAL SERVICES IN SUPPORT OF NAVAL AVIATION WEAPON SYSTEMS & ALL ASSOCIATED SYSTEMS & EQUIPMENT THROUGHOUT THEIR SUSTAINMENT LIFE-CYCLE, TO INCLUDE CONTRACTOR FIELD SERVICES IN SUPPORT OF THE AV-8B, EA-18G, F/A-18, C-40, AND P-8A AIRCRAFT FOR THE NAVY & THE GOVERNMENT OF KUWAIT.
12/19/19	1461.4	W58RGZ-20-D-0005	FMS (INDONESIA, ISRAEL, KUWAIT, NETHERLANDS, QATAR, SAUDI ARABIA, SOUTH KOREA, TAIWAN & UNITED ARAB EMIRATES) CONTRACT FOR SUPPORT SERVICES FOR AH-64D/E APACHE HELICOPTERS.
12/19/19	9.6	FA8823-20-C-0001	WIDEBAND ORBITAL OPERATIONS LOGISTICS & RESILIENCY. THIS CONTRACT PROVIDES FOR SYSTEMS ENGINEERING & SUSTAINMENT SUPPORT FOR THE WIDEBAND GLOBAL SATELLITE COMMUNICATIONS CONSTELLATION.
12/20/19	8.9	FA8808-19-C-0001	MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR PROTECTED TACTICAL ENTERPRISE SERVICES.
2020			
1/6/20	?	W15P7T-20-D-0004	WILL COMPETE FOR EACH ORDER OF THE \$5,100,000,000 HYBRID (COST-NO-FEE, CPFF, FFP) CONTRACT FOR THE GLOBAL TACTICAL ADVANCED COMMUNICATION SYSTEMS (GTACS II) & SERVICES. BIDS WERE SOLICITED VIA THE INTERNET WITH 24 RECEIVED. WORK LOCATIONS & FUNDING WILL BE DETERMINED WITH EACH ORDER, WITH AN ESTIMATED COMPLETION DATE OF JAN. 5, 2030.
1/9/20	42.3	N00019-14-C-0067	THIS MODIFICATION EXERCISES AN OPTION FOR INTEGRATED LOGISTICS SERVICES & SITE ACTIVATION SUPPORT OF P-8A AIRCRAFT FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
1/10/20	14.0	SPRPA1-14-D-002U	SPARE ITEMS IN SUPPORT OF THE FLIGHT CONTROL SURFACES UTILIZED ON THE F/A-18 AIRCRAFT.
1/27/20	54.4	W58RGZ-16-C-0023	RETROFIT KITS & SOFTWARE DEVELOPMENT FOR THE APACHE ATTACK HELICOPTER.
1/30/20	84.1	FA8634-18-C-2698	PREVIOUSLY AWARDED CONTRACT FOR THE F-15 ADVANCED DISPLAY CORE PROCESSOR (ADCP) II LOW-RATE INITIAL PRODUCTION 4.
1/31/20	15.3	SPE4A5-20-F-8228	PRODUCTION OF KC-135 AIRCRAFT STRUCTURAL COMPONENT FITTINGS (LANDING GEAR TRUNNIONS).
1/31/20	99.9	FA8730-20-C-0023	AIRBORNE WARNING & CONTROL SYSTEM (AWACS) BLOCK 40/45 FULL RATE PRODUCTION COMPLETION. THIS CONTRACT PROVIDES FOR THE CONTINUED ACQUISITION OF SUPPLIES & SERVICES ASSOCIATED WITH THE PRODUCTION OF THE E-3 AWACS BLOCK 40/45 UPGRADE.
2/3/20	7.9	FA8119-20-D-0002	REPAIR OF KC-135 COWLING & FAN DUCTS.
2/3/20	18.2	W91215-16-G-0001	PROCURE THE LONG LEAD COMPONENTS & PARTS IN SUPPORT OF MH-47G ROTARY WING AIRCRAFT.

Boeing

Date	Award (USD millions)	Contract #	Description
2/5/20	?	N00024-20-D-6355	IDIQ MULTIPLE AWARD CONTRACT (IDIQ-MAC) TO SUPPORT THE UNMANNED SURFACE VEHICLE FAMILY OF SYSTEMS. THE IDIQ-MACS HAVE A FIVE-YEAR BASE PERIOD & ONE FIVE-YEAR ORDERING PERIOD OPTION, WHICH, IF EXERCISED, WOULD BRING THE CUMULATIVE VALUE OF THIS CONTRACT TO \$982,100,000. THESE BUSINESSES WILL HAVE THE OPPORTUNITY TO COMPETE IN THE AWARDED FUNCTIONAL AREA FOR INDIVIDUAL DELIVERY ORDERS.
2/1/20	22.2	N00383-17-G-A301	PROCUREMENT OF TRAILING EDGE FLAPS IN SUPPORT OF THE F/A-18 C-D AIRCRAFT.
2/11/20	19.3	N00383-18-G-AY01	REPAIR OF VARIOUS AVIONICS EQUIPMENT USED ON THE F/A-18 AIRCRAFT.
2/24/20	93.0	N61340-20-D-0003	THIS CONTRACT INCORPORATES THE NEXT THREE PLANNED CONFIGURATIONS OF THE OPERATOR FLIGHT PROGRAM/SYSTEM CONFIGURATION SET INTO THE ROYAL AUSTRALIAN AIR FORCE F/A-18 F & EA-18G AIRCRAFT TRAINING SYSTEMS. ADDITIONALLY, THIS CONTRACT PROCURES SPARES, SUPPORT EQUIPMENT, TECHNICAL MANUAL UPDATES & ON-SITE TRAINING.
2/25/20	7.4	N00019-16-G-0001	THIS DELIVERY ORDER PROCURES 30 A1 G-MODEL KITS & 66 A3 E-MODEL KITS IN SUPPORT OF F/A-18E/F & EA-18G MODIFICATIONS.
3/4/20	36.7	FA8625-11-C-6600	MODIFICATION TO CONTRACT FOR KC-46 ENGINEERING, MANUFACTURING & DEVELOPMENT CONTRACT. THIS MODIFICATION IS FOR THE COMPONENT BUILD & DEVELOPMENT OF THE HARDWARE SYSTEM INTEGRATION LAB TO CONDUCT LAB VERIFICATION & GROUND TEST VERIFICATION FOR THE BOOM TELESCOPE ACTUATOR REDESIGN.
3/6/20	800.0	N00019-14-C-0067	THIS MODIFICATION PROCURES LONG LEAD MATERIAL & ACTIVITIES IN SUPPORT OF LOT 11 P-8A AIRCRAFT PRODUCTION & DELIVERY.
3/9/20	191.9	W58RGZ-20-C-0014	POST-PRODUCTION SUPPORT SERVICES & WAREHOUSE MANAGEMENT SERVICES FOR THE UNITED KINGDOM AH-64E APACHE HELICOPTER FLEET OF 50 AIRCRAFT & THREE LONGBOW CREW TRAINERS.
3/12/20	8.0	N00019-18-C-1057	THIS MODIFICATION EXERCISES AN OPTION TO CONTINUE PHASE ONE DESIGN MATURITY, ANALYSIS & TEST PLANNING FOR THE STAND-OFF LAND ATTACK MISSILE - EXPANDED RESPONSE (SLAM-ER) PRODUCTION LINE IN SUPPORT OF THE GOVERNMENT OF SAUDI ARABIA.
3/23/20	8.3	FA8204-19-C-0001	MODIFICATION TO PREVIOUSLY AWARD CONTRACT FOR THE INTERCONTINENTAL BALLISTIC MISSILE CRYPTOGRAPHY UPGRADE INCREMENT II PRODUCTION. THIS MODIFICATION EXERCISES PRODUCTION LOT 3, OPTIONS 2, 4, 8 & 9, AND PROVIDES THE GOVERNMENT 176 A-4 DRAWERS.
3/30/20	114.0	W58RGZ-19-C-0024	LOGISTICS, COMPONENTS & SERVICES FOR HELICOPTERS.
3/30/20	1554.4	N00019-14-C-0067	THIS MODIFICATION PROCURES 18 LOT 11 P-8A MARITIME AIRCRAFT FOR THE NAVY (EIGHT); THE GOVERNMENT OF NEW ZEALAND (FOUR); & THE REPUBLIC OF KOREA (SIX).

Boeing

Date	Award (USD millions)	Contract #	Description
3/31/20	8.2	FA8634-18-C-2698	CONTRACT MODIFICATION TO THE PREVIOUSLY AWARDED CONTRACT FOR THE F-15 ADVANCED DISPLAY CORE PROCESSOR II (ADCP II) LOW-RATE INITIAL PRODUCTION 4. THIS CONTRACT MODIFICATION EXERCISES AN OPTION THAT PROVIDES THE INSTALLATION & ENVIRONMENTAL CONTROL SYSTEM REPAIR OF THE ADCP II BOXES & RELATED EQUIPMENT INTO THE F-15 PLATFORM.
3/31/20	39.0	FA8105-16-D-0002	KC-135 ENGINEERING SUSTAINMENT SERVICES (ESS). THE CONTRACT MODIFICATION PROVIDES FOR RECURRING ESS OF THE KC-135 AIRCRAFT FOR TWO OPTION YEARS.
4/1/20	18.9	W58RGZ-20-D-0052	MAINTENANCE & OVERHAUL OF HELICOPTERS. BIDS WERE SOLICITED VIA THE INTERNET WITH ONE RECEIVED.
4/1/20	11.1	FA8621-16-C-6397	MODIFICATION TO CONTRACT FOR F-15C & F-15E MISSION TRAINING CENTERS (MTC) SERVICES ON CONTRACTOR FURNISHED, HIGH-FIDELITY SIMULATION EQUIPMENT. CONTRACTOR WILL PROVIDE THE SIMULATION CAPABILITY TO TRAIN PILOTS & WEAPONS SYSTEM OPERATORS FOR F-15C & F-15E AIRCRAFT PLATFORMS.
4/2/20	11.2	W58RGZ-20-D-0053	MAINTENANCE & OVERHAUL OF HELICOPTERS. BIDS WERE SOLICITED VIA THE INTERNET WITH ONE RECEIVED.
4/2/20	73.2	N00019-19-C-0016	THIS MODIFICATION EXTENDS THE PERIOD OF PERFORMANCE & PROVIDES ADDITIONAL FUNDING FOR LONG LEAD MATERIAL IN SUPPORT OF THE LOT 91 FULL RATE PRODUCTION OF HARPOON MISSILES FOR THE GOVERNMENTS OF SAUDI ARABIA, QATAR, THAILAND, KOREA, BRAZIL & JAPAN.
4/2/20	84.7	N00019-18-C-1012	THIS MODIFICATION EXERCISES CONTRACT OPTIONS TO PROCURE THREE MQ-25 AERIAL REFUELING DRONE'S SYSTEM DEMONSTRATION TEST ARTICLES.
4/6/20	68.1	FA8634-18-C-2701	CONTRACT ACTION FOR THE F-15 QATAR PROGRAM. THIS CONTRACT ACTION SUPPORTS THE FMS REQUIREMENT FOR THE QATAR EMIRI AIR FORCE & PROVIDES MAINTENANCE & LOGISTICS SUPPORT FOR AIRCRAFT & TRAINING DEVICES CONDUCTING PRE-DELIVERY TRAINING.
4/13/20	55.0	N00019-17-C-1057	THIS MODIFICATION CHANGES THE CONTRACT TYPE OF THE STAND-OFF LAND ATTACK MISSILE – EXPANDED RESPONSE (SLAM-ER) PHASE I OBSOLESCENCE REDESIGN FROM A CPIF TYPE CONTRACT TO A FFP TYPE CONTRACT.
4/15/20	84.0	FA8625-16-C-6599	MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR VC-25B TECHNICAL PUBLICATIONS. THIS CONTRACT MODIFICATION IS TO MODIFY COMMERCIAL MANUALS, UPDATE WITH VC-25B-SPECIFIC INFORMATION & DELIVER INTEGRATED MANUALS FOR THE VC-25B SYSTEM.

Boeing

Date	Award (USD millions)	Contract #	Description
4/15/20	?	N00421-20-D-0092	IDIQ CONTRACTS IN SUPPORT OF THE NAVAL AIR WARFARE CENTER, AIRCRAFT DIV. THESE CONTRACTS ARE FOR THREE DISTINCT LOTS, EACH WITH ESTABLISHED VENDOR POOLS SUPPORTING DIFFERENT REQ. WORK WILL BE PERFORMED AT THE CONTRACTOR'S LOCATIONS & AT GOVERNMENT FACILITIES. LOT I PROVIDES FULL RATE PRODUCTION OF MISSION SYSTEM AVIONICS. LOT II PROVIDES FULL RATE PRODUCTION OF OTHER AIRCRAFT COMPONENTS, PRODUCTION & INSTALLATION OF MODIFICATION KITS. LOT III PROVIDES FULL RATE PRODUCTION OF OTHER AIRCRAFT COMPONENTS, PRODUCTION & INSTALLATION OF MODIFICATION KITS. THE ESTIMATED AGGREGATE CEILING FOR ALL CONTRACTS IS \$7,143,500,000, WITH THE COMPANIES HAVING AN OPPORTUNITY TO COMPETE FOR INDIVIDUAL ORDERS WITHIN THEIR LOTS.
4/16/20	14.6	N00019-16-G-000	THIS MODIFICATION EXERCISES OPTIONS TO PROCURE 85 ADDITIONAL PRIMARY BLEED AIR REGULATOR PARTS KITS & 439 NEW VALVES IN SUPPORT OF F/A-18 HORNET COMBAT JETS (SERIES E/F/G) & THEIR MODIFICATIONS.
5/24/20	75.1	N00019-20-D-0051	SUPPORT OF THE F/A-18E/F SUPER HORNET FIGHTER AIRCRAFT SERVICE LIFE ASSESSMENT PROGRAM & SERVICE LIFE EXTENSION PROGRAM, PHASE C FOLLOW-ON EFFORT.
4/27/20	8.7	FA8106-16-D-0004	TASK ORDER AGAINST BASIC CONTRACT FOR CREW REST MODIFICATION EFFORTS ON THE AIR FORCE C-32 FLEET.
4/28/20	9.7	N00019-16-C-0032	THIS MODIFICATION PROVIDES ENGINEERING, MANUFACTURING & DEVELOPMENT SUPPORT TO INTEGRATE BRR3.1 SOFTWARE TO THE NEXT GENERATION JAMMER ON BOEING EA-18G GROWLER CARRIER-BASED ELECTRONIC WARFARE AIRCRAFT, RESULTING IN BRR3.1 SOFTWARE INITIAL OPERATING CAPABILITY.
4/30/20	112.0	N00019-19-C-0019	THIS MODIFICATION EXERCISES OPTIONS TO PROCURE 16 INFRARED SEARCH & TRACK BLOCK II LOW RATE INITIAL PRODUCTION IV UNITS; FOUR FOR THE NAVY & 12 FOR THE GOVERNMENT OF AUSTRALIA
5/1/20	29.9	SPRTA1-20-F-0014	CONTRACT FOR B-52 HATCHES.
5/6/20	7.0	N00019-16-G-0001	THIS ORDER PROCURES NON-RECURRING ENGINEERING FOR THE DESIGN, FABRICATION & CORRECTION OF DEFICIENCIES REQUIRED FOR THE DELIVERY & INSTALLATION OF RETROFIT KITS FOR NAVY P-8A AIRCRAFT WITH INCREMENT 3 ECP 6 CAPABILITIES.
5/6/20	29.1	N00019-14-C-0067	PRODUCTION & DELIVERY OF 10 P-8A A-KITS, 10 TURRET DEPLOYMENT UNITS & EIGHT MECHANISM UNITS IN SUPPORT OF LOT 10 P-8A PRODUCTION AIRCRAFT.
5/7/20	128.5	HQ0147-19-C-0004	MODIFICATION TO PREVIOUSLY AWARDED ON THE GROUND-BASED MIDCOURSE DEFENSE DEVELOPMENT & SUSTAINMENT CONTRACT.

Boeing

Date	Award (USD millions)	Contract #	Description
5/8/20	25.4	FA8621-15-D-6266	PROVIDE C-17 TRAINING DEVICES & SPARES FOR THE NATO AIRLIFT MANAGEMENT PROGRAM LOCATED AT PAPA AIR BASE, HUNGARY. THE TRAINING SYSTEM WILL CONSIST OF ONE C-17 WEAPON SYSTEM TRAINER (COMPOSED OF AN AIR VEHICLE STATION WITH AN INSTRUCTOR OPERATOR STATION (IOS) & A LOADMASTER STATION WITH AN IOS, A LEARNING CENTER COMPLETE WITH COMPUTER-BASED TRAINING SYSTEMS, CORE INTEGRATED PROCESSOR TASK TRAINER, COURSEWARE & INITIAL SPARES TO SUPPORT THESE ITEMS FOR TWO YEARS.
5/13/20	1,971.8	N00019-20-C-0003	PROVIDE NON-RECURRING ENGINEERING ASSOCIATED WITH THE STAND-OFF LAND ATTACK MISSILE – EXPANDED RESPONSE (SLAM ER) OBSOLESCENCE REDESIGN EFFORT AS WELL AS THE PRODUCTION & DELIVERY OF 650 SLAM ER MISSILES IN SUPPORT OF THE GOVERNMENT OF SAUDI ARABIA.
5/13/20	656.9	N00019-19-C-0016	THIS MODIFICATION PROCURES & DELIVERS 467 HARPOON FULL RATE PRODUCTION LOT 91 BLOCK II MISSILES & SUPPORT EQUIPMENT FOR VARIOUS FMS CUSTOMERS.
5/15/20	28.0	W58RGZ-20-F-0380	ADVANCED PROCUREMENT OF LONG LEAD HELICOPTER PARTS.
5/15/20	13.2	N00024-17-C-4108	EXERCISE OPTIONS FOR HARDWARE PROCUREMENT FOR THE USQ-82(V) PROGRAM IN SUPPORT OF DDG-51 CLASS NEW CONSTRUCTION, DDG-51 CLASS MODERNIZATION & FMS CASES.
5/21/20	27.8	N00019-14-C-0067	THIS MODIFICATION PROCURES INTEGRATED LOGISTICS SUPPORT FOR THE BOEING P-8A POSEIDON WARFARE AIRCRAFT FOR THE NAVY, THE GOVERNMENT OF AUSTRALIA, AND THE GOVERNMENT OF THE UNITED KINGDOM.
5/27/20	7.6	W58RGZ-16-C-0023	PROVIDE GENERATOR FEEDER FAULT PROTECTION FOR THE APACHE HELICOPTER.
5/29/20	?	FA8612-20-D-0005	\$950,000,000 CEILING, IDIQ CONTRACTS FOR THE MATURATION, DEMONSTRATION & PROLIFERATION OF CAPABILITY ACROSS PLATFORMS & DOMAINS, LEVERAGING OPEN SYSTEMS DESIGN, MODERN SOFTWARE & ALGORITHM DEVELOPMENT IN ORDER TO ENABLE JOINT ALL DOMAIN COMMAND & CONTROL (JADC2). THESE CONTRACTS PROVIDE FOR THE DEVELOPMENT & OPERATION OF SYSTEMS AS A UNIFIED FORCE ACROSS ALL DOMAINS (AIR, LAND, SEA, SPACE, CYBER & ELECTROMAGNETIC SPECTRUM) IN AN OPEN ARCHITECTURE FAMILY OF SYSTEMS THAT ENABLES CAPABILITIES VIA MULTIPLE INTEGRATED PLATFORMS. THE LOCATIONS OF PERFORMANCE ARE TO BE DETERMINED AT THE CONTRACT DIRECT ORDER LEVEL & ARE EXPECTED TO BE COMPLETED BY MAY 28, 2025.
6/1/20	17.5	W58RGZ-20-D-0065	FURNISH ALL SERVICES, FACILITIES, LABOR, PARTS, MATERIALS, EQUIPMENT, TOOLS & DATA NECESSARY TO ACCOMPLISH THE INSPECTION, OVERHAUL, AND UPGRADE FOR AH-64 APACHE EQUIPMENT.

Boeing

Date	Award (USD millions)	Contract #	Description
6/11/20	?	HQ0727-16-D-0007	A MAXIMUM \$10,271,000,000 MODIFICATION ON EXISTING IDIQ ADVANCED TECHNOLOGY SUPPORT PROGRAM IV (ATSP4) CONTRACTS. THE MODIFICATION RAISES THE CEILING ON THE CURRENT ATSP4 CONTRACTS FROM \$7,200,000,000 TO \$17,471,000,000. ATSP4 ARE MULTIPLE-AWARD, IDIQ CONTRACTS FOR ENGINEERING SERVICES DESIGNED TO RESOLVE PROBLEMS WITH OBSOLETE, UNRELIABLE, UNMAINTAINABLE, UNDERPERFORMING, OR INCAPABLE ELECTRONICS HARDWARE & SOFTWARE THROUGH DEVELOPMENT OF ADVANCED TECHNOLOGY INSERTIONS & APPLICATIONS TO MEET THE REQ OF THE DEPARTMENT OF DEFENSE FOR A QUICK REACTION CAPABILITY.
6/12/20	24.6	FA2103-18-C-0061	MODIFICATION TO CONTRACT FOR THE B61-12 LIFE EXTENSION PROGRAM. THE CONTRACT MODIFICATION IS TO DEFINITIZE CONTRACT ACTION FOR LOT ONE & LOT TWO.
6/15/20	13.0	FA8651-20-D-0036	RESEARCH & DEVELOPMENT FOR ADAPTIVE & ROBUST CONTROL FOR HYPERSONIC ENGAGEMENT RESEARCH EFFORT. THE FIVE-YEAR CONTRACT WILL SUPPORT RESEARCH & DEVELOPMENT TO COMPREHEND & ADDRESS IMPACTS OF COMPLEX FLIGHT ENVIRONMENTS ON ADVANCED WEAPON SYSTEMS.
6/16/20	22.7	FA8621-17-C-6398	F-15SA AIRCREW TRAINING DEVICES (ATD). THE CONTRACT MODIFICATION PROVIDES FOR THE PURCHASE & INSTALLATION OF A FULL MISSION TRAINER (FMT), A VISUAL DATABASE FOR THE AREA OF KING KHALID AIR BASE, SAUDI ARABIA, AND FIVE YEARS OF CONTRACTOR LOGISTICS SUPPORT FOR EXISTING ATDS.
6/19/20	12.5	N00019-16-G-0001	THIS ORDER PROCURES NON-RECURRING ENGINEERING IN SUPPORT OF ESTABLISHING A FUNCTIONAL CONFIGURATION BASELINE IN SUPPORT OF THE PRODUCTION & DELIVERY OF AUTOMATIC DEPENDENT SURVEILLANCE-BROADCAST OUT (ADS-B OUT) A-KITS & B-KITS FOR THE T-45 TRAINING SYSTEM.
6/22/20	9.0	N00019-16-G-0001	THIS MODIFICATION PROCURES RESEARCH & DEVELOPMENT SUPPORT FOR AIRWORTHINESS ASSESSMENT ACTIVITIES ASSOCIATED WITH WING STORES & CONFIGURATIONS TO BE ANALYZED WITH THE WIDEBAND SATELLITE COMMUNICATION RADOME FOR P-8A AIRWORTHINESS CERTIFICATION & FLIGHT TESTS FOR THE NAVY & GOVERNMENT OF AUSTRALIA.
6/23/20	8.5	FA8730-18-C-0001	MODIFICATION TO CONTRACT FOR THE JAPAN AIRBORNE WARNING & CONTROL SYSTEM (AWACS) MISSION COMPUTING UPGRADE (MCU) INSTALLATION & CHECKOUT (I&CO) & AUTOMATIC DEPENDENT SURVEILLANCE BROADCAST OUT (ADS-B OUT).
6/25/20	439.2	W58RGZ-16-C-0023	MODIFICATION TO CONTRACT FOR NEW-BUILD APACHE AH-64E AIRCRAFT & LONGBOW CREW TRAINERS.

Boeing

Date	Award (USD millions)	Contract #	Description
6/25/20	16.5	N00019-16-G-0001	THIS ORDER PROCURES RETROFIT MODIFICATION UPGRADES TO THE SERIES AIRCRAFTS' F/A-18 BLOCK II SUPER HORNET & GROWLER DISPLAY SUITES WITHIN THE BLOCK III SUPER HORNET & GROWLER ADVANCED COCKPIT SYSTEMS.
6/30/20	28.1	SPRPA1-17-D-003U	DELIVERY ORDER AGAINST A THREE-YEAR BOA FOR FOLLOW-ON CONSUMABLE PERFORMANCE BASED SUPPORT FOR THE P-8A PROGRAM.
7/1/20	150.0	HQ0147-19-C-0004	CONTRACT MODIFICATION TO PREVIOUSLY AWARDED ON THE GROUND-BASED MIDCOURSE DEFENSE DEVELOPMENT & SUSTAINMENT CONTRACT.
7/13/20	22,890.0	FA8634-20-D-2704	A \$22,890,000,000 IDIQ CONTRACT. THE FIRST DELIVERY ORDER HAS BEEN AWARDED AS AN UNDEFINITE CONTRACT ACTION WITH A TOTAL NOT-TO-EXCEED VALUE, INCLUDING OPTIONS, OF \$1,192,215,413. IT IS A CPFF, CPIF, FPI-FEE, FFP EFFORT FOR THE F-15EX SYSTEM. THIS DELIVERY ORDER PROVIDES FOR DESIGN, DEVELOPMENT, INTEGRATION, MANUFACTURING, TEST, VERIFICATION, CERTIFICATION, DELIVERY, SUSTAINMENT & MODIFICATION OF F-15EX AIRCRAFT, AS WELL AS SPARES, SUPPORT EQUIPMENT, TRAINING MATERIALS, TECHNICAL DATA & TECHNICAL SUPPORT.
7/15/20	81.0	SPE5EY-16-D-0547	MODIFICATION EXERCISING THE FIRST THREE-YEAR OPTION PERIOD OF A FOUR-YEAR BASE CONTRACT WITH TWO, THREE-YEAR OPTION PERIODS FOR BROAD SUPPLY CHAIN MANAGEMENT OF INDUSTRIAL HARDWARE RELATING TO MAINTENANCE, REPAIR & OVERHAUL MISSIONS.
7/15/20	12.2	N00383-17-G-A301	PROCUREMENT OF MULTIPLE FLIGHT CONTROL SURFACES IN SUPPORT OF THE BOEING F/A-18 E-G SUPER HORNET AIRCRAFT.
7/23/20	?	FA8694-20-D-0400	IDIQ CONTRACTS WITH A SHARED CEILING OF \$400,000,000 FOR ALL SUBSEQUENT COMPETITIVELY SELECTED DELIVERY ORDERS IN SUPPORT OF THE SKYBORG VANGUARD PROGRAM. SKYBORG IS AN AUTONOMOUS ATTRITABLE AIRCRAFT CAPABLE OF ACHIEVING A DIVERSE SET OF MISSIONS TO GENERATE MASSED COMBAT POWER; DELIVERING A FUTURE AIR FORCE WHICH CAN DETER, BLUNT & DEFEAT PEER ADVERSARIES. THE SKYBORG PROTOTYPING, EXPERIMENTATION & AUTONOMY DEVELOPMENT CONTRACT WILL BE USED TO DELIVER MISSIONIZED PROTOTYPES IN SUPPORT OF OPERATIONAL EXPERIMENTATION & DEVELOP THE FIRST SKYBORG AIR PLATFORM WITH MODULAR HARDWARE & SOFTWARE PAYLOADS THAT WILL INCORPORATE THE SKYBORG AUTONOMY CORE SYSTEM & ENABLE MANNED/UNMANNED TEAMING.
7/29/20	11.3	W58RGZ-16-C-002	UPDATE CRITICAL SAFETY ITEMS FOR THE APACHE ATTACK HELICOPTER (AH-64E).
7/31/20	16.4	SPE4A5-20-F-343D	KC-135 AIRCRAFT STRUCTURAL COMPONENT FITTINGS (LANDING GEAR TRUNNIONS).
7/31/20	16.8	W58RGZ-16-C-0023	UNITED ARAB EMIRATES APACHE AH-64E PROGRAM.

Boeing

Date	Award (USD millions)	Contract #	Description
7/31/20	265.0	H92241-19-F-0091	PROCUREMENT OF NINE MH-47G CHINOOK AIRCRAFT IN SUPPORT OF U.S. SPECIAL OPERATIONS COMMAND (USSOCOM).
8/1/20	50.0	FA8730-20-D-0038	CONTRACT FOR THE AIRBORNE WARNING & CONTROL SYSTEM (AWACS) INTERNET PROTOCOL ENABLED COMMUNICATION (IPEC) PROGRAM.
8/12/20	11.7	W58RGZ-16-C-0023	REMANUFACTURED APACHE AH-64E AIRCRAFT.
8/12/20	95.0	FA8681-19-D-0005	JOINT DIRECT ATTACK MUNITION (JDAM) TECHNICAL SUPPORT & INTEGRATION.
8/12/20	15.6	N00019-16-G-0001	PRODUCTION & DELIVERY OF 25 HARPOON BLOCK II+ CAPTIVE AIR TRAINING MISSILES & 24 TACTICAL MISSILES.
8/12/20	12.8	N00019-14-C-0067	THIS MODIFICATION PROVIDES NON-RECURRING & RECURRING ENGINEERING FOR DEVELOPMENT & INTEGRATION OF A MODIFIED NOSE RADOME INTO THE P-8A AIRCRAFT IN SUPPORT OF LOT 10 FULL RATE PRODUCTION VI FOR THE NAVY & FMS CUSTOMERS.
8/21/20	19.8	SPE4AX-20-D-9412	CONTRACT FOR SUPPLY CHAIN MANAGEMENT, LOGISTICS SUPPORT & INDIVIDUALLY PRICED PARTS.
9/15/20	20.0	SPE4A1-15-G-0001	DELIVERY ORDER AGAINST FIVE-YEAR BOA FOR F-15 WING SUPPORT.
9/16/20	41.	N68335-20-C-0843	THIS CONTRACT PROVIDES INTERMEDIATE LEVEL REPAIR CAPABILITY AT FLEET READINESS CENTERS. ADDITIONALLY, IT PROVIDES FOR THE DEVELOPMENT OF SUPPORT EQUIPMENT TO TEST & TROUBLESHOOT AIRCRAFT ARMAMENT EQUIPMENT SPECIFICALLY PYLONS, BOMB RACK UNITS, SONOBUOY LAUNCHERS, ARMAMENT CONTROL PANEL & THE AFT PNEUMATIC SOURCE IN SUPPORT OF THE P-8A POSEIDON AIRCRAFT.
9/22/20	13.3	FA8214-15-C-0001	ADDITIONAL QUALIFICATION REQ FOR THE SIGNAL CONDITIONER MODULE FOR THE MOD 7 FLIGHT TEST KIT (SC MODULE). THE OBJECTIVE OF THIS PROPOSED EFFORT IS TO PERFORM FULL QUALIFICATION & ACCEPTANCE TESTING TO SUPPORT NEW BUILDS.
9/22/20	75.1	N00019-19-D-0003	THIS MODIFICATION EXERCISES OPTIONS TO PROVIDE AIRCRAFT INSPECTIONS, MODIFICATIONS & REPAIRS AS WELL AS INNER WING PANEL (IWP) MODIFICATIONS & REPAIRS FOR THE F/A-18 E/F & EA-18G SERIES AIRCRAFT.
9/22/20	21.9	N00019-16-C-0032	THIS MODIFICATION EXERCISES AN OPTION FOR TEST & EVALUATION SUPPORT FOR NEXT GENERATION JAMMER INTEGRATION ON THE EA-18G AIRCRAFT.
9/24/20	2239.7	FA8672-20-D-0001	CONTRACT FOR THE SMALL DIAMETER BOMB INCREMENT I WEAPON PROGRAM. THIS CONTRACT PROVIDES FOR A GUARANTEED MINIMUM LOT 15 AWARD & A FIVE-YEAR ORDERING PERIOD FOR SMALL DIAMETER BOMB INCREMENT I, FOCUSED LETHALITY MUNITION, CONTAINERS & CARRIAGES FOR THE DEPARTMENT OF DEFENSE & FMS PARTNER NATIONS.

Boeing

Date	Award (USD millions)	Contract #	Description
9/24/20	11.7	N00019-16-G-0001	PROCUREMENT OF WEAPON REPLACEABLE ASSEMBLIES & SHOP REPLACEABLE ASSEMBLIES TEST REQ DOCUMENTS, OR EQUIVALENT, FOR THE DEVELOPMENT OF F/A-18 E/F INFRARED SEARCH & TRACK SYSTEM OPERATIONAL TEST PROGRAM SETS ON THE ELECTRONIC CONSOLIDATED AUTOMATED SUPPORT SYSTEM.
9/25/20	12.5	W911W6-20-C-0071	DEVELOP THE TECHNOLOGIES REQUIRED TO DESIGN, BUILD & TEST A HIGH-REDUCTION RATIO TRANSMISSION THAT ACCOMPLISHES A NOMINAL 60-TO-1 GEAR REDUCTION IN TWO STAGES OR LESS, IN A LIGHTWEIGHT, COMPACT PACKAGE.
9/25/20	249.0	HQ0147-19-C-0004	MODIFICATION TO PREVIOUSLY AWARDED ON THE GROUND-BASED MIDCOURSE DEFENSE DEVELOPMENT & SUSTAINMENT CONTRACT (DSC). THE SCOPE OF WORK UNDER THE CURRENT DSC INCLUDES DEVELOPMENT, FIELDING, TEST, SYSTEMS ENGINEERING, INTEGRATION & CONFIGURATION MANAGEMENT, EQUIPMENT MANUFACTURING & REFURBISHMENT, TRAINING & OPERATIONS & SUSTAINMENT FOR THE GMD WEAPON SYSTEM & ASSOCIATED SUPPORT FACILITIES.
9/28/20	39.6	FA8625-11-C-6600	CONTRACT FOR KC-46 ENGINEERING, MANUFACTURING, AND DEVELOPMENT. THIS PROVIDES FOR THE MODIFICATION OF THE EXISTING UCA AWARDED UNDER MODIFICATION P00206 & PROVIDES FOR QUALIFICATION TEST OF THE COMPONENTS & FULL LIFE QUALIFICATION OF THE ACTUATOR, AS WELL AS FOR CONDUCTING LAB TEST, GROUND TEST & FLIGHT TEST VERIFICATIONS.
9/28/20	23.3	N00019-16-G-0001	THIS ORDER PROCURES ONE JOINT COMMON TEST SET WITH EXERCISE TEST CAPABILITY FOR THE GOVERNMENT OF SAUDI ARABIA IN SUPPORT OF THE HARPOON PROGRAM.
9/30/20	298.4	FA8808-20-C-0047	EVOLVED STRATEGIC SATELLITE COMMUNICATIONS PROGRAM. THIS CONTRACT PROVIDES A PROTOTYPE PAYLOAD TO DEVELOP HARDWARE & SOFTWARE.
9/30/20	32.4	W58RGZ-20-F-0625	LOGISTICS SUPPORT FOR H-47 FORWARD & AFT BLADES & ASSOCIATED CONTAINERS.
9/30/20	30.3	SPRRA1-20-C-0022	ONE-TIME BUY CONTRACT IN SUPPORT OF THE AH-64 APACHE WEAPON SYSTEM.
9/30/20	8.4	FA8119-20-D-0013	ENGINEERING SERVICES. THIS CONTRACT PROVIDES FOR MULTIPLATFORM SUSTAINING ENGINEERING SERVICES.
9/30/20	14.7	FA8101-20-D-0001	COMMERCIAL CONTRACT ACTION FOR THE AIR FORCE SAFETY OF NAVIGATION SOLUTION. THIS CONTRACT PROVIDES ACCESS TO AN ELECTRONIC LIBRARY OF AERONAUTICAL DATA TO AUTHORIZED USERS WITHIN THE GOVERNMENT LIBRARY & WILL INCLUDE TERMINAL AERONAUTICAL CHARTS, DIAGRAMS & TEXTUAL INFORMATION.
9/30/20	11.1	N00024-17-C-6307	EXERCISE OPTIONS FOR ENGINEERING SUPPORT SERVICES IN SUPPORT OF THE EXTRA LARGE UNMANNED UNDERSEA VEHICLE (XLUUV) PROGRAM.

Boeing

Date	Award (USD millions)	Contract #	Description
10/1/20	59.1	N00030-21-C-6002	PROVIDE THE U.S. & UNITED KINGDOM TRIDENT II (D5) MAINTENANCE, REBUILDING & TECHNICAL SERVICES IN SUPPORT OF THE NAVIGATION SUBSYSTEM.
10/1/20	7.2	FA8808-10-C-0001	WIDEBAND GLOBAL SATELLITE COMMUNICATION (SATCOM) (WGS) BLOCK II FOLLOW-ON CONTRACT.
10/7/20	149.5	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST FIVE-YEAR BOA FOR KC-46 COMMERCIAL COMMON PROGRAM CONSUMABLE PARTS.
10/15/20	61.6	N00019-18-D-0113	THIS MODIFICATION EXERCISES OPTIONS TO PROCURE P-8A POSEIDON CFM56-7B27A/3 & CFM56-7B27AE ENGINE DEPOT-LEVEL MAINTENANCE & REPAIR IN SUPPORT OF THE NAVY, THE GOVERNMENT OF AUSTRALIA, AND FMS CUSTOMERS.
10/29/20	342.1	FA8609-18-F-0006	CONTRACT FOR KC-46A AIRCRAFT 3 & 4 FOR JAPAN. THIS MODIFICATION PROVIDES FOR THE EXERCISE OF AN OPTION FOR AN ADDITIONAL QUANTITY OF TWO KC-46A JAPAN AIRCRAFT BEING PRODUCED UNDER THE BASIC CONTRACT.
10/30/20	28.9	?	DELIVERY ORDER UNDER PREVIOUSLY AWARDED BOA FOR THE PROCUREMENT OF RADOMES FOR THE TOTAL QUANTITY OF 99 EACH IN SUPPORT OF THE F/A-18 E-G AIRCRAFT.
11/5/20	14.2	N00019-16-G-0001	THIS MODIFICATION EXERCISES OPTIONS FOR PRODUCTION, DELIVERY & INSTALLATION OF 24 P-8A POSEIDON INCREMENT III BLOCK I RETROFIT KITS FOR THE NAVY.
11/9/20	657.2	FA8634-18-C-2701	CONTRACT FOR THE F-15Q QATAR PROGRAM. THE CONTRACT MODIFICATION PROVIDES A COMPREHENSIVE SPARING PROGRAM & CONTRACTOR LOGISTICS SUPPORT FOR THE SUSTAINMENT OF THE F-15QA AIRCRAFT. LOGISTICAL SUPPORT FOR TRAINING DEVICES & ADMINISTRATIVE COSTS ARE ALSO INCLUDED IN THIS MODIFICATION.
11/10/20	9,800.0	FA8634-21-D-2703	F-15 SUPPORT FOR SAUDI ARABIA. THIS CONTRACT PROVIDES FOR MODERNIZATION & SUSTAINMENT OF THE F-15 SAUDI FLEET TO INCLUDE SUCH EFFORTS AS HARDWARE, SOFTWARE, AND INTERFACE DESIGN, DEVELOPMENT, INTEGRATION, TEST, SUBSYSTEM & STRUCTURAL COMPONENT PRODUCTION & INSTALLATION OF FUTURE MODIFICATIONS & ENHANCEMENTS TO THE F-15 SAUDI WEAPON SYSTEM AS WELL AS PRODUCT SUPPORT.
11/13/20	24.1	W58RGZ-19-C-0024	LOGISTICS SUPPORT FOR THE AH-64D/E APACHE ATTACK HELICOPTER.
11/25/20	196.5	FA8106-16-D-0002	THE OPTION FIVE EXERCISE WILL PROVIDE E4B PROGRAM MANAGEMENT, FIELD SERVICE REPRESENTATIVES, SYSTEM INTEGRATION LABORATORY SUPPORT, EMERGENCY SUPPORT, SPARE PROCUREMENT, SPARE REPAIR & OVERHAUL, ENGINE SUSTAINMENT & SCHEDULED & UNSCHEDULED DEPOT MAINTENANCE.

Boeing

Date	Award (USD millions)	Contract #	Description
11/30/20	9.6	N00019-16-G-0001	THIS MODIFICATION EXERCISES AN OPTION TO PROVIDE FOLLOW-ON INTEGRATED LOGISTICS & ENGINEERING SERVICES IN SUPPORT OF THE HARPOON/STANDOFF LAND ATTACK MISSILE-EXPANDED RESPONSE MISSILE SYSTEM & HARPOON LAUNCH SYSTEM FOR THE NAVY & FMS CUSTOMERS.
12/4/20	20.7	N00019-16-G-0001	THIS ORDER PROVIDES FOR THE PRODUCTION & DELIVERY OF 48 RETROFIT KITS, SUPPORT EQUIPMENT & SPECIAL TOOLING IN SUPPORT OF PHASE TWO OF THE T-45 SERVICE LIFE EXTENSION PROGRAM (SLEP) FOR SLEP PRODUCTION LOTS THREE & FOUR.
12/10/20	13.9	W58RGZ-16-C-0023	SOFTWARE UPGRADES TO THE FLIGHT MANAGEMENT COMPUTER FOR THE AH-64E.
12/11/20	9.2	FA8823-20-C-0001	EXERCISE AN OPTION FOR SYSTEMS ENGINEERING & SUSTAINMENT SUPPORT FOR THE WIDEBAND GLOBAL SATELLITE COMMUNICATIONS CONSTELLATION.
12/11/20	109.2	N00019-19-G-0002	PREVIOUSLY ISSUED BOA TO PROCURE P-8A TRAINING SYSTEMS FOR THE GOVERNMENT OF NEW ZEALAND.
12/15/20	46.9	FA8634-18-C-2701	CONTRACT FOR THE F-15 QATAR PROGRAM. THIS CONTRACT PROVIDES FOR THE FMS REQUIREMENT TO PROCURE DIGITAL ELECTRONIC WARFARE SYSTEM SPARES FOR THE QATAR EMIRI AIR FORCE.
12/15/20	8.0	N00024-17-C-6307	CONTRACT MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR EXTRA-LARGE UNMANNED UNDERSEA VEHICLE MAINTENANCE ANALYSES & LOGISTICS PRODUCTS.
12/15/20	17.8	FA8634-18-C-2697	INFRARED SEARCH & TRACK TO UPGRADE THE CURRENT AIR FORCE DESIGN EQUIVALENT OF THE NAVY BLOCK II CONFIGURATION.
12/16/20	79.6	FA8634-21-C-2702	F-15 EAGLE PASSIVE ACTIVE WARNING & SURVIVABILITY SYSTEM LOW RATE INITIAL PRODUCTION.
12/16/20	10.8	SPRPA1-14-D-002U	MODIFICATION AGAINST FIVE-YEAR BOA FOR ADDITIONAL F/A-18 A-D & E-G AIRCRAFT INTEGRATED PRODUCT SUPPORT.
12/16/20	41.7	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST FIVE-YEAR BOA FOR CONSUMABLE & DEPOT-LEVEL REPAIRABLE PARTS FOR THE KC-46 MILITARY UNIQUE PROGRAM
12/16/20	108.5	SPRPA1-14-D-002U	MODIFICATION TO FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD ADDING CONSUMABLE ITEMS SUPPORTING VARIOUS AIRCRAFT.
12/17/20	40.7	W58RGZ-16-C-0023	CONTRACT FOR A LONGBOW CREW TRAINER & SPARES.
12/18/20	400.0	FA8107-19-D-0001	B-1 & B-52 BOMBER ENGINEERING SERVICES. THIS MODIFICATION IS FOR RECURRING & NON-RECURRING ENGINEERING SERVICES TO B-1 & B-52 AIRCRAFT.
12/21/20	29.4	N00019-21-F-0038	PROCURES VARIOUS PARTS & QUANTITIES FOR MAIN & NOSE LANDING GEAR CRITICAL COMPONENTS RETROFIT KITS IN SUPPORT OF F/A-18A-D AIRCRAFT MODIFICATION EFFORTS.

Boeing

Date	Award (USD millions)	Contract #	Description
12/23/20	198.0	N00019-18-C-1012	MODIFICATION PROVIDES FOR THE INTEGRATION OF A GROUND CONTROL STATION THAT PROVIDES COMMAND & CONTROL CAPABILITY IN SUPPORT OF THE MQ-25 AIR VEHICLE FOR THE NAVY.
12/31/20	189.3	FA8634-21-C-2702	MODIFICATION TO CONTRACT FOR F-15 EAGLE PASSIVE ACTIVE WARNING & SURVIVABILITY SYSTEM (EPAWSS) LOW-RATE INITIAL PRODUCTION (LRIP). THIS CONTRACT MODIFICATION ADDS GOVERNMENT FURNISHED PROPERTY REPAIR AS WELL AS ACQUISITION OF GROUP A & B KITS, SUPPORT EQUIPMENT, MOD LINE STANDUP, TECHNICAL ORDERS & INTERIM CONTRACTOR SUPPORT EFFORTS FOR THE LRIP OF THE EPAWSS SYSTEMS WHICH WILL BE INSTALLED ON EXISTING F-15 AIRCRAFT.
2021			
1/5/21	20.9	N00019-19-C-0033	THIS MODIFICATION ADDS NEW SCOPE FOR INTEGRATED LOGISTICS SUPPORT FOR 22 F/A-18E & SIX F/A-18F SUPER HORNETS IN SUPPORT OF THE GOVERNMENT OF KUWAIT.
1/7/21	8.8	N00019-16-G-0001	THIS MODIFICATION EXERCISES AN OPTION FOR CONTRACTOR LOGISTICS SUPPORT FOR THE P-8A POSEIDON IN SUPPORT OF THE GOVERNMENT OF THE UNITED KINGDOM.
1/11/21	1,687.4	FA8625-11-C-6600	CONTRACT FOR LOT SIX PRODUCTION OF KC-46 AIRCRAFT, SUBSCRIPTIONS & LICENSES, AND G081 FLAT FILE. THE CONTRACT MODIFICATION PROVIDES FOR THE EXERCISE OF AN OPTION FOR AN ADDITIONAL QUANTITY OF 12 KC-46 AIRCRAFT, DATA, SUBSCRIPTIONS & LICENSES, AND G081 FLAT FILE BEING PRODUCED UNDER THE BASIC CONTRACT.
1/12/21	2124.5	FA8625-11-C-6600	CONTRACT FOR LOT 7 PRODUCTION KC-46 AIRCRAFT, SUBSCRIPTIONS & LICENSES & G081 FLAT FILE. THE MODIFICATION PROVIDES FOR THE EXERCISE OF AN OPTION FOR AN ADDITIONAL QUANTITY OF 15 KC-46 AIRCRAFT, DATA, SUBSCRIPTIONS & LICENSES, AND G081 FLAT FILE BEING PRODUCED UNDER THE BASIC CONTRACT.
1/22/21	123.1	FA8106-17-D-0002	CONTRACT VIA MULTIPLE TASK ORDERS ESTIMATED AT \$123,114,183 FOR ENGINEERING SUPPORT SERVICES (ESS). ESS OPTION YEAR FOUR EXERCISE PROVIDES RECURRING & NON-RECURRING ENGINEERING SUPPORT SERVICES FROM THE BOEING CO. IN SUPPORT OF COMMERCIAL DERIVATIVE AIRCRAFT.
1/22/21	10.9	N00019-16-G-0001	THIS ORDER PROCURES 16 REFURBISHED HARPOON CAPSULES & FOUR ALL-UP ROUND ENCAPSULATED HARPOON MISSILES FOR THE NAVY.
1/27/21	8.6	N00019-18-C-0055	THIS MODIFICATION ADDS SCOPE FOR THE PRODUCTION & DELIVERY OF TWO P-8A ENGINE BUILD UP KITS & ASSOCIATED MATING TO CORE ENGINE; ONE FOR THE GOVERNMENT OF NEW ZEALAND & ONE FOR THE GOVERNMENT OF AUSTRALIA.
1/28/21	25.3	W58RGZ-16-C-0023	IMPROVE THE QUALITY OF THE APACHE ATTACK HELICOPTER (AH)-64E & LESSEN THE ASSOCIATED POST PRODUCTION MAINTENANCE BURDEN.

Boeing

Date	Award (USD millions)	Contract #	Description
1/29/21	19.7	N00383-18-G-AY01	REPAIR OF VARIOUS AVIONICS EQUIPMENT USED ON THE F/A-18 AIRCRAFT & AV-8B AIRCRAFT.
1/29/21	20.3	W58RGZ-16-C-0023	LONG LEAD INTEGRATED LOGISTICS SUPPORT, INITIAL SPARES PACKAGE & PECULIAR GROUND SUPPORT EQUIPMENT FOR THE ROYAL MOROCCAN AIR FORCE.
2/8/21	10.6	W58RGZ19F0045	MODIFICATION TO CONTRACT TO INTEGRATE, TEST, UPGRADE & FIELD FUNCTIONAL HARDWARE & SOFTWARE TECHNOLOGY IMPROVEMENTS & CYBERSECURITY CONTROLS, TO THE LONGBOW CREW TRAINER GENERATION FOUR & GENERATION FIVE FLEETS.
2/24/21	11.6	N00019-16-C-0032	THIS MODIFICATION ADDS SCOPE FOR ENGINEERING SERVICES IN SUPPORT OF NEXT GENERATION JAMMER SOFTWARE DEVELOPMENT.
2/26/21	7.9	N00030-21-C-6002	MODIFICATION TO PREVIOUSLY AWARDED & ANNOUNCED CONTRACT FOR THE U.S. & UNITED KINGDOM TO PROVIDE FY21/FY22 TRIDENT II (D5) INERTIAL NAVIGATION EQUIPMENT TECHNICAL ENGINEERING SUPPORT SERVICES.
2/26/21	10.1	FA8730-21-C-0004	INSTALLATION OF THE COMMUNICATIONS NETWORK UPGRADE MODIFICATION ON 31 E-3 AIRBORNE WARNING & CONTROL SYSTEM AIRCRAFT.
3/22/21	9.5	N0001921C0034	THIS CONTRACT PROVIDES CORRECTION OF DEFICIENCY SOFTWARE BUILDS FOR INCREMENT THREE ACOUSTICS INTEGRATION & TESTING FOR THE P-8A AIRCRAFT.
3/29/21	8.6	FA8634-21-C-2702	CONTRACT FOR THE F-15 EAGLE PASSIVE ACTIVE WARNING SURVIVABILITY SYSTEM (EPAWSS) LOW-RATE INITIAL PRODUCTION. THIS MODIFICATION PROVIDES EPAWSS LOT ONE INITIAL SPARES HARDWARE FOR THE F-15E AIRCRAFT.
3/31/21	26.6	HC1013-21-C-0003	CONTRACT FOR HIGH THROUGHPUT COMMERCIAL MILITARY KA-BAND MISSION ESSENTIAL COMMUNICATIONS & INTERNET SERVICE ON E-4B AIRCRAFT UNDER AIR FORCE GLOBAL STRIKE COMMAND CONTROL.
3/31/21	1,624.8	N0001914C0067	MODIFICATION TO A PREVIOUSLY AWARDED FPI-FEE CONTRACT. THIS MODIFICATION PROVIDES FOR THE PRODUCTION & DELIVERY OF 11 P-8A LOT 12 PRODUCTION AIRCRAFT; NINE FOR THE NAVY & TWO FOR THE GOVERNMENT OF AUSTRALIA.
4/1/21	9.6	FA8634-17-C-2650	MODIFICATION TO CONTRACT FOR THE F-15 EAGLE PASSIVE/ACTIVE WARNING & SURVIVABILITY SYSTEM (EPAWSS); ENGINEERING, MANUFACTURING, AND DEVELOPMENT; & INITIAL OPERATIONAL, TESTING, AND EVALUATION. THIS CONTRACT MODIFICATION PROVIDES FOR THE PROCUREMENT OF TWO ADDITIONAL DEVELOPMENT GROUP B SHIPSETS.
4/15/21	20.0	FA8650-19-D-2055	CONTRACT FOR THE ADVANCED TURBINE TECHNOLOGY FOR AFFORDABLE MISSION-CAPABILITY (ATTAM). THE MISSION OF THE ATTAM PROGRAM IS TO DEVELOP, DEMONSTRATE, AND TRANSITION ADVANCED TURBINE PROPULSION, POWER & THERMAL TECHNOLOGIES THAT PROVIDE A DISRUPTIVE IMPROVEMENT IN AFFORDABLE MISSION CAPABILITY.

Boeing

Date	Award (USD millions)	Contract #	Description
4/19/21	79.5	FA8609-18-F-0006	KC-46A LONG LEAD SPARES, INITIAL SPARES & SUPPORT EQUIPMENT. THIS MODIFICATION PROVIDES MISSION ESSENTIAL LONG LEAD SPARES, INITIAL SPARES, AND SUPPORT EQUIPMENT FOR USE ON THE JAPAN KC-46 AIRCRAFT BEING PRODUCED UNDER THE BASIC CONTRACT.
4/20/21	436.7	W58RGZ-16-C-0023	FULL RATE PRODUCTION OF APACHE AH-64E AIRCRAFT.
4/21/21	73.9	N0001921F0876	THIS ORDER PROVIDES FOR THE DESIGN, DEVELOPMENT, AND TEST OF SOFTWARE & ANCILLARY HARDWARE NECESSARY FOR THE INTEGRATION OF THE LONG RANGE ANTI-SHIP MISSILE ONTO THE P-8A AIRCRAFT FOR THE NAVY.
4/22/21	89.6	N0001921D0010	HIS CONTRACT PROVIDES SYSTEMS & SOFTWARE ENGINEERING & SUSTAINMENT SUPPORT SERVICES, TO INCLUDE ANALYSIS, DESIGN, IMPLEMENTATION, INTEGRATION, TESTING, PROTOTYPING, PROTOTYPE INSTALLATION, AND MAINTENANCE FOR DEVELOPMENT & TEST LABORATORY CAPABILITIES IN SUPPORT OF MODERNIZATIONS & IMPROVEMENTS TO SOFTWARE & ASSOCIATED HARDWARE CAPABILITIES FOR THE P-8A AIRCRAFT.
4/27/21	106.8	FA8214-15-C-0001	MODIFICATION TO CONTRACT FOR THE FLIGHT TEST TELEMETRY TERMINATION RAPID FIELDING INITIATIVE (FT3 RFI). THIS CONTRACT ALLOWS THE IMPLEMENTATION OF INITIATIVES TO MEET THE FT3 FLIGHT SCHEDULE.
4/30/21	60.7	W58RGZ-16-C-0023	CONTRACT FOR REMANUFACTURED & NEW-BUILD AIRCRAFT.
5/6/21	51.9	N0042121F0394	THIS ORDER PROCURES LOTS THREE & FOUR T-45 AIRCRAFT INLET MODIFICATION RETROFIT KITS. ADDITIONALLY, THIS ORDER INCLUDES ASSOCIATED SUPPORT EQUIPMENT, SPECIAL TOOLING, LOGISTICS SUPPORT, AND ORIGINAL EQUIPMENT MANUFACTURER ENGINEERING FOR THE NAVY.
5/14/21	16.6	N00024-18-C-4103	MODIFICATION TO PREVIOUSLY-AWARDED CONTRACT FOR OPTION YEAR THREE LABOR & OTHER DIRECT COSTS FOR DESIGN AGENT SERVICES IN SUPPORT OF THE AN/USQ-82(V) GIGABIT ETHERNET DATA MULTIPLEX SYSTEM (GEDMS).
5/19/21	7.7	W58RGZ-16-C-0023	CONTRACT FOR INTEGRATION OF THE LEGACY STRAP PACK ASSEMBLY FOR REMANUFACTURED AH-64E AIRCRAFT.
5/20/21	18.9	N6134020F0029	THIS ORDER PROVIDES FOR THE PRODUCTION & DELIVERY OF 48 AUTOMATIC BACKUP OXYGEN SYSTEM RETROFIT KITS FOR THE T-45 AIRCRAFT, TO INCLUDE INSTALLATION TOOLING, ENGINEERING REACH BACK, SPARES & SUPPORT EQUIPMENT.

Boeing

Date	Award (USD millions)	Contract #	Description
5/24/21	24.0	N0001921C0034	THIS MODIFICATION EXERCISES AN OPTION TO PROCURE ADDITIONAL SOFTWARE BUILDS TO PROVIDE CORRECTION OF DEFICIENCIES, TO INCLUDE SOFTWARE ENHANCEMENTS OR IMPROVEMENTS, ENGINEERING ANALYSES & EVALUATIONS, AND INTEGRATION & TEST ACTIVITY IN SUPPORT OF THE P-8A INCREMENT 3 ACOUSTICS MULTI-STATIC ACTIVE COHERENT ENHANCEMENTS PROGRAM.
5/25/21	101.7	FA8625-11-C-6600	CONTRACT FOR KC-46 ENGINEERING, MANUFACTURING, AND DEVELOPMENT CONTRACT. THIS MODIFICATION PROVIDES FOR THE EXERCISE OF OPTION FIVE FOR INTERIM CONTRACTOR SUPPORT & THE EXERCISE OF THE OPTIONS FOR LOGISTICS SERVICE REPRESENTATIVES/FIELD SERVICE REPRESENTATIVES SUPPORT FOR SEYMOUR JOHNSON CO, NC.
5/28/21	18.2	FA8609-18-G-0002	KC-46A JAPAN AIRCRAFT. THE CONTRACT MODIFICATION IS FOR SIX MONTHS OF SETUP AND 12 MONTHS OF POST-DELIVERY-SUPPORT SERVICES FOR THE FIRST TWO AIRCRAFT DELIVERED TO JAPAN.
6/3/21	33.1	N0001921C0001	PROCURE 53 DISTRIBUTED TARGETING PROCESSOR-NETWORKED (DTP-N) B-KITS; 44 DTP-N A1-KITS; & 19 DTP-N A2 KITS IN SUPPORT OF DTP-N FULL-RATE PRODUCTION TO IMPLEMENT ANTI-SURFACE WARFARE CAPABILITY IN THE F/A-18E/F & EA-18G AIRCRAFT FOR THE NAVY & GOVERNMENT OF AUSTRALIA.
6/4/21	12.9	?	CONTRACT ACTION FOR SOFTWARE DEVELOPMENT SERVICES FOR THE MATURATION, INTEGRATION, AND TESTING OF THE ACCELERATED COMMUNICATIONS-AS-A-SERVICE CAPABILITY.
6/8/21	39.7	W58RGZ-16-C-0023	CONTRACT FOR NEW-BUILD AH-64E AIRCRAFT.
6/10/21	78.4	N0001920C0003	THIS MODIFICATION EXERCISES AN OPTION TO PROCURE VARIOUS MATERIAL ASSOCIATED WITH A QUANTITY OF 36 STAND-OFF LAND ATTACK MISSILE EXPANDED RESPONSE (SLAM-ER) DATALINK PODS AND CONTAINERS IN SUPPORT OF THE SLAM ER OBSOLESCENCE REDESIGN PROGRAM FOR THE GOVERNMENT OF SAUDI ARABIA.
6/10/21	13.9	N0001917F0005	THIS MODIFICATION EXERCISES AN OPTION TO PROCURE 69 PRIMARY BLEED AIR PRESSURE REGULATOR (PBAR) & SHUT OFF VALVE DELTA KIT MODIFICATIONS; & 384 PBAR NEW VALVE KITS IN SUPPORT OF THE ENVIRONMENTAL CONTROL SYSTEM PBAR & SHUT OFF VALVE IMPROVEMENT FOR F/A-18 SERIES AIRCRAFT.
6/14/21	18.4	W91215-16-G-0001	DELIVERY ORDER MODIFICATION TO AN EXISTING CONTRACT FOR THE PROCUREMENT OF LONG-LEAD COMPONENTS & PARTS IN SUPPORT OF THE MH-47G CHINOOK BLOCK II PRODUCTION PROGRAM.
6/17/21	32.6	W58RGZ-16-C-0023	INCORPORATE A DIRECTED CHANGE ORDER FOR THE REMANUFACTURE OF TWELVE APACHE AIRCRAFT & SIX-PART NUMBERS FOR THE TAIL ROTOR BLADES.
6/18/21	169.5	W58RGZ-21-C-0015	SUPPORT THE APACHE FULL-RATE PRODUCTION LOT 12 LONG LEAD EFFORT.

Boeing

Date	Award (USD millions)	Contract #	Description
6/21/21	20.6	FA8808-10-C-0001	MODIFICATION TO PREVIOUSLY AWARDED CONTRACT FOR THE LAUNCH & MISSION OPERATIONS DESIGN & PRODUCTS EFFORT FOR THE WIDEBAND GLOBAL SATELLITE COMMUNICATION SPACE VEHICLE 11.
6/22/21	580.6	W91215-16-G-0001	14 H-47 EXTENDED RANGE ROTARY WING AIRCRAFT THAT SATISFY THE UNITED KINGDOM'S REQUIREMENT FOR HEAVY ASSAULT, ROTARY WING AIRCRAFT. FMS TO THE U.K.
6/28/21	128.8	FA8621-21-C-0001	CONTRACT FOR THE F-15 MISSION TRAINING CENTER (MTC) SIMULATION SERVICES TO SUPPORT THE AIR COMBAT COMMAND, PACIFIC AIR FORCES & AIR FORCE IN EUROPE LOCATIONS. THE CONTRACTOR WILL PROVIDE ALL PERSONNEL, EQUIPMENT, SUPPLIES, TRANSPORTATION, TOOLS, MATERIALS, SUPERVISION & OTHER ITEMS TO PERFORM ALL MTC SERVICES. THESE SERVICES WILL PROVIDE SIMULATION CAPABILITY TO TRAIN F-15 PILOTS & SYSTEM OPERATORS IN HIGH-FIDELITY TRAINING DEVICES.
6/30/21	20.2	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST A FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD FOR F/A-18 AIRCRAFT SPARE PARTS.
7/1/21	67.4	FA8625-11-C-6600	MODIFICATION TO CONTRACT FOR LOT 6 SPARE PARTS & LOT 7 SUPPORT EQUIPMENT.
7/16/21	34.0	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST A FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD FOR F/A-18 AIRCRAFT SPARE PARTS.
7/19/21	25.0	N6134021F0119	THIS ORDER PROVIDES FOR THE UPGRADE OF THE P-8A POSEIDON MAINTENANCE TRAINING DEVICE SUITE, TO INCLUDE VIRTUAL MAINTENANCE TRAINERS & RELATED COURSEWARE & HARDWARE IN SUPPORT OF THE P-8A AIRCRAFT PLATFORM TO ENSURE THE FLEET RECEIVES TRAINING IN CURRENT AIRCRAFT PRODUCTION BASELINE CAPABILITIES THAT ALIGN WITH REAL-LIFE FLIGHT SCENARIOS FOR THE NAVY & THE GOVERNMENT OF AUSTRALIA.
7/20/21	58.3	N00024-21-C-6412	DESIGN & PRODUCTION OF THE QUICKSTRIKE EXTENDED RANGE (QS-ER) NON-FUNCTIONAL GLIDE KITS, GLIDE KIT PROTOTYPE ARTICLES, AND GLIDE KIT SHIPPING CONTAINERS.
7/23/21	12.0	N0001921F0550	THIS ORDER PROVIDES PRODUCTION ENGINEERING SUPPORT IN SUPPORT OF THE INTEGRATION & INSTALLATION OF WEAPON SYSTEMS ON THE F/A-18 E/F & EA-18G AIRCRAFT FOR THE NAVY.
7/27/21	?	W900KK-21-D-0008	BOEING WILL COMPETE FOR EACH ORDER OF THE \$2,415,685,748 HYBRID (CPFF & ORDER-DEPENDENT) CONTRACT FOR SITE SECURITY SERVICES, RANGE MODERNIZATION & OPERATIONS, EVENT PLANNING & EXECUTION, AND INFORMATION TECHNOLOGY SERVICE MANAGEMENT FOR THE NATIONAL CYBER RANGE COMPLEX.
7/30/21	41.2	FA8808-10-C-0001	GLOBAL SATELLITE COMMUNICATION CONFIGURATION & CONTROL ELEMENT FOR THE WIDEBAND GLOBAL SATELLITE COMMUNICATION SPACE VEHICLE 11.

Boeing

Date	Award (USD millions)	Contract #	Description
7/30/21	40.7	N0001921F0588	THIS ORDER PROCURES 48 F/A-18E/F & EA-18G TRAILING EDGE FLAP SHIPSETS.
8/12/21	26.8	SPRPA1-14-D-002U	DELIVERY ORDER AGAINST A FIVE-YEAR BASE CONTRACT WITH ONE FIVE-YEAR OPTION PERIOD FOR F/A-18 AIRCRAFT SPARE PARTS.

Bell-Boeing

Date	Award (USD millions)	Contract #	Description
2019			
1/2/19	23.3	N00019-17-G-0002	ONGOING FLIGHT TEST & EVALUATION OF THE V-22 TEST AIRCRAFT.
1/18/19	143.9	SPE4AX-19-D-9410	PERFORMANCE-BASED LOGISTICS & ENGINEERING SUPPORT FOR THE V-22 PLATFORM.
2/11/19	10.6	N00019-1G-0-002	PROCURE 12 A-KITS TO RETROFIT LEGACY FLEET AIRCRAFT WITH THE APR-39D(V)2, THE AAQ-24B(V)27, AND THE ALE-47 POWER PERFORMANCE COMPUTING, UPGRADING THE MV-22 FROM CONFIGURATION A TO CONFIGURATION C.
3/8/19	85.7	N00019-17-C-0015	PROVIDES FOR THE UPGRADE OF FOUR MV-22 AIRCRAFT FROM THE BLOCK B TO THE BLOCK C CONFIGURATION IN SUPPORT OF THE COMMON CONFIGURATION READINESS & MODERNIZATION PROGRAM (CC-RAM).
3/22/19	18.7	N00019-17-G-0002	PROCURE 60 MV-22 PROPROTOR HUB SPRING & DRIVE LINK KITS FOR THE MARINE CORPS; & 10 CV-22 PROPROTOR HUB SPRING & DRIVE LINK KITS & SIX CV-22 HUB SPRING MOD SPARE KITS FOR THE AIR FORCE.
4/29/19	29.8	N00019-17-G-0002	SOFTWARE & HARDWARE UPGRADES FOR 13 FLIGHT TRAINING DEVICES TO MODERNIZE CRITICAL SYSTEM COMPONENTS IN THE MV-22 SIMULATOR TO INCREASE TRAINING FIDELITY FOR AIRCREW & MAXIMIZE TRAINING CAPABILITY.
5/16/19	42.2	N00019-17-G-0002	FLEET SOFTWARE SUSTAINMENT INCLUDING ENGINEERING & TECHNICAL SUPPORT FOR THE V-22 FLIGHT CONTROL SYSTEM & ON-AIRCRAFT AVIONICS FOR THE MARINE CORPS & AIR FORCE.
6/20/19	7.5	N00019-17-G-0002	NON-RECURRING ENGINEERING TO FACILITATE ADDITIONAL STRUCTURAL IMPROVEMENTS TOOLING ASSESSMENT, AND TEST AIRCRAFT RETROFIT TOOLING IN SUPPORT OF THE V-22 NACELLE IMPROVEMENT.
9/16/19	14.5	N00019-17-G-0002	OPTION TO PROCURE SUPPORT TO IMPLEMENT CAPABILITY DEFECT PACKAGES & PROBLEM REPORTS IN ACCORDANCE WITH WORK PACKAGE TASK LISTS IN SUPPORT OF V-22 FLEET SUSTAINMENT EFFORTS.
9/23/19	7.9	N00019-12-C-2001	MODIFICATION OF GOVERNMENT FURNISHED TOOLING AS WELL AS THE ACQUISITION OF NEW TOOLING IN SUPPORT OF V-22 AIRCRAFT PRODUCTION.
11/4/19	146.0	N00019-17-C-0015	UPGRADE NINE MV-22 AIRCRAFT FROM THE BLOCK B TO THE BLOCK C CONFIGURATION, AS WELL AS PLANNED MAINTENANCE INTERVALS FOR EIGHT MV-22 AIRCRAFT, IN SUPPORT OF THE COMMON CONFIGURATION-READINESS & MODERNIZATION (CC-RAM) PROGRAM.

Boeing

Date	Award (USD millions)	Contract #	Description
11/7/19	68.2	N00019-17-G-0002	THIS ORDER PROVIDES NON-RECURRING & RECURRING ENGINEERING ASSOCIATED WITH THE DEVELOPMENT, QUALIFICATION TEST, INTEGRATION, AIRWORTHINESS SUBSTANTIATION, FLIGHT TEST DEMONSTRATION & VALIDATION / VERIFICATION OF THE GOVERNMENT OF JAPAN UNIQUE CONFIGURATION INTO MV-22B BLOCK C AIRCRAFT & THE MV-22 CONTAINERIZED FLIGHT TRAINING DEVICE.
11/19/19	379.4	SPE4AX-20-D-9401	MAINTENANCE, REPAIR & CONSUMABLE MATERIAL SUPPORT FOR THE V-22 PLATFORM.
11/21/19	14.3	N00019-17-G-0002	DESIGN, FABRICATION, INSTALLATION, TEST & DELIVERY OF FOUR NAVY CMV-22 FLIGHT TRAINING DEVICES.
11/29/19	218.7	SPRPA1-20-F-CD01	FIRST ONE-YEAR OPTION PERIOD OF A ONE-YEAR BASE CONTRACT WITH FOUR ONE-YEAR OPTION PERIODS FOR PERFORMANCE-BASED LOGISTICS & ENGINEERING SUPPORT FOR THE V-22 PLATFORM.
12/17/19	18.0	N00019-18-D-0103	THIS MODIFICATION INCREASES THE CEILING TO CONTINUE TO PROVIDE TECHNICAL ANALYSIS, ENGINEERING & INTEGRATION FOR THE MARINE CORPS V-22 AIRCRAFT.
2020			
2/28/20	165.3	N00019-17-C-0015	MANUFACTURE & DELIVERY OF TWO MV-22B VARIATION IN QUANTITY AIRCRAFT FOR THE MARINE CORPS AND TO PROVIDE FUNDING FOR ADDITIONAL REPAIRS IN SUPPORT OF THE COMMON CONFIGURATION-READINESS & MODERNIZATION PROGRAM.
3/2/20	7.3	N00019-17-G-0002	THIS MODIFICATION PROVIDES ADDITIONAL FUNDING TO SUPPORT NON-RECURRING ENGINEERING & THE ASSOCIATED EFFORTS REQUIRED TO INCORPORATE OPTIMIZED WIRING & STRUCTURAL IMPROVEMENTS ON THE NACELLE INTO THE V-22 AIRCRAFT PRODUCTION LINE & RETROFIT OF FLEET AIRCRAFT DURING DEPOT LEVEL MAINTENANCE & SUPPORTS NAVY, MARINES CORPS, AIR FORCE & THE GOVERNMENT OF JAPAN.
3/10/20	9.5	N00019-17-G-0002	THIS MODIFICATION PROVIDES ADDITIONAL FUNDING TO SUPPORT NON-RECURRING ENGINEERING FOR SUPPORTABILITY ANALYSIS, INTERACTIVE ELECTRONIC TECHNICAL MANUAL & TECHNICAL DIRECTIVE REQ NECESSARY FOR THE V-22 NACELLE (COMBAT AIRCRAFT) IMPROVEMENTS PHASE ONE PROGRAM.
4/27/20	8.1	N00019-12-G-0006	THIS MODIFICATION ADDS NON-RECURRING BASELINE PERFORMANCE RIG TEST EFFORTS IN SUPPORT OF THE IMPROVED INLET SOLUTION/ENGINE AIR PARTICLE SEPARATOR PRELIMINARY DESIGN ON MV-22 & CV-22 TILTROTOR AIRCRAFT.
5/5/20	10.2	N00019-17-C-0015	THIS MODIFICATION PROVIDES FOR ADDITIONAL REPAIRS IN SUPPORT OF THE V-22 COMMON CONFIGURATION READINESS & MODERNIZATION PROGRAM.

Boeing

Date	Award (USD millions)	Contract #	Description
9/10/20	8.2	N00019-17-G-0002	THIS MODIFICATION PROVIDES ADDITIONAL FUNDING TO CONTINUE NON-RECURRING ENGINEERING & PRODUCTION TOOLING NECESSARY FOR THE V-22 NACELLE IMPROVEMENTS PHASE I PROGRAM.
9/14/20	16.4	N00019-17-G-0002	THIS MODIFICATION PROCURES 24 ADDITIONAL MV-22 INTEGRATED AIRCRAFT SURVIVABILITY EQUIPMENT A-KITS. ADDITIONALLY, THIS MODIFICATION PROVIDES ADDITIONAL NON-RECURRING ENGINEERING SUPPORT TO INTEGRATE THE CONTROL INDICATOR UNIT REPLACEMENT INTO THE EXISTING DEPARTMENT OF NAVY LARGE AIRCRAFT INFRARED COUNTERMEASURES SYSTEM FOR INTEGRATED AIRCRAFT SURVIVABILITY EQUIPMENT & THE MV-22 LARGE AIRCRAFT INFRARED COUNTERMEASURES SYSTEM PROCESSOR REPLACEMENT RETROFIT INSTALLATION PACKAGE
9/25/20	46.1	N00019-17-C-0015	THIS MODIFICATION EXERCISES OPTIONS IN SUPPORT OF THE V-22 COMMON CONFIGURATION-READINESS & MODERNIZATION (CC-RAM) EFFORT & UPGRADES THREE MV-22 AIRCRAFT FROM A BLOCK B TO BLOCK C CONFIGURATION IN SUPPORT OF THE NAVY.
9/30/20	48.6	N00019-17-G-0002	THIS ORDER PROCURES SOFTWARE & HARDWARE UPGRADES FOR 24 V-22 FLIGHT TRAINING DEVICES NECESSARY TO INTEGRATE V-22 AIRCRAFT TACTICAL SOFTWARE SUITE VERSION 8.1 & 8.2 INTO 23 MV-22 TRAINING DEVICES FOR THE MARINE CORPS & ONE CV-22 TRAINING DEVICE FOR THE AIR FORCE.
10/23/20	27.9	SPRPA1-17-D-009U	REMOVAL, REPAIR & REPLACEMENT OF V-22 SPINDLE BEARINGS. THIS
11/18/20	36.5	SPRPA1-17-D-009U	MODIFICATION TO THREE-YEAR DELIVERY ORDER SPE4AX-18-D-9433 AGAINST BASE CONTRACT TO EXTEND THE PERIOD OF PERFORMANCE FOR DELIVERY OF V-22 SPARE CONSUMABLE & DEPOT-LEVEL REPAIRABLE PARTS.
11/24/20	12.9	N00019-17-G-0002	THIS MODIFICATION EXERCISES OPTIONS TO MODIFY THE V-22 AIRCRAFT TO THE GOVERNMENT OF JAPAN'S UNIQUE CONFIGURATION REQ. ADDITIONALLY, THE MODIFICATION EXERCISES OPTIONS FOR THE PRODUCTION & DELIVERY OF NINE TRAFFIC COLLISION AVOIDANCE SYSTEMS, TECHNICAL SUPPORT REPRESENTATION & PRESERVATION OF AIRCRAFT POST COMPLETION OF UNIQUE MODIFICATIONS.
11/25/20	188.6	SPRPA1-17-D-009U	MODIFICATION EXERCISING THE SECOND ONE-YEAR OPTION PERIOD OF A ONE-YEAR BASE CONTRACT WITH FOUR ONE-YEAR OPTION PERIODS FOR PERFORMANCE-BASED LOGISTICS & ENGINEERING SUPPORT FOR THE V-22 PLATFORM.
12/3/20	18.0	N00019-18-D-0103	THIS MODIFICATION EXERCISES AN OPTION TO CONTINUE PROVIDING TECHNICAL ANALYSIS, ENGINEERING & INTEGRATION SERVICES FOR VARIOUS SYSTEMS & SUB SYSTEMS IN SUPPORT OF THE V-22 AIRCRAFT FOR THE NAVY, MARINE CORPS, AIR FORCE & FMS CUSTOMERS.

Boeing

Date	Award (USD millions)	Contract #	Description
12/9/20	170.4	N00019-17-C-0015	THIS MODIFICATION ADDS SCOPE FOR THE PRODUCTION & DELIVERY OF ONE CMV-22B VARIATION IN QUANTITY AIRCRAFT FOR THE NAVY & EXERCISES OPTIONS FOR V-22 COMMON CONFIGURATION READINESS & MODERNIZATION (CC-RAM) LOT 4 REQ.
12/30/20	81.1	?	ORDER (N0001921F0030) AGAINST A PREVIOUSLY ISSUED BOA (N0001917G0002). THIS ORDER PROVIDES CONTINUED NON-RECURRING ENGINEERING SUPPORT AS WELL AS THE RECURRING PROCUREMENT OF KITS & INSTALLS IN SUPPORT OF THE FORCED RETROFIT FLEET IMPLEMENTATION & INSTALLATION OF NACELLE IMPROVEMENTS & THE CONVERSION AREA HARNESS ONTO THE CV-22 AIRCRAFT FOR THE AIR FORCE.
12/30/20	7.9	N00019-17-C-0015	THIS MODIFICATION ADDS NEW SCOPE RELATED TO THE UPDATE OF COMMON CONFIGURATION READINESS & MODERNIZATION GOVERNMENT FURNISHED V-22 AIRCRAFT LOGBOOKS & CONFIGURATION MANAGEMENT AUTO LOG-SETS IN THE NAVAL AVIATION LOGISTICS COMMAND MANAGEMENT INFORMATION SYSTEM OPTIMIZED ORGANIZATIONAL MAINTENANCE ACTIVITY & LOGISTICS SUPPORT REPRESENTATIVE SUPPORT.
2021			
1/27/21	25.5	N00019-17-G-0002	HIS MODIFICATION ADDS SCOPE FOR THE PRODUCTION & DELIVERY OF NINE RIGHT AFT SPONSON FUEL TANK KITS IN SUPPORT OF V-22 PRODUCTION AIRCRAFT 9-17 FOR THE GOVERNMENT OF JAPAN.
2/5/21	12.3	N0001921F0090	THIS ORDER PROVIDES NON-RECURRING ENGINEERING SERVICES FOR THE CONVERSION AREA HARNESS AIRCRAFT MODIFICATION. ADDITIONALLY, THIS ORDER PROCURES 72 CONVERSION AREA HARNESS BASE RETROFIT KITS, 63 CONVERSION AREA HARNESS SUPPLEMENTAL RETROFIT KITS, AND INTERIM SPARES IN SUPPORT OF THE MARINE CORPS MV-22 AIRCRAFT, THE AIR FORCE CV-22 AIRCRAFT, THE NAVY CMV-22 AIRCRAFT, AND THE GOVERNMENT OF JAPAN V-22 AIRCRAFT.
2/5/21	17.8	N0001917G0002	THIS MODIFICATION EXERCISES AN OPTION TO PROCURE 60 MV-22 & 10 CV-22 PROPROTOR HUB SPRING & DRIVE LINK RETROFIT KITS; & SIX CV-22 MODIFICATION SPARES KITS, IN SUPPORT OF THE MARINE CORPS MV-22 AIRCRAFT & AIR FORCE CV-22 AIRCRAFT.
2/26/21	309.6	N00019-17-C-0015	PRODUCTION & DELIVERY OF FOUR CMV-22B VARIATION IN QUANTITY AIRCRAFT FOR THE NAVY.
3/12/21	25.6	N00019-17-G-0002	THIS ORDER PROVIDES FLIGHT TEST SUPPORT FOR THE V-22 AIRCRAFT IN SUPPORT OF THE NAVY, AIR FORCE, AND FMS CUSTOMERS.

Boeing

Date	Award (USD millions)	Contract #	Description
3/18/21	182.2	N00019-17-C-0015	PRODUCTION & DELIVERY OF TWO CV-22B VARIATION IN QUANTITY AIRCRAFT FOR THE AIR FORCE. ADDITIONALLY, THIS MODIFICATION PROVIDES FOR POST-PRODUCTION REPAIRS IN SUPPORT OF THE MV-22B COMMON CONFIGURATION READINESS & MODERNIZATION PROGRAM FOR THE NAVY.
4/13/21	143.2	N00383-19-D-U501	DELIVERY ORDER UNDER PREVIOUSLY AWARDED PERFORMANCE-BASED LOGISTICS REQ CONTRACT FOR THE LOGISTICS & REPAIR SUPPORT OF MV-22B, CMV-22 (NAVY) & CV-22 (AIR FORCE) OSPREY COMPONENTS.
6/30/21	17.3	N0001918F1645	THIS MODIFICATION INCREASES THE SCOPE TO PROCURE 12 MV-22 INTEGRATED AIRCRAFT SURVIVABILITY EQUIPMENT (IASE) A-KITS CONFIGURATION B TO C; 24 MV-22 IASE A-KITS CONFIGURATION A TO C; AND 60 MV-22 IASE FUEL TANK DELTA A-KITS.

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