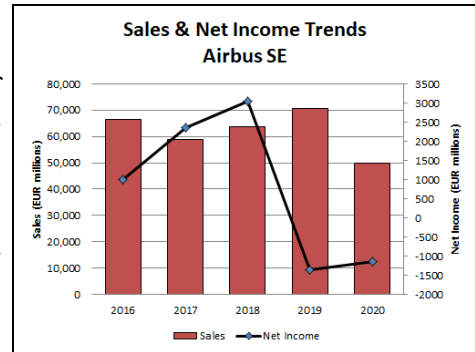


Airbus

Outlook

- For 2020, Airbus reported consolidated revenue of EUR49.9 billion, down 29 percent from sales of EUR70.5 billion in 2019
- COVID-19 drove firm to a net loss of EUR1.1 billion for the year, compared to a net loss of \$1.4 billion in 2019
- Airbus delivered 566 aircraft and won the deliveries crown over rival Boeing for the second year in a row
- While aircraft production has been cut, the company expects to deliver the same number of aircraft in 2021 as it did in 2020



Headquarters

Airbus SE
(Main Office)
B80 Building
2 Rond-point Dewartine, BP 90112
31703 Blagnac Cedex, Toulouse, France
Telephone: + 33 5 81 31 75 00
Website: <https://www.airbus.com>

Airbus is a European consortium that was established for the sole purpose of producing commercial aircraft. Since its inception in 1970, the organization has emerged as the largest commercial jet aircraft manufacturer in the world. The consortium was created primarily through the collaboration of the German, French, and British governments, as well as European aviation officials and aerospace industry representatives. Nevertheless, the real impetus to this European collaboration was the postwar U.S. dominance of the world commercial aviation market.

The consortium had its beginnings in the late 1950s, when a number of European aviation industry, financial, and government leaders saw the increasing futility of competing in the international aviation market from a fragmented binational base against the giants of the U.S.

aviation industry. In response, Airbus was formed in December 1970. The sole purpose of the consortium was to re-establish the European commercial aircraft industry, thereby reducing the almost total dominance of the world airliner industry by the United States. The consortium's first aircraft, the A300, was actually in early development by some of the consortium members before the official creation of Airbus.

Fast forward some 30 years to the formation of EADS (European Aeronautic Defence and Space Company), which took place on July 10, 2000, and involved the merger of Aerospatiale Matra of France, DaimlerChrysler Aerospace (DASA) of Germany, and Spain's CASA. With this merger, the new company gained control of a majority of Airbus' shares.

In 2017, just three years after changing its name from EADS to Airbus Group, the company renamed itself Airbus SE (Societas Europaea) after its core operation. Airbus SE is a public company registered in accordance with the corporate law of the European Union. Besides producing commercial aircraft, the "new" Airbus has a Helicopters division and Defence and Space division.

Airbus**Structure and Personnel****Executive Committee**

Guillaume Faury
Chief Executive Officer

Dominik Asam
Chief Financial Officer

Thierry Baril
Chief Human Resources Officer

Jean-Brice Dumont
Executive Vice President, Engineering

Bruno Even
Chief Executive Officer, Airbus Helicopters

John Harrison
Group General Counsel

Dirk Hoke
Chief Executive Officer, Airbus Defence and Space

Julie Kitcher
Executive Vice President, Communications and Corporate Affairs

Philippe Mhun
Executive Vice President, Programs and Services

Christian Scherer
Chief Commercial Officer

Michael Schoellhorn
Chief Operating Officer

Grazia Vittadini
Chief Technology Officer

Antoine Bouvier
Head of Strategy, Mergers & Acquisitions and Public Affairs

C. Jeffrey Knittel
Chairman and CEO, Airbus Americas

George Xu
CEO, Airbus China

Helicopters

Bruno Even
Chief Executive Officer

Ben Bridge
Executive Vice President, Global Business

Michel Farssac
Executive Vice President, Human Resources

Alain Flourens
Executive Vice President, Operations

Thomas Hundt
Executive Vice President, Finance

Matthieu Louvot
Executive Vice President,
Airbus Helicopters Programs

Mathilde Royer-Germain
Digital Transformation Officer & Head of Company Transformation

Wolfgang Schoder
Executive Vice President, Strategy and General Manager, Airbus Helicopters Germany

Stefan Thomé
Executive Vice President, Engineering and Chief Technical Officer

Bernhard Weigl
Executive Vice President, Aviation Safety and Quality

Christoph Zammert
Executive Vice President, Customer Support & Services

Defence and Space

Dirk Hoke
Chief Executive Officer

Barbara Bergmeier
Head of Operations

Bernhard Brenner
Executive Vice President, Marketing and Sales

Evert Dudok
Executive Vice President, Communications, Intelligence and Security

Dirk Erat
Senior Vice President and Head of Communications

Alberto Gutiérrez
Head of Military Aircraft and Head of Airbus Spain

Lars Immisch
Executive Vice President, Human Resources

Chantal Jonscher
Head of Corporate Secretary

Sabine Klauke
Head of Engineering

Jean-Marc Nasr
Executive Vice President, Space Systems

Antoine Noguier
Head of Strategy

Andreas Riecker
General Counsel, Head of Legal & Compliance

Jana Rosenmann
Head of the Unmanned Aerial Systems Program Line & Civil and Military UAS Programs

Xavier Tardy
Executive Vice President, Finance

Julian Whitehead
Executive Vice President, Global Business and Strategic Programmes

Airbus**Product Area**

Airbus is considered one of the top two OEMs of commercial aircraft, civil helicopters, commercial space launchers, and missiles in terms of worldwide market share. It is also a leading supplier of military aircraft, satellites, and defense electronics. The company is believed to manage its operations as follows:

1. Airbus Commercial Aircraft
 - 1.1 Premium Aerotec
 - 1.2 Stelia Aerospace
 - 1.3 Airbus Canada Limited Partnership
 - 1.4 ATR (50%)
2. Airbus Helicopters
3. Airbus Defence and Space
 - 3.1 Military Aircraft
 - 3.1.1 PZL Warszawa-Okęcie SA
 - 3.2 Space Systems
 - 3.2.1 Governmental Sector
 - 3.2.2 Commercial Sector
 - 3.3 Connected Intelligence
 - 3.3.1 Intelligence
 - 3.3.2 Secure Communications
 - 3.3.3 Cyber Security
 - 3.3.4 Security Solutions
 - 3.3.5 Secure Land Communications.
 - 3.4 Unmanned Aerial Systems

Airbus Commercial Aircraft. Airbus produces the single-aisle A320 family (A318, A319, A320, and A321), the twin-aisle A300/A310 family, the long-range A330 family, the A350 XWB, the double-deck A380 family, and the A319 business jet.

Manufacturing, production, and subassembly of parts for Airbus aircraft are distributed around 16 sites in Europe, with final assembly in Toulouse, France, and Hamburg, Germany. There are six centers of excellence based around expertise in key manufacturing areas – wings in Filton and Broughton, U.K.; forward and aft fuselage in Nordenham, Varel, Bremen, and Hamburg, Germany; nose and center fuselage in Toulouse, Saint-Nazaire, Nantes, and Méaulle, France; vertical tailplane in Stade, Germany; pylon and nacelle in Saint-Eloi, France; and horizontal tailplane and A380 sections in Getafe, Illescas, and Puerto Real, Spain.

Fully equipped aircraft sections are airlifted by the Airbus Super Transporter A300-600ST to the appropriate final assembly lines. Final assembly lines are located in Toulouse for the A300-600, A310, A320, A330, and A380; and Hamburg for the A318, A319, and A321.

Premium Aerotec. Premium Aerotec is a wholly owned subsidiary composed of the former German

Airbus sites in Nordenham and Varel, and the former EADS site in Augsburg. This tier-one supplier focuses on the design and manufacture of metal and carbon-fiber-reinforced-plastic (CFRP) aerostructures and the related manufacturing systems.

Stelia Aerospace. This unit was formed in 2015 with the merger of Airbus subsidiaries Aerolia and Sogerma. The company produces aerostructures and nose fuselage subassemblies, and provides cabin outfitting, including cockpit and passenger seating.

Airbus Canada Limited Partnership. In June 2019, the C Series Aircraft Limited Partnership (CSALP) was renamed Airbus Canada Limited Partnership to better reflect Airbus' majority ownership. In February 2020, Airbus increased its stake from 50.1 percent to 75 percent. The government of Québec now holds the remaining 25 percent. The division is responsible for the development and manufacture of the Airbus A220 family of single-aisle passenger aircraft.

ATR. Avions de Transport Régional (ATR) is a 50/50 joint venture between Airbus and Leonardo. ATR has developed a family of highwing, twin turboprop aircraft in the 30- to 78-seat market: the ATR 42 and ATR 72.

Airbus Helicopters. Formerly known as Eurocopter, this segment produces helicopters including the EC 120, EC 135, EC 225, EC 725, NH90, and Tiger. EADS North America and Airbus Helicopters have begun delivery of the U.S. Army's UH-72A Light Utility Helicopter (LUH).

Airbus Defence and Space. This unit merged the former Airbus Military, Astrium, and Cassidian divisions into a new defense and space company.

Military Aircraft. This unit produces light and medium military transport aircraft, including the C-212, CN-235, and C-295, and military aircraft such as the Eurofighter Typhoon. In addition, Airbus Military is a major partner of the Airbus Military Company consortium, which manufactures the A400M. The unit is also involved in the Eurofighter, the A300 Multi-Role Tanker Transport (MRTT), unmanned aerial systems (UASs), and intelligence, surveillance, and reconnaissance (ISR) aircraft.

Space Systems. Overall, this sector focuses on the development, construction, integration, and operation of launch systems (commercial and military, including the French strategic oceanic force); orbital systems; Earth observation, navigation, and science (ENS) satellites; telecom satellites; and propulsion systems and space equipment. Composed of two units: (1) the

Airbus

Governmental Sector – which provides satellites, space infrastructure, launchers, and deterrence systems – and (2) the *Commercial Sector* – which offers telecommunication satellites and launch services.

Specific satellite programs include the Helios military observation satellite system, the Solar and Heliospheric Observatory (SOHO) satellite, the Cluster 2 four-satellite fleet, the X-Ray Multi-Mirror satellite (XMM-Newton), the deep space cometary probe (Rosetta), and the Mars Express and Venus Express.

Airbus SE is active in the field of launchers and launch services through its shareholdings in ArianeGroup. In turn, ArianeGroup holds a majority stake in Arianespace for the Ariane 5 heavy-lift launcher, Starsem for medium-lift launchers, and Eurockot for small-lift launchers. The Space Systems unit is also the prime contractor for France's ballistic nuclear missiles, the submarine-launched M45 and M51.

Connected Intelligence. This segment delivers satellite and terrestrial communication systems,

including information and security solutions like Skynet5. It also manages intelligence services from radar and optical data imagery and provides cyber defense support, cipher solutions, and training to its institutional and commercial customers. The segment is composed of five units: Intelligence, Secure Communications, Cyber Security, Security Solutions, and Secure Land Communications. These sectors offer a wide variety of products, systems, and services, including secure mobile radio systems; satellite communications; border security systems; command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems; defense systems; and cybersecurity systems. This unit also provides geo information.

Unmanned Aerial Systems. The unit is the focus of Airbus Defence and Space's UAS activity. The company is a UAS service provider for the German air forces meeting their MALE ISR needs. In addition, the unit provides smaller, tactical systems to France and other armed forces.

Facilities

Airbus Commercial Aircraft

Airbus, 1 Rond Point Maurice Bellonte, 31707 Blagnac, France. Telephone: + 5 61 93 33 33. Airbus is headquartered in Blagnac (near Toulouse).

Airbus France – Site de Saint Martin du Touch, 316 Route de Bayonne, 31060 Toulouse Cedex 9, France. Telephone: + 33 5 61 93 55 55. Near the Blagnac headquarters in Toulouse-Colomiers, this is the final assembly facility for A300/A310, A320, A330, and A380 series aircraft. (A318, A319, and A321 final assembly is the responsibility of Airbus SE's Hamburg facility.) Dominating this facility is the Clément Ader factory and another facility called the Super Guppy Unloading Hall. The latter building is just what the name implies – Super Guppy aircraft unload the wing, empennage, and fuselage sections of the Airbus aircraft that are fabricated elsewhere in Europe for final assembly in the Clément Ader plant. Other Airbus SE facilities involved in the manufacture of Airbus products are located in Méaulte (manufacture of small alloy parts and fabrication of small to medium-size assemblies); Saint-Nazaire (sheet-metal work and fabrication of large subassemblies such as fuselage barrels); and Nantes (assembly of metallic and composite fuselage sections).

Stelia Aerospace (formerly Aerolia), Boulevard des Apprentis, BP 50301, 44605 Saint-Nazaire, France. Telephone: + 33 2 53 48 50 00. This wholly owned Airbus subsidiary produces aerostructures and nose fuselage subassemblies.

Stelia Aerospace (formerly Sogerma), ZI de l'Arsenal, CS 60109, 17303 Rochefort Cedex, France. Telephone: + 33 0 5 46 82 82 82. This subsidiary designs and manufactures aerostructures, crew seats, and cabin interiors.

Website: <https://www.stelia-aerospace.com/en/>

NAVBLUE, 295 Hagey Blvd, Ste 200, Ontario N2L 6R5, Canada. Telephone: + 1 (519) 747-1170. This wholly owned subsidiary provides a complete range of digital end-to-end and integrated flight operations solutions.

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

Airbus Operations GmbH, Kreetzlag 10, 21129 Hamburg, Germany. Telephone: + 49 40 7437 0. This factory produces major fuselage sections and houses the final assembly lines for the A318, A319, and A321. Hamburg handles the cabin outfitting and customization of Airbus aircraft (except the A330 and A340), which includes installing seats, carpets, galleys, and cabin interiors. The Airbus SE facilities in Einswarden (near Bremen) manufacture control surface and fuselage components and sections; the facilities in Stade (west of Hamburg) assemble vertical sections, and develop and integrate composite technology. Bremen is where wingboxes for the A330 are fitted with movable parts. Airbus Deutschland GmbH changed its name to Airbus Operations GmbH in June 2009.

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Premium Aerotec GmbH, Haunstetter Str 225, 86179 Augsburg, Germany. Telephone: + 49 0 821 801 0. Composed of the former Airbus sites in Nordenham and Varel and the former EADS site in Augsburg, this wholly owned Airbus subsidiary focuses on the design and manufacture of metal and CFRP aerostructures and the related manufacturing systems.

Website: <http://www.premium-aerotec.com>

Airbus España, Getafe Paseo John Lennon, 28906 Getafe, Madrid, Spain. Telephone: + 34 91 624 2322. The Getafe facility assembles horizontal stabilizers, including those that are integrated with carbon-fiber materials. The A380's rear fuselage and belly fairing are also produced at this site. Madrid provides composites and structural assemblies.

Airbus España, Avenida de Aragón 404 28022 Madrid, Spain. Telephone: + 34 91 585 7116.

Airbus Americas Inc, 2550 Wasser Terrace, Ste 9100, Herndon, VA 20171. Telephone: + 1 (703) 834-3400. This is the North American and Latin American headquarters for Airbus SE. Airbus operations in the U.S. also include the Airbus Customer Services Spares Center (Ashburn, Virginia) and the Airbus Military Service Center (Mobile, Alabama).

Airbus Mobile Assembly Line, 1801 S Broad St, Mobile, AL 36615. Telephone: + 1 (251) 434-7200. In mid-2012, Airbus announced plans to create an A320 family jetliner final assembly line in Mobile, Alabama, which would become the company's first U.S.-based production facility. Construction of the \$600 million facility began in April 2013; aircraft assembly began in 2015, and the first delivery occurred in April 2016.

Airbus Canada Limited Partnership, 13100 Henri-Fabre Blvd, Mirabel, Quebec J7N 3C6 Canada. This is a joint venture between Airbus (75%) and the government of Québec (25%). It produces the A220-100 (formerly CS100) and A220-300 (formerly CS300) aircraft.

Airbus Japan KK, ARK Mori Bldg, 35th Fl, 1-12-32 Akasaka, Minato-ku, Tokyo 107-6035, Japan. Telephone: + 81 3 5573 8400. Tokyo is the headquarters for Airbus' Japanese marketing and support activities.

Airbus China Ltd, Beijing Tianzhu Airport Industrial Zone, Tianwei Erjie, Shunyi County, Beijing 101312 People's Republic of China. Telephone: + 86 10 80 48 61 61. This operation provides training, spares, and support services to Asia.

Airbus UK, Pegasus House, Aerospace Ave, Filton, Bristol, BS99 7AR, United Kingdom. Telephone: + 44 117 969 3831. Core activities here include the design of Airbus wings, fuel systems, and landing gear

and the provision of engineering and support for their integration. Teams also work on systems and structures and perform aerodynamics research, development, and testing.

Airbus Helicopters

Airbus Helicopters, Aéroport International de Marseille Provence, 13725 Marignane, France. Telephone: + 33 4 42 85 85 85.

Website: <https://www.airbus.com/helicopters.html>

Airbus Helicopters Deutschland GmbH, Postfach 1353 Industriestrasse 4, D-86609 Donauwörth, Germany. Telephone: + 49 0 906 71 0. Handles development, prototype production, and flight testing.

Airbus Helicopters España, Carretera de las Penas (CM3203) km. 5'300, Poligono Aeronautico y Logistico, 02006 Albacete, Spain.

Airbus Helicopters UK, Langford Ln, Kidlington – OX5 1QZ. Telephone: + 01865 593 110.

Airbus Helicopters Inc, 2701 N Forum Dr, Grand Prairie, TX 75202-7099 USA. Telephone: + 1 (972) 641-0000.

Airbus Helicopters Inc, 1782 Airport Rd, Columbus, MS 39701. Telephone: + 1 (662) 327-6226. Produces and maintains helicopters, including the UH-72A LUH, for the U.S. market.

Airbus Helicopters Canada, 1100 Gilmore Rd, PO Box 250, Fort Erie, Ontario L2A 5M9 Canada. Telephone: + 1 (905) 871-7772. Distribution of Airbus Helicopters products and services, BO 105 LS assembly.

Website: <https://www.airbushelicopters.ca/>

Airbus Helicopters China Co Ltd, 22D Jin An Bldg, N°908 Dongdaming Rd, Shanghai 200082, China. Distribution of helicopters produced by Airbus Helicopters on civil, parapublic, and private markets. Helicopter support for all customers, including military operators. Developing the EC 175.

Airbus Australia Pacific, 65-75 Pandanus Ave Brisbane Airport QLD 4007 Australia. Telephone: + 61 7 3637 3900. Assembles, supplies, and maintains military and civil aircraft for the Australian and export markets.

Website: <https://australia-pacific.airbus.com/website/en/ref/home.html>

Helibras, Rua Santos Dumont 200, CP 184 Distrito Industrial, Itajuba, 37500 Brazil. Production, assembly, and support of helicopters and equipment. Airbus Helicopters holds a 76 percent stake in this firm.

Website: <http://www.helibras.com.br>



Airbus

Airbus Defence and Space

Airbus Defence and Space, 5 rue des Satellites, BP 14 359, 31030 Toulouse Cedex 4, France. Telephone: + 33 5 62 19 40 40.

Website: <https://www.airbus.com/defence.html>

Airbus Defence and Space Satellites, 31, rue des Cosmonautes, 31 402 Toulouse Cedex 4, France.

Airbus Defence and Space Transportation France, 66, route de Verneuil, 78 133 Les Mureaux Cedex, France.

Airbus Defence and Space Germany, Airbus-Allee 1, 28199 Bremen, Germany. Telephone: + 49 421 539 0.

Airbus Defence and Space, Landshuter Strasse 26, PO Box 1661, 85705 Unterschleissheim, Germany. Telephone: + 49 0 89 3179 0. The Systems unit is located here as well.

Airbus Defence and Space Air Systems, Rechliner Strasse, 85 077 Manching, Germany. Telephone: + 49 84 59 81 0.

Eurofighter, Am Söldnermoos 17, 85 399 Hallbergmoos, Germany. Telephone: + 49 811 80 0. This is a consortium that produces the complete Eurofighter Typhoon fighter aircraft.

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

Airbus Defence and Space Electronics, Wörthstrasse 85, 89 077 Ulm, Germany. Telephone: + 49 731 392 0.

Airbus Defence and Space (formerly EADS CASA), Avenida de Aragón 404, 28022 Madrid, Spain. Telephone: + 34 91 585 7000. This unit coordinates Spanish Airbus production facilities.

Airbus Defence and Space UK, Fl 2, Wellington House, 125-130 Strand, WC2R 0AP London, United Kingdom. Telephone: + 44 207 845 84 00. This is the British holding company for the U.K. activities of Airbus.

MBDA, 11 Strand, London WC2N 5RJ, United Kingdom. Telephone: + 44 20 7451 60 00. This is a missile systems consortium.

Website: <https://www.mbda-systems.com/>

PZL Warszawa-Okęcie SA, Aleja Krakowska 110/114, 00-971 Warsaw, Poland. This business produces a range of propeller-driven aircraft for general aviation / training / utility purposes. Programs include the PZL Koliber 160A, PZL-104M Wilga 2000, PZL-106 BTU-34 Turbo Kruk, and PZL-130 TC-1 Orlik.

Website: <https://pzwarszawa.com/en/>

Corporate Overview

Airbus was launched to provide a European base through which non-U.S. companies could compete in the international commercial aircraft industry against the powerhouses of the United States. Since its formation, the company has grown through the assimilation of the aerospace and defense-related operations of its three founding members: Aerospatiale Matra of France, Construcciones Aeronáuticas (CASA) of Spain, and DaimlerChrysler Aerospace of Germany. Today, the company ranks as the world's second-largest aerospace company (behind Boeing) and the largest in Europe.

New Products and Services

Aliaca for French Navy. In February 2021, Airbus Defence and Space mini UAS subsidiary Survey Copter signed a contract to provide the French Navy with 11 systems (22 aircraft) of the electrically powered fixed-wing Aliaca maritime version UAS (officially called SMDM / "Systèmes de Mini Drones aériens embarqués pour la Marine" by French authorities), including training and integrated logistic support. First deliveries are expected in 2021.

Website: <https://www.survey-copter.com/en/>

TRUTHS. In November 2020, Airbus was awarded the lead in the European Space Agency (ESA) contract for the TRUTHS A/B1 (system feasibility studies and predevelopments) as part of ESA's Earth Observation Earth Watch program. TRUTHS stands for Traceable Radiometry Underpinning Terrestrial and Helio Studies.

Beginning in 2023, the TRUTHS satellite mission will collect measurements of the sun's radiation and of the sunlight reflected off Earth's surface traced to an absolute metrological reference, which will then be used to improve the climatological data sets and calibrate the observations of other satellites. Partners from the U.K. space industry include Teledyne e2v UK, National Physical Laboratory (NPL), RAL, University of Leicester, Thales Alenia Space UK, CGI IT UK, Telespazio-UK, and Goonhilly Satellite Earth Station.

ZEROe. In September 2020, Airbus revealed three concepts for the world's first zero-emission commercial aircraft, which could enter service by 2035. All of these concepts rely on hydrogen as a primary power source. This is an option that Airbus believes holds exceptional promise as a clean aviation fuel, and it is likely to be a solution for aerospace and many other industries to meet their climate-neutral targets.

Airbus

The three concepts – all codenamed "ZEROe" – for a first climate neutral zero-emission commercial aircraft include a turbofan, a turboprop, and a blended-wing body design.

Website: <https://www.airbus.com/innovation/zero-emission/hydrogen/zeroe.html>

Finnish Defence Services. In September 2020, Airbus Defence and Space Finland and the Finnish Defence Forces Logistics Command signed a partnership agreement for life-cycle maintenance and training services to support the Finnish Defence Forces' situational awareness and cybersecurity systems. The new contract enables a closer collaboration between the Finnish Defence Forces and Airbus Defence and Space in the field of maintenance and development of Finland's national defense systems.

CRISTAL. In September 2020, the ESA selected Airbus to develop and build the Copernicus polar ice and snow topography mission (CRISTAL). With two satellites, the CRISTAL mission will ensure the long-term continuation of radar altimetry ice elevation and change records. The contract is worth EUR300 million. CRISTAL will carry an advanced multifrequency altimeter that will measure sea ice thickness and ice sheet elevations to better understand climate changes. Launch is planned for 2027.

VSR700. In July 2020, the prototype of Airbus Helicopters' VSR700 unmanned aerial system (UAS) performed its first free flight. The VSR700, derived from Hélicoptères Guimbal's Cabri G2, is an unmanned aerial system in the 500-1000 kg maximum take-off weight range. It is capable of carrying multiple full-size naval sensors for extended periods and can operate from existing ships, alongside a helicopter.

Copernicus Missions. In July 2020, the ESA selected Airbus Defence and Space for several major Copernicus satellite environment missions. Airbus Defence and Space in Spain will serve as prime contractor for the Land Surface Temperature Monitoring mission (LSTM), with an order value of EUR375 million. Airbus Defence and Space in France will also be responsible for the InfraRed instrument. Airbus Defence and Space in Germany will lead the development of the Polar Ice and Snow Topographic Mission (CRISTAL), with an order value of EUR300 million. Thales Alenia Space will supply the altimeter instrument. In addition to the LSTM infra-red instrument, Airbus Defence and Space will be responsible for the L-band Synthetic Aperture Radar (SAR) payload for ROSE-L, with Thales Alenia Space Italia as prime contractor.

Mars Return Missions. In June 2020, Airbus Defence and Space won the next phase of the study contract (Advanced B2) from the ESA. Mars Sample Return is a joint NASA and ESA campaign to return samples from the red planet. NASA's 2020 Mars rover mission Perseverance will collect Martian soils and rock samples and leave them on the surface in small metal tubes. In 2026, NASA will launch an ESA rover to Mars to collect these tubes. Landing in 2028, the rover will travel an average of 200 meters a day over a period of six months to find and pick up the samples. It will collect up to 36 tubes, carry them back to the lander, and place them in a Mars Ascent Vehicle, which will launch them into orbit around Mars.

In July 2018, Airbus won contracts from the ESA to design a Sample Fetch Rover and an Earth Return Orbiter.

Eurofighter ECR. In November 2019, Airbus and its partners introduced a new Eurofighter electronic combat role (ECR) concept. Eurofighter ECR will be able to provide passive emitter location as well as active jamming of threats, and will offer a variety of modular configurations for electronic attack (EA) and suppression/destruction of enemy air defenses (SEAD/DEAD). The concept is privately driven by aerospace companies Airbus, Hensoldt, MBDA, MTU, Premium Aerotec, and Rolls-Royce and supported by the German national industry bodies BDSV and BDLI. It specifically targets a German Air Force requirement for an airborne EA capability. Initial Eurofighter ECR capability is expected to be available by 2026, followed by further development and full integration into the Future Combat Air System (FCAS).

U.K. Land Systems Reference Centre. In July 2019, Airbus signed a five-year, GBP22 million contract to manage the Land Systems Reference Centre, which provides test and reference services to support the delivery and release of C4ISR capability for the U.K. Ministry of Defence. Located at Blandford Camp in Dorset, the Royal Corps of Signals' headquarters, the LSRC provides a through-life "systems of systems" test, integration and transition capability that assures release packages for introduction onto the defense network and in support of operations and exercises, the company said.

A321XLR. In June 2019, Airbus launched the Xtra Long Range version of its A321neo, the A321XLR. The new aircraft design will offer a range of up to 4,700 nautical miles. The aircraft shares commonality with the other A320neo family members, along with significant spares commonality with the A321LR – all of which facilitate airline operations, the company said.

Airbus

Air Lease Corporation and Middle East Airlines are the launch customers with 27 and four orders, respectively. The A321XLR is expected to enter service in late 2023 or early 2024.

Plant Expansion/Organization Update

Aircraft Production Rate Plan. In January 2021, Airbus announced that the new average production rates for the A320 Family would gradually increase in production from the current rate of 40 per month to 43 in the third quarter and 45 in the fourth quarter of 2021. This latest production plan represents a slower ramp-up than the previously anticipated 47 aircraft per month from July 2020.

The A220 monthly production rate will increase from four to five aircraft per month from the end of Q1 2021 as previously reported.

Widebody production is expected to remain at current levels, with monthly production rates of around five and two for the A350 and A330, respectively. This decision postpones a potential rate increase for the A350 to a later stage.

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 EU 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, both Airbus and Boeing aircraft are currently subject to tit-for-tat 15 percent tariffs when imported to the U.S. and the European Union, respectively.

COVID-19 Impact. In June 2020, Airbus announced it would cut its global workforce by some 15,000 positions in response to the COVID-19 crisis by the summer of 2021. The company detailed the cuts as follows: 5,000 positions in France, 5,100 positions in Germany, 900 positions in Spain, 1,700 positions in the

U.K., and 1,300 positions at other worldwide sites. As of December 2020, some 6,100 personnel had been cut in the commercial aircraft division, with an estimated 7,500 cuts still to come. The adjustment in total cuts was attributed government support that helped reduce the number of cuts. The company said it is undertaking this action as air traffic is not expected to recover to pre-COVID-19 levels before 2023 and potentially as late as 2025.

A220 Facility Opened in Mobile. In June 2020, Airbus officially opened its second A220 commercial aircraft final assembly line (FAL) in Mobile, Alabama. The new 270,000-square-foot assembly line is located at the Mobile Aeroplex at Brookley, adjacent to the A320 family production line, and will facilitate assembly of A220-100 and A220-300 aircraft for U.S. customers. The A220's primary production facility and program headquarters are located in Mirabel, Canada.

Defence and Space Restructuring. In February 2020, as part of a restructuring process, Airbus presented plans to various work councils on some 2,362 layoffs. Of that total, 829 would be in Germany, 357 in the U.K., 630 in Spain, 404 in France, and 142 in other countries. The company said the reasons for the restructuring were a flat space market and postponed defense contracts.

Bribery Settlement with French, U.K., and U.S. Authorities. In January 2020, Airbus reached final agreements with the French Parquet National Financier (PNF), the U.K. Serious Fraud Office (SOF), and the U.S. Department of Justice (DoJ) resolving the authorities' investigations into allegations of bribery and corruption. Airbus also reached agreements with the U.S. Department of State (DoS) and the DoJ to resolve their investigations into inaccurate and misleading filings made with the DoS pursuant to U.S. International Traffic in Arms Regulations (ITAR). Airbus has agreed to pay penalties of EUR3,598 million to the French, U.K. and U.S. authorities. The settlements with each authority are as follows: PNF, EUR2,083 million; the SOF, EUR984 million; the DoJ, EUR526 million; and the DoS, EUR9 million, of which EUR4.50 million may be used for approved remedial compliance measures.

A321 Production Added to Toulouse Site. In January 2020, Airbus announced it would create new A321 production capabilities at its facility in Toulouse. By mid-2022, the current A380 Lagardère facility in Toulouse will accommodate a digitally enabled A321 line as a step to modernize the A320 production system in Toulouse. Currently, the only European final assembly line to assemble A321s is at Airbus' Hamburg site. The A321 is also being assembled and delivered from Mobile, Alabama, USA. The new facilities will provide more flexibility for A321 production while

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keeping the overall single-aisle industrial capacity in Toulouse flat, the company said.

Mobile to Increase A320 Production. In January 2020, Airbus announced that, as part of its plan to produce 63 A320 family aircraft per month in 2021, the company would expand its industrial footprint in the U.S. by increasing the production rate of the A320 at its facility in Mobile, Alabama, to seven per month by the beginning of 2021. The company plans to invest another \$40 million through construction of an additional support hangar on the site.

Space Engineering Now Airbus Italia. In September 2019, following shareholder approval and its registration in the Chamber of Commerce, Airbus' Italian space subsidiary Space Engineering officially changed its name to Airbus Italia SpA. Space Engineering is adopting the Airbus logo as its single visual identity. Part of Airbus Space Systems, it operates in the satellite telecommunications sector, developing applications for the Internet of Things (IoT); mobile terminals for airborne, train, and land applications; and RF components and ground modems.

A380 Production Terminated. In February 2019, Airbus terminated production of its flagship A380 widebody in the wake of a decision by Emirates airline to cancel 39 of its remaining orders for the type. The last A380 will roll off the line in 2021. This followed a production rate drop announced in March 2018 whereby A380 production would drop to six per year in 2020 (from 15 in 2017).

Ottobrunn/Taufkirchen Expansion. In February 2019, Airbus announced the expansion of its aerospace activities at its site in Ottobrunn/Taufkirchen, Germany. The company announced it would begin building an Industry 4.0 factory to automate and digitalize the production of solar arrays for satellites. This will entail expanding the production building by 800 square meters to a total of 5,500 square meters. A robotic assembly line will also be introduced. In addition, Airbus will use an expanded clean room for the integration of satellite-based optical instruments. Total cost of the project is estimated at EUR25 million.

Airbus Helicopters Adds Japanese MRO Facility. In November 2018, Airbus Helicopters expanded its existing facility in the Kobe Airport in Japan with the addition of a maintenance, repair, and overhaul (MRO) complex. The new building will feature a state-of-the-art hangar, an administration office, and a purpose-built warehouse. Construction was to begin in mid-2019, with the new facility expected to be operational by year-end.

Military Spare Parts Center. In September 2018, Airbus Defence and Space broke ground on a EUR60 million logistics center for spare parts of military aircraft (Military Air Spares Centre – MASC) at Manching, Germany. The 26,300-square-meter building was due to be operational in early 2020. The center will focus primarily on spare parts management for the German Air Force.

Plant Holdings Sold. In March 2018, Airbus completed the sale of Plant Holdings Inc, which holds the Airbus DS Communications Inc business, to Motorola Solutions after receiving the required regulatory approvals. Airbus DS Communications is a provider of command center software for fielding emergency calls (911) and citizen emergency notification. It generated revenues of more than \$100 million in 2016. This divestment is part of the portfolio reshaping within the Airbus Defence and Space Division announced in September 2014.

A400M Production Rate Drop. In March 2018, Airbus confirmed that production rates for the A400M would be changed to match delivery adjustments. The A400M would see its production reduced from a high of 19 aircraft in 2017 to eight aircraft per year from 2020.

Airbus Group Becomes Airbus SE. In July 2017, Airbus Group completed its integration efforts and renamed itself Airbus SE. Following a reorganization announced in September 2016, Airbus is centered on its commercial aircraft operations, with the Defence and Space and Helicopters divisions reporting to Airbus.

The name change capped a consolidation effort aimed at reducing bureaucracy and simplifying the brand. As part of the streamlining, Airbus anticipated some 1,160 job cuts, mainly in support and integrated functions. The merger concluded with a shift of the company's headquarters from Paris and Munich to Toulouse.

According to Airbus, the new structure enables faster decision-making, cuts bureaucracy, and allows for greater collaboration and increased efficiency. This structure also facilitates the digitalization program currently being implemented.

Airbus Aerial. In May 2017, Airbus launched a new commercial drone startup, Airbus Aerial. With operations in both the U.S. and Europe, Airbus Aerial will initially focus on developing new imagery services. While the company does not produce UAVs or satellites, it does use their payloads to provide imagery services.

Website: <https://airbusaerial.com>

Airbus

Airbus Corporate Helicopters Formed. In May 2017, Airbus formed Airbus Corporate Helicopters as a separate brand. The new unit is a sister brand to Airbus Corporate Jets and offers exclusive rotorcraft customizations and services to customers.

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

Chinese H135 Assembly Line. In May 2017, Airbus Helicopters broke ground on a new H135 final assembly line in China. The FAL will be located in Qingdao, Shandong Province, eastern China, and construction was expected to be completed by 2018.

A framework agreement signed in June 2016 calls for 100 H135s to be assembled over the next 10 years, and the first aircraft roll-out from Qingdao was planned for mid-2019. The FAL will have a total annual capacity of 18 H135 helicopters. The new facility, located in Jimo Provincial Hi-Tech Industrial Development Zone, will be jointly operated by Airbus Helicopters and Qingdao United General Aviation Company Ltd (UGAC), a joint venture between China Aviation Supplies Holding Company (CAS) and Qingdao United General Aviation Industrial Development Company Ltd (UGA). With the joint venture agreement signed in April 2017, Airbus Helicopters holds a majority share of 51 percent.

Airbus Interiors Services Subsidiary Formed. In April 2017, Airbus launched a new unit, Airbus Interiors Services. Based in Toulouse, AIS is built on the engineering expertise and experiences of the former Airbus Corporate Jet Centre (ACJC). AIS is part of Services by Airbus, which assists airlines with their cabin upgrade development strategies. The unit has three business lines – Tailored Equipment, Upgrade Solutions, and Innovative Products.

A Brief History of the Airbus Companies. Airbus, created in 1970, considered various innovative methods for effectively competing against U.S. giants Boeing and McDonnell Douglas. At the outset, France was considered an attractive base because it favored certain enterprises through laws that allowed member companies to exist as a Groupement d'Interet Economique (GIE). This "grouping of economic interest" was set up under French Ordonnance #67-821 of September 23, 1967. It allowed the four Airbus consortium members unprecedented flexibility to design, develop, and manufacture airliners together without having to pool their assets or provide equity.

The member firms became jointly and separately liable for Airbus' debts and obligations in proportion to their membership rights. The GIE status also meant that Airbus did not have to pay income taxes, or at least the

consortium was not required to file such taxes. Besides, all financial data could remain with the consortium members, meaning that financial information did not have to be made public unless desired by all members. Hence, Airbus, unlike other publicly held trading companies, did not release any financial statements or annual reports regarding its business activities.

Prior to EADS, this consortium consisted of Aerospatiale (37.9 percent), DaimlerChrysler Aerospace Airbus (37.9 percent), British Aerospace (20 percent), and CASA (4.2 percent). Fokker of the Netherlands, Belairbus of Belgium, and Alenia of Italy were associate members of the consortium.

Airbus SAS had been operating as a fully integrated company since January 2001. EADS owned 80 percent of the shares and BAE Systems held 20 percent. In July 2001, EADS and BAE Systems completed the legal and tax procedures required to make the fully integrated Airbus company a formal legal entity, named Airbus. It is incorporated under French law as an SAS (Société par Actions Simplifiée) and based in Toulouse. In October 2006, BAE Systems sold its stake in Airbus to EADS, making it the sole shareholder.

In January 2014, EADS officially changed its name to Airbus Group, uniting all its activities under a single brand. Three years later, in 2017, the company renamed itself Airbus SE (Societas Europaea) after its core operation.

Mergers/Acquisitions/Divestitures

MTM Robotics Acquired. In December 2019, Airbus acquired industrial automation company MTM Robotics for an undisclosed amount. MTM develops aerospace manufacturing systems comprising machines, tools, machine software, and enterprise software, plus support services. The MTM business will retain its current leadership and 40-person staff as well as its facility in Mukilteo, Washington, near Seattle. MTM will operate as a wholly owned subsidiary of Airbus Americas Inc.

Website: <https://mtmrobotics.com>

Alestis Aerospace Divested. In April 2019, Airbus sold its shares in Alestis Aerospace to Aciturri. Previously, in February 2015, Airbus gained a 62 percent stake in Spanish subcontractor Alestis Aerospace. Alestis supplies parts and components for A380, A330, A320, and A350 aircraft. In addition, it is a supplier for the military CN-235/C-295 and A400M. It is also a supplier for Embraer and Boeing. The European Commission authorized Airbus' and Spanish

Airbus

state-owned holding group SEPI's rescue plan for Alestis Aerospace in July 2014. Under this reorganization, Alestis' shareholding structure is now composed of Airbus (62 percent), SEPI (24 percent), and Unicaja (14 percent).

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

Vector Aerospace Sold. In November 2017, StandardAero Aviation completed its acquisition of Airbus' Vector Aerospace operation. Vector Aerospace is a provider of multiplatform helicopter MRO services and of rotary- and fixed-wing aircraft engine repair and overhaul. The company, which employs some 2,200 people, is principally located in Canada and the U.K., and has a major presence in the United States and South Africa. In 2016, Vector Aerospace generated sales of \$705 million. Vector Aerospace was originally acquired by Airbus Helicopters in June 2011 in a deal valued at CAD625 million. Airbus began shopping the unit in December 2015. The deal was first announced in July 2017.

CESA Sold to Héroux-Devtek. In October 2017, Héroux-Devtek bought Airbus subsidiary Compañía Española de Sistemas Aeronauticos (CESA) for EUR140 million. Headquartered in Madrid, CESA produces landing gear and actuation and hydraulic systems.

Website: <https://www.cesa.aero/en/>

Defense Electronics Sold. In February 2017, Airbus completed the sale of its Germany-based Defence Electronics business to investment firm KKR. The French portion of the business would be transferred to KKR once the separation of the French entity in Elancourt, near Paris, was completed. KKR acquired the business for approximately EUR1.1 billion. Airbus agreed to maintain a 25.1 percent minority stake for a limited number of years post-closing until the full separation of the sites. This measure would facilitate a smooth transition for employees and business stakeholders.

The Defence Electronics division, renamed Hensoldt, is a provider of sensors, integrated systems, and services for defense and security applications. Headquartered in Ottobrunn, Germany, the unit has around 4,000 employees worldwide, with annual revenues of around EUR1 billion.

The deal was first announced in March 2016. The divestiture is part of Airbus' strategy to focus its defense division on military aircraft, missiles, space launch vehicles, and satellites.

Teaming/Competition/Joint Ventures

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, by December 2018, when the updated Mid-Term Defense Plan covering the period between 2019 and 2023 was unveiled, the AH-X project was not included. Nonetheless, the Ministry of Defense appears intent on pushing forward with the project, as the Army considers it an urgent requirement.

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.

In late 2018, *FlightGlobal* reported the program name apparently had been changed to New Attack Helicopter (NAH).

Airbus Helicopters Kazakhstan. In October 2010, Airbus Helicopters and Kazakhstan Engineering agreed to form a 50-50 joint venture to assemble and customize EC 145s in Kazakhstan. The agreement also includes the development of local maintenance and training activities to support EC 145 operations throughout the new customs union zone created by Kazakhstan, Russia, Belarus, and the entire Central Asian region. The new Kazakh operation, dubbed Airbus Helicopters Kazakhstan, will manufacture and supply 45 EC 145s for the Kazakh government. Deliveries of the helicopters began in 2016.

Airbus Helicopters Romania. Airbus Helicopters Romania is a joint venture set up in 2002 by Airbus Helicopters and Romanian company IAR. Airbus Helicopters holds 51 percent of the shares and IAR the remaining 49 percent. An EC 135 assembly line has been established at Airbus Helicopters Romania in Brasov.

Website: <https://www.airbus.com/company/worldwide-presence/romania.html>

Airbus

Airbus Helicopters Southeast Asia. In July 2018, ST Engineering Aerospace sold its 25 percent holding in Airbus Helicopters Southeast Asia (AHSA) to its partner, Airbus Helicopters SAS, for EUR9.1 million (\$14 million) in cash. The venture was originally formed in 1977 to provide sales and MRO services.

Airbus-Kaskol Engineering Center. During 2002, Airbus and Russian company Kaskol formed a joint venture aimed at promoting the cross-transfer of expertise and the coordination and enlargement of the scope of activities that Airbus is conducting with Russian aerospace companies. The venture was formed to boost Airbus' presence in Russia.

AirTanker. In January 2001, EADS, Rolls-Royce, Cobham, and Thales UK formed the AirTanker consortium to bid for the U.K. Ministry of Defence's Future Strategic Tanker Aircraft (FSTA) program. VT Group joined in 2004. The GBP13 billion (EUR19 billion) Private Finance Initiative program will provide strategic air refueling services to the Royal Air Force for 27 years. AirTanker's proposal – dubbed the KC-30 – was based on the commercial A330-200 transport powered by Rolls-Royce Trent engines. Bids were submitted in July 2001. In January 2004, the U.K. MoD announced that AirTanker had been judged to offer the best prospective value for the FSTA program.

The MoD then entered into detailed negotiations with AirTanker for the next phase of the project. This effort bore fruit in February 2005 when AirTanker was selected as the preferred bidder for the FSTA.

Website: <https://www.airtanker.co.uk/>

Alliance Future Surveillance and Control (AFSC). In December 2019, the NATO Support and Procurement Agency (NSPA) awarded six contracts for the 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 Musketier Solutions Limited, Videns Limited, 3SDL Limited, Synergeticon, Hensoldt Sensors GmbH, IBM Limited, and Deloitte Consulting & Advisory CVBA). High-level concepts proposed by the six contractors will be assessed by NATO to identify the most promising concepts. In 2021, NATO will launch a call for a second round of more detailed studies to assess the feasibility of the proposed concepts.

ArianeGroup. In June 2017, Airbus Safran Launchers renamed itself the ArianeGroup. The name change is intended to provide greater brand coherence with its

main subsidiary Arianespace. In December 2014, Airbus and Safran created the 50-50 joint venture Airbus Safran Launchers to support the Ariane 5 and develop the new Ariane 6. The venture is the head company in a group comprising 11 subsidiaries (and affiliates): APP, Arianespace, CILAS, Eurockot, EuroCryospace, Europropulsion, Nucleides, Pyroalliance, Regulus, Sodern, and Starsem.

Website: <https://www.ariane.group/en/>

AVIC. In October 2018, AVIC subsidiary AVIC Composites Corporation and Airbus Beijing Engineering Centre (ABEC) announced that they would jointly research aerospace applications of multifunctional composite materials. Of special interest is increasing the electrical conductivity and damage resistance of such materials.

In March 2014, Airbus and its Chinese partners, Tianjin Free Trade Zone and Aviation Industry Corporation of China (AVIC), agreed to extend the successful joint venture to assemble A320 family aircraft in China (FALC project) for an additional 10 years. "Phase II" covers the period from 2016 to 2025, expands deliveries to the whole Asian region, and includes final assembly of the A320neo family from 2017 onward. During Phase II, the capabilities of the Tianjin final assembly line are being extended.

In 2005, Airbus and AVIC opened their Airbus Beijing Engineering Centre, or ABEC, joint venture. Airbus holds 70 percent in the venture and AVIC the remaining 30 percent. Through this venture, China became a risk sharing partner of up to 5 percent on airframe work for next-generation aircraft such as the A350 XWB.

Avicopter. In December 2005, China Aviation Industry Corporation (through its Avicopter unit) and Airbus Helicopters signed a contract to develop a new helicopter, the EC 175 (Avicopter AC352, formerly called the Z-15). The five-year development phase kicked off in 2006. The helicopter made its first flight in December 2009. Deliveries were expected to begin in 2012 or 2013. Each of the two companies agreed to invest EUR300 million to develop the new helicopter. Production is being shared on a 50-50 basis, and each country has its own assembly line.

The EC 175 project follows past programs that spawned increasingly tight cooperative ties between Chinese industry and Airbus Helicopters. The licensed production of the Dauphin in 1980, followed by industrial cooperation on the EC 120 in 1992, paved the way for this helicopter codevelopment program.

Avions de Transport Régional. This is a 50-50 joint venture between Airbus and Leonardo of Italy. It produces the ATR 42/ATR 72 pressurized twin-

Airbus

turboprop-powered regional/commuter transport aircraft.

Website: <https://www.atr-aircraft.com/>

Biofuel Teaming. In March 2012, Airbus, Boeing, and Embraer signed a Memorandum of Understanding (MoU) to work together on the development of drop-in, affordable aviation biofuels. The three airframe manufacturers agreed to seek collaborative opportunities to speak in unity to governments, biofuel producers, and other key stakeholders to support, promote, and accelerate the availability of new, sustainable jet fuel sources.

Bombardier. In July 2018, Airbus and Bombardier officially closed the CSeries transaction, giving Airbus a majority stake in the program. Under the terms of the deal, Airbus now owns a 50.01 percent interest in C Series Aircraft Limited Partnership (CSALP), and Bombardier and Investissement Quebec (IQ) hold 34 percent and 16 percent interests, respectively.

Airbus immediately rebadged the Bombardier CSeries jet the Airbus A220 after taking control of the program. The two new models in Airbus' lineup, the A220-100 and A220-300, were formerly known as the CS100 and CS300, respectively. The A220 family covers the 100- to 150-seat market and effectively brackets the top end of the regional jet market and the low end of the narrowbody airliner market.

In June 2019, CSALP was renamed Airbus Canada Limited Partnership to better reflect Airbus' majority stake. The limited partnership employs approximately 2,200 at its headquarters and manufacturing facilities in Mirabel. The second A220 manufacturing facility, in Mobile, Alabama, started production in August 2019.

In February 2020, Airbus and the government of Québec became sole owners of the A220 program as Bombardier completed its exit from commercial aviation manufacturing. Airbus paid Bombardier \$591 million to increase its stake to 75 percent of Airbus Canada. The government of Québec increased its holding to 25 percent.

The merger was first announced in October 2017.

Canada Fixed-Wing Search and Rescue. In December 2016, Canada selected the Airbus C-295W for its Fixed-Wing Search and Rescue program. As part of the FWSAR program, the Royal Canadian Air Force will purchase 16 C-295Ws modified for search-and-rescue operations. The CAD3 billion (\$2.3 billion) contract will also include in-service support provided through a joint venture between Airbus Defence and Space and PAL Aerospace. The aircraft are expected to

be delivered by 2023. The C-295W was selected over the Leonardo C-27J and Embraer KC-390.

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-35s, and Saab with the Gripen E. A final contract award is expected in 2022.

CESI. In June 2014, Airbus and CESI reached a partnership agreement in the area of industrial training. The goal of the partnership is to provide an avenue of trained employees for Airbus' operations.

CGAMEC. Created in 2001, the Shenzhen-based CGAMEC is a joint venture of CITIC Offshore Helicopter Company (COHC), Airbus Helicopters, and Samwell Aviation Ltd Company. The venture provides MRO services for Airbus Helicopters products in China. In addition to being the only Airbus Helicopters-approved maintenance center in China, CGAMEC is also the engine service center in China, having been approved by Turbomeca – the main manufacturer of powerplants for Airbus Helicopters' product line.

Cisco. In May 2015, Airbus Defence and Space and Cisco announced a new global partner agreement that combines their complementary technology strengths in the defense, security, and satellite communication industries to create products and systems in the areas of software-defined networking, cybersecurity, mobility, cloud computing, data intelligence, and the Internet of Things. The agreement comprises access to sales and technology training, joint go-to-market activities, and joint solution and service development.

Clean Sky. Launched in 2008, Clean Sky is a European public-private research program focused on, developing technology aimed at reducing CO₂, gas emissions, and noise levels produced by aircraft. The Clean Sky 1 effort has six focus areas: Green Regional Aircraft (led by Leonardo and Airbus), Smart Fixed Wing Aircraft (Airbus and Saab), Green Rotorcraft (Leonardo and Airbus), Sustainable and Green Engines (Rolls-Royce and Safran), Systems for Green Operations (Liebherr and Thales), and Eco-Design (Dassault Aviation and Fraunhofer-Gesellschaft). A larger Clean Sky 2 program was launched in 2014 and

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will run through 2024. This phase is studying improvements to large passenger aircraft, regional aircraft, fast rotorcraft, airframes, engines, systems, small air transports, and eco-design.

Website: <https://www.cleansky.eu/>

COMAC. In February 2014, Airbus and Commercial Aircraft Corporation of China signed an MoU to pursue sustainable growth in air transport. Through this commitment, both partners aim to develop a mutual understanding of new air traffic management concepts and operations as defined in the International Civil Aviation Organization (ICAO) Global Air Navigation Plan. Airbus and COMAC will share best practices and identify improvements required by current ATM technology road maps both on board an aircraft and on the ground to foster safer, more efficient, and sustainable air traffic operations.

Coulson Group. In November 2015, Airbus Defence and Space and The Coulson Group of Canada signed an MoU covering the industrialization, supply, and support of the new water bomber version of the Airbus C-295W transport aircraft. Under the terms of the agreement, The Coulson Group, through its operating company Coulson Airplane Ltd, will develop and manufacture a version of its retardant dropping system for the C-295W. The system installed in the C-295W will consist of two roll-on, roll-off internal tanks, which after the fire season can be easily removed. A prototype C-295W water bomber has been flying since 2013.

Dassault Aviation. Airbus and Dassault agreed to team on the development of unmanned aerial vehicles. Specifically, Dassault would take the lead on UAVs such as the Neuron (an armed combat UAV) and Airbus would lead the EuroMALE reconnaissance UAV effort.

Denel. In September 2012, Denel and Airbus Military signed a new agreement with revised terms for the manufacture of aircraft components for the A400M. Denel Aerostructures manufactures two major work packages for the A400M: the wing-to-fuselage fairing and the top shells, which form part of the aircraft's mainframe.

E-Fan X Team. In November 2017, Airbus, Rolls-Royce, and Siemens formed a partnership to develop a hybrid-electric propulsion system for commercial aircraft. The E-Fan X hybrid-electric technology demonstrator was anticipated to fly in 2020 following a comprehensive ground test campaign, provisionally on a BAe 146 flying testbed, with one of the aircraft's four gas turbine engines replaced by a 2-MW electric motor.

EFW. In February 2016, ST Aerospace became a majority shareholder in Elbe Flugzeugwerke GmbH (EFW). The company originally gained a 35 percent

stake in EFW in 2012. With this latest purchase, ST Aerospace increased its holding to 55 percent, making EFW a subsidiary. Airbus is now a minority shareholder with the remaining 45 percent.

Based in Dresden, Germany, EFW performs passenger-to-freighter aircraft conversions and maintenance and repair of Airbus aircraft. In addition, it develops and manufactures flat fiber-reinforced composite components for structures and interiors of the entire Airbus family of aircraft.

In 2016, EFW set up a new subsidiary in Kodersdorf, Germany. The new company produces lightweight components, mainly comprising floor panels and cargo linings, for single-aisle Airbus aircraft.

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

E-HOTS. In June 2013, a consortium agreement was signed by five participants – Airbus Helicopters, Daher, DCI, Eurotradia, and Vector Aerospace – for a total support solution for Airbus Helicopters rotorcraft. Designated E-HOTS (Eurocopter Helicopter On Theatre Services), the consortium consolidates the five partners' expertise and pools their resources, providing a "turnkey support package" that covers an extensive range of services for rotorcraft deployed in humanitarian and crisis relief missions and in conflict zones, and for oil and gas exploration – among other operations. E-HOTS service modules are available in four categories (maintenance, logistics, operations, and supplementary services), enabling support to be customized to operators' requirements and provided during the required deployed durations.

Website: <http://www.e-hots.com>

Emiraje Systems. In February 2009, C4 Advanced Solutions (a wholly owned subsidiary of the Emirates Advanced Investments group) and Airbus Defence and Space created a joint venture company in Abu Dhabi, UAE, to develop and market high-tech solutions in the field of defense and security applications. This joint venture, called Emiraje Systems, jointly pursues projects within its defined geographic boundary.

Emirates. In November 2001, Emirates, the international airline of the UAE, and Airbus signed an MoU to create a joint venture company to provide a range of aviation services, including trading in used aircraft and spares and airline consultancy for fleet, route, and business planning. On the used aircraft and spares front, the aim would be to act as a remarketing agent or broker, realizing value for airlines from assets that are no longer needed. The joint venture, created during the first half of 2002, is based in Dubai, with equal participation by both organizations.

Airbus

Equatorial Sistemas. In May 2006, Airbus Defence and Space purchased a 42 percent stake in Brazilian company Equatorial Sistemas. This partnership strengthened the presence of Airbus Defence and Space in Brazil by enabling the company to become a privileged partner in Brazilian space programs, in particular those of the Brazilian Space Agency and its industrial segment, the Brazilian National Institute for Space Research. Equatorial Sistemas was founded in 1996 to meet the requirements of the Brazilian space program. The company designs, manufactures, tests, and qualifies aerospace components.

Website: <http://www.equatorialsistemas.com.br>

Eurockot Launch Services. Formed in 1995, Eurockot Launch Services GmbH is a 51-49 joint venture between ArianeGroup and the Khrunichev State Research and Production Space Center. The venture was created to market the Rockot launch vehicle worldwide.

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

EuroCryospace. In March 2012, Airbus Defence and Space and Air Liquide announced a European strategic partnership called EuroCryospace. It is an extension of Cryospace, which was set up over 25 years ago to develop and manufacture Ariane cryogenic fuel tanks. EuroCryospace focuses in particular on the upper stage of the Ariane 5 ME.

Eurofighter GmbH. Eurofighter GmbH, based in Hallbergmoos, Germany, was the consortium set up in 1986 to manage development and production of the complete Eurofighter Typhoon weapon system. It is now owned by three partner companies: Airbus, with 46 percent; BAE Systems, 33 percent; and Leonardo, 21 percent. BAE is responsible for the aircraft's forward fuselage and foreplanes, and shares airfoil production with Leonardo and Airbus (CASA).

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

EuroHawk GmbH. In July 2000, Northrop Grumman and EADS signed an MoU to cooperate on a high-altitude, long-endurance (HALE) UAV system. Under the agreement, Northrop Grumman's Integrated Systems Sector was working with EADS (now Airbus SE) to meet the airborne standoff ISR requirements of European NATO countries. The result of this agreement to date is the new EuroHawk UAV – a Global Hawk derivative equipped with a new signals intelligence sensor developed by EADS.

Another significant milestone in the EuroHawk program was the founding of a joint venture between Northrop Grumman and Airbus. This new company, based in Friedrichshafen, Germany, would act as the national

prime contractor for the German MoD through the entire life-cycle of the system. In January 2007, the German MoD awarded a EUR430 million contract to EuroHawk GmbH for development, test, and support of the EuroHawk unmanned signals intelligence system. The first EuroHawk was unveiled in October 2009. Germany purchased one EuroHawk demonstrator, which carries an Airbus signals intelligence payload.

However, in May 2013, the German MoD announced it would forgo procurement of four EuroHawk air vehicles due to a rise in costs. After years of negotiation, the program was ultimately canceled in January 2020.

Future Combat Air System. In February 2020, France and Germany awarded Dassault Aviation and Airbus, together with their partners MTU Aero Engines, Safran, MBDA and Thales, the initial framework contract (Phase 1A) that launches the demonstrator phase for the Future Combat Air System (FCAS). This EUR155 million framework contract covers a first period of 18 months and initiates work on developing the demonstrators and maturing cutting-edge technologies, with the ambition to begin flight tests as soon as 2026.

This phase will, in a first step, focus on the main technological challenges per domain:

- Next Generation Fighter (NGF), with Dassault Aviation as prime contractor and Airbus as main partner, to be the core element of the Future Combat Air System.
- Unmanned Systems Remote Carrier (RC), with Airbus as prime contractor and MBDA as main partner.
- Combat Cloud (CC), with Airbus as prime contractor and Thales as main partner.
- Engine, with Safran and MTU as main partners.

In February 2019, France and Germany awarded a two-year, EUR65 million (\$74 million) Joint Concept Study (JCS) contract to Dassault Aviation and Airbus for the FCAS program. Spain joined the program later in the month. The three partners aim to develop the sixth-generation fighter as a long-term replacement for the lead combat aircraft in the French, German, and Spanish air forces beginning around 2040. For Spain and Germany, this involves a successor to their fleets of Eurofighter Typhoons.

The New Generation Fighter (NGF) is to operate in conjunction with a swarm of drones that will serve as both weapons platforms and advanced sensors. These two systems, which are to function together, are collectively referred to as the Next-Generation Weapon System (NGWS). The FCAS program envisions a

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UCAV operating in conjunction with next-generation combat aircraft as a "loyal wingmen."

The foundation of the partnership was laid in June 2004, when Airbus and Dassault Aviation signed an initial agreement for the joint development of Europe's future combat air system capability. This partnership was further solidified in April 2018 when Airbus and Dassault agreed to develop a successor to Germany's Eurofighter and France's Rafale fighters. Missing from the partnership was BAE Systems, which had been working with Dassault on a feasibility study – also named FCAS – since late 2014. Currently, a BAE Systems-led team is researching the Tempest, a proposed stealth fighter aircraft aimed at replacing Eurofighters for the Royal Air Force.

Harbin Hafei Airbus Composite Manufacturing Center Company Ltd. In January 2009, Airbus and a group of Chinese industrial partners signed a contract to jointly establish a center in Harbin, China, to manufacture composite material parts and components for the Airbus A350 XWB and Airbus A320 family aircraft. The Chinese partners are Harbin Aircraft Industry Group Company Ltd (HAIG), Hafei Aviation Industry Company Ltd (HAI), AviChina Industry and Technology Company Ltd, and Harbin Development Zone Heli Infrastructure Development Company Ltd (HELI). The center, Harbin Hafei Airbus Composite Manufacturing Center Company Ltd (HMC), is part of Airbus' plan to manufacture 5 percent of the A350 XWB airframe in China. In February 2011, the manufacturing center was officially inaugurated.

In February 2014, Airbus increased its share in HMC to 25 percent from 20 percent. With the agreement, HMC would increase the production of A320 rudders from 50 percent of the worldwide total to 80 percent. The two parties would also work toward ensuring the ramp-up of the A350 XWB work packages at HMC and commit to exploring other opportunities.

Helicopter Flight Training Services (HFTS). Founded in December 2004, this is a consortium owned equally by CAE, Airbus Helicopters, Thales, and Rheinmetall Defence. In January 2009, HFTS officially inaugurated the world's first NH90 full-mission simulator at its newly built facility in Buckeburg, northern Germany, adjacent to the German Army Aviation School. HFTS planned to design, build, and operate three NH90 simulator training centers.

Website: <https://www.hfts.eu/en/hfts/>

Helisim. Formed in 2000, Helisim is a joint venture of Thales and Airbus Helicopters, each with a 45 percent holding. Défense Conseil International, which specializes in operational armed forces training, holds

the remaining 10 percent. Helisim provides flight simulator training for Airbus Helicopters' medium/large twin-engine helicopters, including the H175, AS 365 N2, H155, AS 332 L1/L2, H225, and NH90. The venture is headquartered in France.

In February 2019, Airbus Helicopters and Helisim broke ground on a \$40 million, 23,000-square-foot helicopter pilot and maintenance crew training center in Grand Prairie, Texas. The center will house the first Level D full-motion flight simulators in North America for Airbus H145 and H175 helicopters.

Website: <http://www.helisim.fr>

Hindustan Aeronautics Ltd. Since 1962, Eurocopter (now Airbus Helicopters) has partnered with HAL through two cooperation agreements, enabling HAL to manufacture more than 600 helicopters based on the Alouette 3 and Lama, more popularly known in India as the Cheetah and Chetak. In 1984, HAL was supported by Eurocopter in development of the Advanced Light Helicopter, a 5-tonne, twin-engine transport helicopter. This industrial partnership was strengthened in 2005 with the manufacture of composite assemblies. Currently, HAL manufactures 100 shipsets of these assemblies per year for the H125M/H125 helicopters, and contributes to Airbus Helicopters' global supply chain.

In September 2006, HAL and EADS signed an MoU to further develop long-term cooperation and define joint strategies on various market segments. HAL and Airbus are currently working to jointly manufacture helicopters and passenger jets.

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 versions. 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. A winner is expected to be selected in 2021.

IBM. In April 2013, Airbus and IBM launched Airbus Smarter Fleet Solutions to transform Airbus' fleet solution offerings. ASFS provides airlines and operators with advanced IT services for maintenance, engineering, and flight operations. These fleet service offerings enhance operational efficiencies, help airlines manage their aircraft more effectively, and improve

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customer service through smarter use of big data. ASFS would initially focus on two activities. First, it would integrate and further develop Airbus' current portfolio of software products ("e-solutions"). E-solutions comprise an extensive range of stand-alone applications, which are accessed via a variety of online and offline media and are used by about 200 operators. Second, ASFS would provide tailored fleet data management using an open, modular, and flexible platform.

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 likely include the Boeing F/A-18E / F Block III, Dassault Rafale F3R, Eurofighter Typhoon, Lockheed Martin F-16V, United Aircraft Corp MiG-35 and Su-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 126 Medium Multi-Role Combat Aircraft (MMRCA) program, which was won by Dassault's Rafale, was canceled in 2015. At that time, the government instead opted to buy 36 Rafales in a government-to-government deal.

Indonesian Aerospace. In February 2014, Airbus Helicopters and PT Dirgantara Indonesia (aka Indonesian Aerospace) signed an MoU to expand support and services for the users of Airbus Helicopters rotorcraft in-country. This MoU covers MRO services for the various Airbus Helicopters products operated within Indonesia – in particular, the AS 365 Dauphin, EC 725 Cougar, and H125/AS 555 Fennec rotorcraft acquired by the country's government.

In July 2011, the two firms signed a teaming framework agreement to continue industrial cooperation and the marketing of Airbus Helicopters products to Indonesian governmental entities. The first teaming framework agreement was signed between Airbus Helicopters and Indonesian Aerospace in 2006. Under the partnership renewal, the joint effort would remain in effect for five years. The partnership between Airbus Helicopters and Indonesian Aerospace began some 35 years ago – when Airbus Helicopters was known as Aérospatiale and MBB, and Indonesian Aerospace as Nurtanio – with the licensed production of 123 BO 105, 11 Puma SA 330, and 19 Super Puma AS 332 helicopters. The partnership was further strengthened in 2008 when the two companies set up an assembly line for Super Puma Mk 2 helicopter airframes in Indonesia, thereby successfully integrating Indonesian Aerospace into Airbus Helicopters' global supply chain.

In October 2008, Airbus Helicopters and Indonesian Aerospace signed a cooperation agreement to set up a local assembly line to manufacture airframes for Super Puma Mk 2 helicopters. The agreement included the permanent posting of an Airbus Helicopters team in Bandung, Indonesia, for technical assistance and exchange of technological expertise. This contract is worth \$42 million over a period of at least 10 years, with serial production starting in 2011.

Irkut Corp. In December 2005, Airbus (then EADS) completed its purchase of a 10 percent stake in Irkut Corp in a deal valued at \$65.3 million. In addition, an Agreement of Cooperation defining new principles of the two companies' interaction was signed. Cooperation between Irkut and Airbus began in 2002 with the signing of a Strategic Partnership Agreement at the ILA International Air Show. Within the framework of this agreement, the EADS Irkut Seaplane joint venture was established in 2005 to market the Be-200 multipurpose amphibian. Irkut owned 70 percent of EADS Irkut Seaplane SAS, and EADS owned 30 percent. However, in November 2016, Irkut pulled out of the joint venture, citing a failure to promote the Be-200 abroad.

Earlier, in December 2004, Irkut and Airbus signed a contract for the manufacture of A320 family components at the Irkutsk Aviation Plant (the Irkut main processing center). This cooperation is ongoing.

Israel Aerospace Industries. In October 2020, the European Border and Coast Guard Agency (Frontex) awarded a contract to Airbus Defence and Space Airborne Solutions (ADAS), and its partner Israel Aerospace Industries (IAI) to operate a Medium Altitude Long Endurance (MALE) RPAS for Maritime Aerial Surveillance services. The service includes the provision of IAI's maritime Heron RPAS platform, payload, communication equipment and capacity, mission storage, and all necessary experts managing the system and providing operational support. Under the contract, Airbus and IAI will provide the service for preplanned assignments as well as for ad hoc calls.

Kawasaki Heavy Industries. In July 2010, Kawasaki Heavy Industries Aerospace Company (KHI) and Airbus Helicopters signed a new cooperation agreement for the EC 145, an evolution of the BK 117 helicopter family. The German-Japanese cooperation started in 1977 with mutual development of the BK 117 helicopter, which made its maiden flight in June 1979. The BK 117 was upgraded several times over the years prior to development of the EC 145. It is designated the BK 117 C-2 in Japan.

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Korea Aerospace Industries. In November 2015, KAI and Airbus Helicopters signed an MoU to jointly market Korean helicopters worldwide. The collaboration focuses on the distribution of the Korean Light Civil Helicopter (LCH) and Light Armed Helicopter (LAH). Earlier, in March 2015, KAI selected the Airbus Helicopters H155 as the platform for its LCH and LAH programs. The approximately \$1.4 billion deal will see approximately 300 LCH/LAHs produced for Korea.

In December 2005, the Korean government selected Airbus Helicopters as Korea Aerospace Industries' primary partner in the development of Korea's first military transport helicopter, the Korean Utility Helicopter (KUH). KAI and Airbus Helicopters signed a \$1.3 billion development contract for the program in June 2007. The program – now known as Surion – is valued at \$6 billion to \$8 billion over its lifetime.

In February 2011, Korea Aerospace Industries and Airbus Helicopters established KAI-EC Surion Export Co to promote export sales of the KAI-built Surion helicopter (aka Korean Utility Helicopter). This formalization followed up on an October 2007 announcement that they would form a joint venture to market the new helicopter. KAI holds 51 percent and Airbus Helicopters 49 percent of the firm.

LAND 2097 Phase 4. Under LAND 2097 Phase 4, Australia is looking to acquire up to 16 helicopters to provide support for special operations. In July 2020, Airbus Helicopters formed Team Nightjar with over 20 Australian partners to compete for the contract with the H145M helicopter. Later in the year, 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.

Website: <https://www.teamnightjar.com.au/>

Lockheed Martin. In December 2018, Lockheed Martin and Airbus signed an agreement to explore opportunities to meet the demand for aerial refueling for U.S. defense customers. The Airbus A330 MRTT will be the focus of potential offerings. These may range from ways to support critical near-term air-refueling needs, such as a fee-for-service structure, to conceptualizing a future tanker design.

In May 2000, Lockheed Martin and Airbus signed an agreement covering a number of areas of cooperation, including how Airbus' worldwide support network could help platforms such as the Joint Strike Fighter. The goal would be to leverage Airbus' commercial jet

infrastructure to help keep life-cycle costs down on Lockheed Martin's JSF.

MALE RPAS. In September 2016, a definition study was begun under the European MALE RPAS (Remotely Piloted Aircraft System) effort. Formerly known as the MALE2020 program, this latest effort aims for operational systems to enter service by 2025. Industry representatives from France, Germany, and Italy – Dassault Aviation, Airbus, and Leonardo, respectively – will have an equal share in the work. The main purpose of the study is threefold: to identify a set of achievable operational capabilities, to define the corresponding set of system requirements, and to perform preliminary design activities to allow the launch of a potential development and production phase with minimum residual risk. The first full-scale model of the MALE RPAS was unveiled in April 2018 at the ILA Berlin Air Show. In November 2018, the Czech Republic joined the MALE RPAS team. Aero Vodochody is expected to lead the nation's involvement in the program.

In May 2019, Airbus submitted its offer, but the contract signing slipped from 2019 to 2020, and now early 2021, thanks to COVID-19. A total of 20 systems, each consisting of three UAVs, will be delivered. First flight is scheduled for 2025, with initial deliveries to follow in 2028.

Website: <https://www.occar.int/programmes/male-rpas>

Maritime Airborne Warfare System (MAWS). This is development program, set to be undertaken jointly by France and Germany post-2025, with an eye on achieving a new maritime patrol capability by 2030. The two countries signed a letter of intent to develop this capability at the ILA exhibition in Berlin in April 2018, and they have already agreed to award manufacturers with a two-year common requirements study determining the technical and financial elements involved. The partner nations plan to select a European platform for MAWS in 2023. Airbus is planning to offer the A320neo as the platform. The effort will also likely include participation from Dassault, Hensoldt, Safran, and Thales.

MBDA (Matra BAe Dynamics Alenia). In April 2001, BAE Systems, EADS, and Finmeccanica signed an agreement for the incorporation of a single company that would regroup the missile activities of their respective subsidiaries – Matra BAe Dynamics, EADS Aerospatiale Matra Missiles, and Alenia Marconi Systems – into a new company named MBDA Missile Systems. Final documents formally establishing MBDA as a legal operating entity were signed in Paris on December 18, 2001. The economic interests of the

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partners in MBDA are as follows: BAE Systems, 37.5 percent; Airbus, 37.5 percent; and Finmeccanica (now Leonardo), 25 percent. (See the "MBDA" report for details.)

Website: <https://www.mbda-systems.com>

NACIL. In October 2008, National Aviation Company of India Ltd and Airbus signed a joint venture agreement for the creation of an aircraft maintenance, repair, and overhaul center. This new MRO facility began operations in 2009 at Indira Gandhi International Airport in Delhi. It is a member of the Airbus MRO network.

National Research Council of Canada. In July 2012, Airbus and the National Research Council of Canada renewed their collaboration in research and technology. This agreement followed an existing five-year MoU signed in 2008 covering joint R&T activities for aerospace applications within Canada. Airbus and the NRC agreed to leverage expertise and resources in order to engage Canadian suppliers to develop and optimize technologies of potential interest to Airbus. Under the umbrella of this relationship, Airbus signed 10-year framework agreements with the NRC to facilitate the development of R&T activities covering subjects that range from manufacturing technologies to flight tests for environmental investigations. Related to this initiative, Airbus opened an office at the NRC's aerospace manufacturing research facility in Montreal in 2008.

Naval Group. In October 2014, Airbus and the Naval Group (formerly called DCNS) signed a cooperation agreement to develop a ship-based helicopter UAS capability. The partnership will focus on the TANAN vertical takeoff and landing (VTOL) tactical helicopter. Airbus will produce the entire certified unmanned aerial system, the vehicle with its payloads, the datalink, and the UAS control station. Naval Group will integrate the UAS on the ship and into its combat system.

In October 2016, the partners revealed the VSR700, developed by Airbus Helicopters as a possible future tactical component of France's Naval Aerial Drone (Système de Drones Aériens de la Marine - SDAM) program.

Navy Training Helicopter Replacement TH-XX. This was a U.S. Navy competition to replace the service's existing fleet of nearly 113 Bell TH-57 SeaRanger helicopters (the SeaRanger is a variant of the commercial Bell 206 JetRanger) currently used for training. In May 2018, Airbus announced it would offer the H135 for the replacement program. Competitors included Bell with a 407-based model and Leonardo with its TH-119, an AW119Kx variant. In

January 2020, the U.S. Navy selected Leonardo's TH-119 as its new training helicopter.

Next Generation Rotorcraft Capability. In October 2020, France, Germany, Greece, Italy, and the U.K. signed a letter of intent to develop Next Generation Rotorcraft Capability (NGRC) helicopters with a goal of getting them in service around 2035-2040. The primary goal of this effort is to develop a Eurocentric NGRC as a counter to the U.S. Future Vertical Lift effort. In January 2021, *FlightGlobal* reported that Airbus Helicopters is leading an effort to secure European Defence Fund support for a program it refers to as the European Next-Generation Rotorcraft (ENGR).

NGL Prime SpA. In February 2005, Airbus Defence and Space and Leonardo concluded a preliminary agreement to create a venture to manage the development and construction of future launch systems. The operation – dubbed NGL Prime SpA – is owned 70 percent by EADS (Airbus) and 30 percent by Leonardo. In June 2007, NGL Prime SpA signed two contracts with the European Space Agency regarding the definition of launcher system concepts for the European Next-Generation Launcher and the development of a European Intermediate Experimental Vehicle (IXV). The contracts have a combined value of EUR20.5 million.

NH Industries. Formed in 1992, NH Industries is the designer and manufacturer of the NH90 multirole military helicopter for NATO forces. The joint company is composed of Airbus Helicopters (62.5 percent), Leonardo Helicopters (32 percent), and Fokker Aerostructures (5.5 percent). Airbus Helicopters in France develops the cockpit, powerplant, rotors, tail gearbox, electrical system, flight control system, and core avionics system. Airbus Helicopters in Germany produces the front, center and rear fuselage modules; fuel system; communications system; display and control unit (BUS controller); and common mission systems, and handles integration of the tactical transport helicopter mission systems.

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

Norsk Titanium. In March 2010, Airbus entered into a cooperation agreement with Norsk Titanium Components (NTiC) covering the development of near-net-shape, plasma-based layer manufacturing technologies for aerospace, defense, and space applications.

OneWeb Satellites. In January 2016, OneWeb, which is building a global satellite communications system, and Airbus Defence and Space formed a new joint venture, OneWeb Satellites. The joint venture,

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equally owned by Airbus Defence and Space and OneWeb, will design and build the 900 satellites of the OneWeb constellation, which will offer high-speed Internet with global coverage.

Previously, in June 2015, OneWeb Ltd selected Airbus Defence and Space to be its industrial partner for the design and manufacture of its fleet of microsatellites. Initial production will comprise 900 satellites, each weighing less than 150 kilograms. They will be launched into low-Earth orbit to deliver affordable Internet access globally. The first 10 satellites will be designed and produced at Airbus Defence and Space's facilities in Toulouse, France. Full series production will take place at a dedicated plant located in the United States.

Website: <https://oneweb.world/>

Panavia. Panavia Aircraft GmbH, Hallbergmoos, Germany, is a consortium consisting of BAE Systems (42.5 percent), Airbus (42.5 percent), and Leonardo (15 percent). British production of the Panavia Tornado took place in Preston, Lancashire; German production in Munich; and Italian production in Turin.

Website: <https://www.panavia.de/>

Pawan Hans Helicopters. In March 2010, Airbus Helicopters and Pawan Hans Helicopters, the largest civil helicopter operator in India, announced a project to form two joint ventures for MRO and training. Under the terms of the first joint venture, Airbus Helicopters and Pawan Hans would set up an MRO facility in a key Indian metropolitan area to better serve the huge Dauphin fleet operating in India. In the second joint venture, a training center would be set up to support India's needs.

Polish Attack Helicopters. In November 2014, several competitors were announced for Poland's upcoming requirement – known as the Kruk attack helicopter project – for 30 attack helicopters to replace the Polish Army's fleet of aged Mil Mi-24s. News reports indicate that Airbus Helicopters, partnered with Heli Invest Services, will offer the Tiger. Reports also indicate that Turkish Aerospace Industries (TAI) will offer the T129 ATAK (probably in partnership with Leonardo); Boeing, the AH-64 Apache; and Bell Helicopter, the AH-1Z Viper.

In April 2016, Poland's Polska Grupa Zbrojeniowa (PGZ) and Airbus Helicopters held talks to identify potential areas of cooperation regarding the Tiger, if selected for the Kruk project.

Portuguese Cooperation. In August 2012, Airbus Defence and Space signed a cooperation agreement with Portugal's Ministry of Economy and various Portuguese

industrial companies in fulfillment of the commitments arising from the sale of a fleet of 12 C-295 aircraft for the Portuguese Air Force. The agreements confirm that assembly and production of the central part of the fuselage of the C-295 will remain with OGMA and that technical publications will be subcontracted to EMPORDEF-TI. GMV Portugal will develop an integrated modular avionics demonstrator and provide training courses for the Brazilian Air Force.

At the same time, an MoU was signed with Portuguese company Salvador Caetano. It includes three work packages and the provision of tools, mechanization, and composite materials, with both parties sharing the investment. This deal will introduce the Portuguese company to the aeronautical sector.

Rheinmetall Airborne Systems. In January 2012, Airbus Defence and Space and Rheinmetall agreed to fold Rheinmetall's UAS activities into a joint venture, dubbed Rheinmetall Airborne Systems GmbH. Airbus D&S (Cassidian) will hold 51 percent and Rheinmetall 49 percent of the shares in the joint venture. Through the venture, the firms will cooperate on tactical UASs, medium-altitude UASs, and cargo-loading systems.

Roketsan. In July 2016, Airbus Defence and Space and Roketsan Missiles Industries of Turkey signed an MoU to integrate a range of weapon systems on the Airbus C-295W surveillance and transport aircraft. The companies will collaborate on the design aspects, integration, and initial testing phases of a variety of weapons from Roketsan's existing product range.

SIAEC. In February 2016, Airbus and SIA Engineering Company signed an agreement to form a joint venture based in Singapore. The new company will provide airframe maintenance, cabin upgrade, and modification services for Airbus A380, A350, and A330 aircraft to airlines in the Asia-Pacific region. Under the agreement, SIAEC will hold a 65 percent equity stake in the joint venture, with Airbus holding the remaining 35 percent.

Siemens. In April 2016, Airbus and Siemens signed a collaboration agreement in the field of hybrid electric propulsion. The partnership launched a major joint project aimed toward the electrification of aviation with the goal of demonstrating the technical feasibility of various hybrid/electric propulsion systems by 2020. Both companies, together with Austria's Diamond Aircraft, initially presented a hybrid aircraft back in 2011. Since then, Siemens has been developing an electric engine for aircraft that supplies five times as much power while retaining the same weight.

Starsem. In July 1996, French and Russian government officials gave the nod to create a new

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company to market Soyuz space launches from the Baikonur Cosmodrome in Kazakhstan. Starsem is a 50-50 joint venture between French and Russian organizations. Airbus SE has a 35 percent stake in the company, and Arianespace, a provider of satellite launches, has a 15 percent share. The Russian Space Agency and the Samara State Research and Production Space Center (Samara TsSKB Progress) split Russia's 50 percent share equally. Starsem is registered in France and headquartered in Paris. Its primary aim is to offer Soyuz rockets for missions involving small payloads launched to low or medium orbits.

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

Swiss Fighter Competition. Under Switzerland's Air 2030 initiative, the country will evaluate 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 includes \$6.5 billion for 30-40 new aircraft and \$2 billion for a ground-based, air defense system. A downselection could occur in 2021.

In June 2019, the Gripen was pulled from the competition following a formal recommendation from the Swiss procurement agency. According to a Saab statement, the reason is that the flight tests were designed to evaluate only aircraft that were operationally ready in 2019.

This is the second competition to fulfill a Swiss requirement. Previously, the Saab Gripen E was selected in 2012 to replace the F-5. However, this decision was negated following a Swiss public referendum in 2014 that voted down the purchase. In September 2020, the current program narrowly passed a referendum, and it will move ahead.

Synertech. Formed in June 2005, this is a joint venture between Airbus Defence and Space, Tesat-Spacecom, and JSC Russian Space Systems. The venture markets satellite communication payloads, subsystems, equipment, and ground stations.

Tata. In October 2014, Airbus Defence and Space and Tata Advanced Systems submitted a joint bid to replace the Indian Air Force's fleet of Avro aircraft with the Airbus C-295 medium transport. A total of 56 Avro aircraft are to be replaced. If the team wins, Airbus Defence and Space will supply the first 16 aircraft in "fly-away" condition from its factory. The subsequent 40 aircraft will be manufactured and assembled by Tata Advanced Systems in India. In-country flight trials

were completed in August 2016. Several steps still need to be taken as part of India's byzantine defense procurement system before a formal contract is signed.

Team Maier. In October 2020, Airbus formed Team Maier to pursue Joint Project (JP) 9102, which aims to provide Australia with a complete Defence Satellite Communications System. Team Maier will partner with key Australian space and technology companies and academia.

Airbus has launched its call on the supplier database ICN Gateway at <https://gateway.icn.org.au/project/4552/airbus-space>, which details the range of key technologies, specialist skills, and manufacturing capabilities that it is looking to source from Australia as part of its program.

Telespazio. In September 2019, Airbus and Telespazio (a Leonardo/Thales joint venture) set up a partnership to market military telecommunications services using the future Syracuse IV satellites. According to the company, this partnership will lead to the creation of France's leading private operator of military satellite telecommunications. With this partnership, Airbus and Telespazio will be able to sell Syracuse IV satellite capacity and various high-added-value services such as anchor capacity (connection of satellite communications to the ground networks of third-party customers), end-to-end services with capacity and throughput guarantees, and engineering and maintenance services.

Telum. In February 2013, Airbus Defence and Space signed an agreement with Russian company Telum, a spin-off of the Kharkevich Institute for Information Transmission Problems, to collaborate on the development of long-term evolution equipment for public safety and disaster relief operations. Funding for this project is being provided by Russia's high-technology hub Skolkovo, Airbus Defence and Space, and the Airbus Innovation Nursery. Airbus Defence and Space and Telum would cooperate to produce a prototype device offering broadband capabilities to pedestrian users of public safety networks.

Thai Airways International. In February 2013, Airbus and Thai Airways International signed an agreement to develop a long-term strategic partnership in the area of maintenance training. As part of this collaboration, Thai would become Airbus' local maintenance training center in the region and would initially provide training in maintenance of the A320 and A330. This partnership, based in Bangkok, aims to develop local training capabilities.

Thales. In February 2021, the French DGA awarded Thales and Airbus a contract for the new joint tactical

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signals intelligence (SIGINT) system to upgrade the French forces' signals monitoring, direction finding, and spectrum analysis capabilities. The 10-year contract will equip the three armed forces with a common information system and set of sensors. It is designated a high-impact program, alongside CONTACT and SCORPION, under France's defense spending plan. This joint tactical SIGINT system will provide French armed forces command with an expanded tactical electronic support measures (ESM) capability. Thales will draw on its SIGINT expertise, while Airbus will provide its expertise in strategic ELINT systems.

Tianjin Free Trade Zone. In August 2012, Airbus Helicopters and China's Tianjin Free Trade Zone inked an MoU to explore the creation of a completion and customization center for Airbus Helicopters' Ecureuil family of light helicopters in Tianjin through a joint venture. The TFTZ is also a partner of Airbus on its Tianjin-based A320 final assembly line.

TsAGI. In September 2013, Airbus and Russia's Central Aerohydrodynamic Institute (TsAGI) created a new joint venture focused on nondestructive testing techniques. The 50-50 company's goal is to bring specialized software products to market for the inspection of composites during their manufacture and, when in service, on aircraft, wind turbines, automobiles, boats, and additional applications. These software products will use a quantitative physics-based approach for nondestructive testing that decreases the time and cost of inspections. TsAGI is responsible for the

Russia/CIS markets, and Airbus will oversee the remaining worldwide regions through its wholly owned subsidiary Testia Holding.

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

Turkish Aerospace Industries. In June 2011, Airbus signed an industrial cooperation agreement with Turkish Aerospace Industries to boost the exploration of collaborative opportunities, including those involving UAV programs. This follows an agreement signed in May 2011 for cooperation between Airbus Defence and Space and TAI in the Talarion program. Talarion is the European program for a next-generation MALE unmanned aircraft system.

U.K. Search and Rescue Aviation Program. In March 2021, Airbus teamed with Draken Europe to address the U.K. Maritime Coastguard Agency's (MCA) requirement for the Second Generation Search and Rescue (UKSAR2G) service.

Website:

<https://www.gov.uk/government/publications/second-generation-uk-search-and-rescue-aviation-programme-uksar2g>

United Monolithic Semiconductors. This joint venture between Thales and Airbus was created in 1996 as a European source for RF, microwave, and millimeter-wave components, as well as integrated circuits.

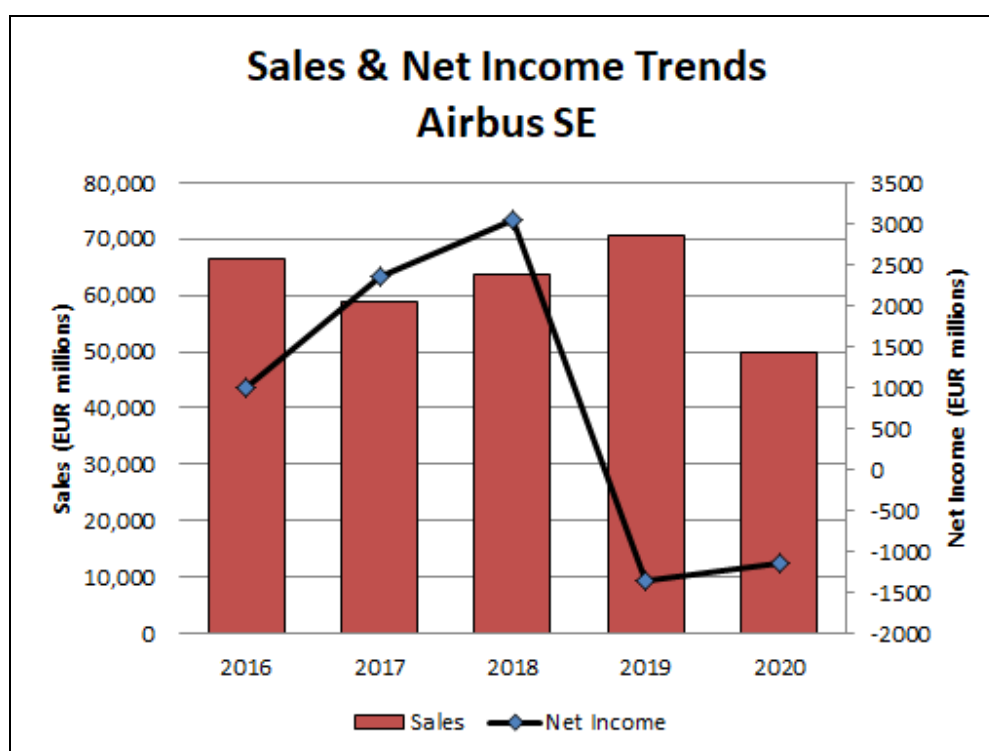
Website: <https://www.ums-rf.com/>

Financial Results/Corporate Statistics

For 2020, Airbus reported consolidated revenue of EUR49.9 billion, down 29 percent from sales of EUR70.5 billion in 2019. Net loss for the year was EUR1.1 billion, compared to a net loss of \$1.4 billion in 2019. The 2020 loss was due to the impact of the COVID-19 pandemic and related restructuring. The loss in 2019 was due to a variety of charges totaling EUR5.6 billion, which included EUR3.6 billion related to the settlement of corruption probes and EUR1.2 billion related to A400M issues. The figures for 2017 were restated to reflect the adoption of the IFRS 15 accounting standard and new segment reporting as of January 1, 2018. The lower income in 2016 is attributed to a EUR2.2 billion charge for A400M program delays taken during the year. Latest-year statistics, restated to the company's current presentation, are as follows. The U.S. dollar figures are in millions and were translated as of December 31, 2020, at the rate of EUR1 = USD1.22824.

Airbus**Airbus SE (PARIS: AIR)**

(EUR millions)	2016	2017	2018	2019	2020	(USD) 2020
Net Sales	66,581	59,022	63,707	70,478	49,912	61,304
Net Income	995	2,361	3,054	-1,362	-1,133	1,392
Defense Sales	11,102	9,815	9,903	10,085	10,517	12,917
Defense Sales %	17%	15%	15%	14%	21%	-
R&D Expenditures	2,970	2,807	3,217	3,358	2,858	3,510
Backlog (Order Book)	1,060,447	998,962	459,525	471,488	373,127	458,291
Long-Term Debt	8,791	8,984	7,463	8,189	14,082	17,296
Total Equity	3,657	10,742	9,719	5,990	6,456	7,230
Debt-to-Equity Ratio	2.40	.83	.76	1.36	2.18	-
Employees	133,782	129,442	133,671	134,931	131,349	-

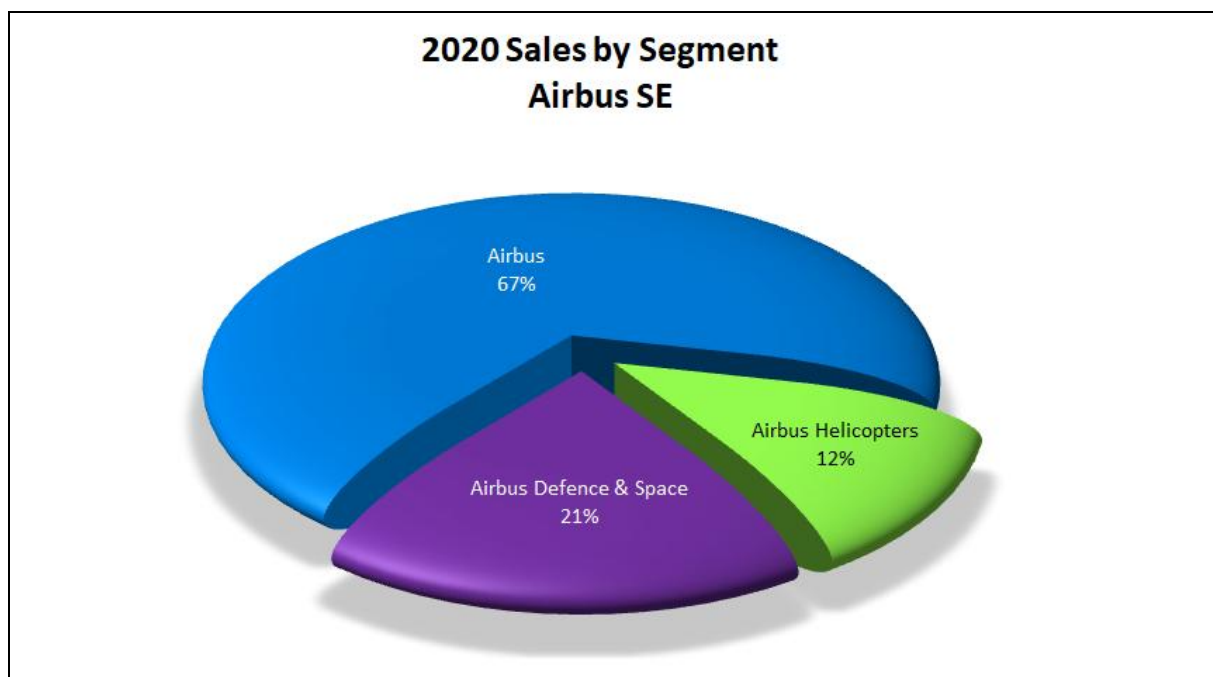
**Industry Segments**

The following is a breakdown of Airbus SE's sales and operating income by division for the past five years.

SALES	2016	2017	2018	2019	2020
(EUR millions)					
Airbus	49,237	43,486	47,970	54,775	34,250
Airbus Helicopters	6,652	6,335	5,934	6,007	6,251
Airbus Defence and Space	11,854	10,596	11,063	10,907	10,446
Other/HQ/Eliminations	-1,162	-1,395	-1,260	-1,211	-1,035
TOTAL	66,581	59,022	63,707	70,478	49,912

Airbus

OPERATING INCOME	2016	2017	2018	2019	2020
(EUR millions)					
Airbus	1,543	2,257	4,295	2,205	-1,330
Airbus Helicopters	308	247	366	414	455
Airbus Defence and Space	-93	462	676	-881	408
Other/HQ/Eliminations	500	-301	-289	-399	-43
TOTAL	2,258	2,665	5,048	1,339	-510

**Segment Details**

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

AIRBUS	2016	2017	2018	2019	2020
(EUR millions)					
Net Sales	49,237	43,486	47,970	54,775	34,250
<i>Platforms</i>	95%	94%	94%	94%	93%
<i>Services</i>	5%	6%	6%	6%	7%
Operating Income	1,543	2,257	4,295	2,205	-1,330
R&D Expenditures	2,147	1,842	2,214	2,816	2,436
Order Intake	114,938	-	41,519	65,769	16,089
Backlog (Order Book)	1,010,200	-	411,659	424,082	324,675
<i>Order Intake (units)</i>	-	1,109	747	768	268
<i>Deliveries (units)</i>	688	718	800	863	566
<i>Backlog (units)</i>	6,874	7,265	7,577	7,482	7,184
Employees	73,852	77,163	80,924	80,985	78,487

Airbus

AIRBUS HELICOPTERS	2016	2017	2018	2019	2020
(EUR millions)					
Net Sales	6,652	6,335	5,934	6,007	6,251
<i>Platforms</i>	53%	56%	59%	57%	57%
<i>Services</i>	47%	44%	41%	43%	43%
Operating Income	308	247	366	414	455
R&D Expenditures	327	306	315	291	273
Order Intake	-	-	6,339	7,179	5,519
Backlog (Order Book)	11,269	-	14,943	16,627	15,782
<i>Order Intake (units)</i>	-	335	381	310	268
<i>Deliveries (units)</i>	418	409	356	332	300
<i>Backlog (units)</i>	766	692	717	695	663
Employees	22,507	20,108	19,745	20,024	20,026
AIRBUS DEFENCE AND SPACE	2016	2017	2018	2019	2020
(EUR millions)					
Net Sales	11,854	10,596	11,063	10,907	10,446
<i>Military Aircraft</i>	42%	49%	52%	51%	56%
<i>Space Systems</i>	31%	29%	27%	26%	24%
<i>Connected Intelligence & Others</i>	27%	22%	21%	23%	20%
Operating Income	-93	462	676	-881	408
R&D Expenditures	332	322	328	302	225
Backlog (Order Book)	41,499	-	35,316	32,263	33,505
Employees	34,397	32,171	33,002	33,922	32,836
GEOGRAPHIC SALES	2016	2017	2018	2019	2020
(EUR millions)					
Asia-Pacific	21,266	21,319	23,297	22,625	13,087
Europe	21,377	15,767	17,780	22,591	20,325
North America	8,931	10,836	11,144	12,036	8,688
Middle East	8,464	7,211	6,379	7,053	3,123
Latin America	4,925	894	1,437	1,851	983
Rest of World	1,618	2,995	3,670	4,322	3,706
TOTAL	66,581	59,022	63,707	70,478	49,912

Source: Airbus Annual Presentations and Annual Reports

Helicopter Deliveries

Airbus Helicopters delivered 300 rotorcraft in 2020, down almost 9.6 percent from 332 deliveries in 2019.

Airbus Helicopters recorded 268 net orders in 2020 (2019: 310 units).

AIRBUS HELICOPTER	2015	2016	2017	2018	2019	2020
Tiger	16	19	17	9	4	N/A
Light	178	177	166	156	159	N/A
Medium	124	165	178	137	122	N/A
Heavy	77	57	48	54	47	N/A
<i>of which NH90</i>	35	38	40	36	32	N/A

Airbus

Defence and Space Deliveries

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

AIRBUS DEFENCE AND SPACE	2015	2016	2017	2018	2019	2020
A400M	11	17	19	17	14	9
A330 MRTT	4	2	1	6	7	N/A
Light & Medium Aircraft	19	14	7	6	8	N/A
Telecom Satellites	5	1	4	2	2	N/A

N/A = Not Available.

Commercial Aircraft Orders and Deliveries

The following are details of Airbus' major aircraft orders and deliveries for the last five years.

AIRCRAFT ORDERS	2015	2016	2017	2018	2019	2020
A220*	-	-	-	135	118	64
A318	1	0	0	0	0	0
A319*	3	5	8	27	2	47
A320*	633	540	646	412	304	97
A321*	329	245	506	138	490	152
A330*	154	106	25	37	104	2
A350*	16	51	44	62	113	21
A380	3	2	0	20	0	0
Cancellations	-103	-218	-120	-84	-363	-115
TOTAL	1,036	731	1,109	747	768	268
AIRCRAFT DELIVERIES	2015	2016	2017	2018	2019	2020
A220*	-	-	-	20	48	38
A318	1	0	0	0	0	0
A319*	24	4	10	8	6	3
A320*	282	319	345	417	430	256
A321*	184	222	203	201	206	187
A330*	103	66	67	49	53	19
A350*	14	49	78	93	112	59
A380	27	28	15	12	8	4
TOTAL	635	688	718	800	863	566

* All models included.

Airbus**Total Orders and Deliveries**

Data for Airbus' orders, deliveries, and in-operation aircraft through the end of 2020 is shown below. Note that the A220 data is for transactions that occurred after Airbus acquired the CSeries program from Bombardier; backlog data in preceding charts is for all unfilled orders.

AIRCRAFT MODEL	Orders	Deliveries	In Operation
A220-100	90	47	47
A220-300	540	96	96
A318	80	80	63
A319	1,486	1,482	1,401
A319neo	78	2	2
A320	4,770	4,752	4,361
A320neo	3,910	1,147	1,147
A321	1,791	1,762	1,717
A321neo	3,463	468	469
A300	561	561	232
A310	255	255	57
A330*	1,809	1,511	1,436
A340*	377	377	223
A350*	915	406	405
A380	251	246	243
TOTAL	20,376	13,192	11,899

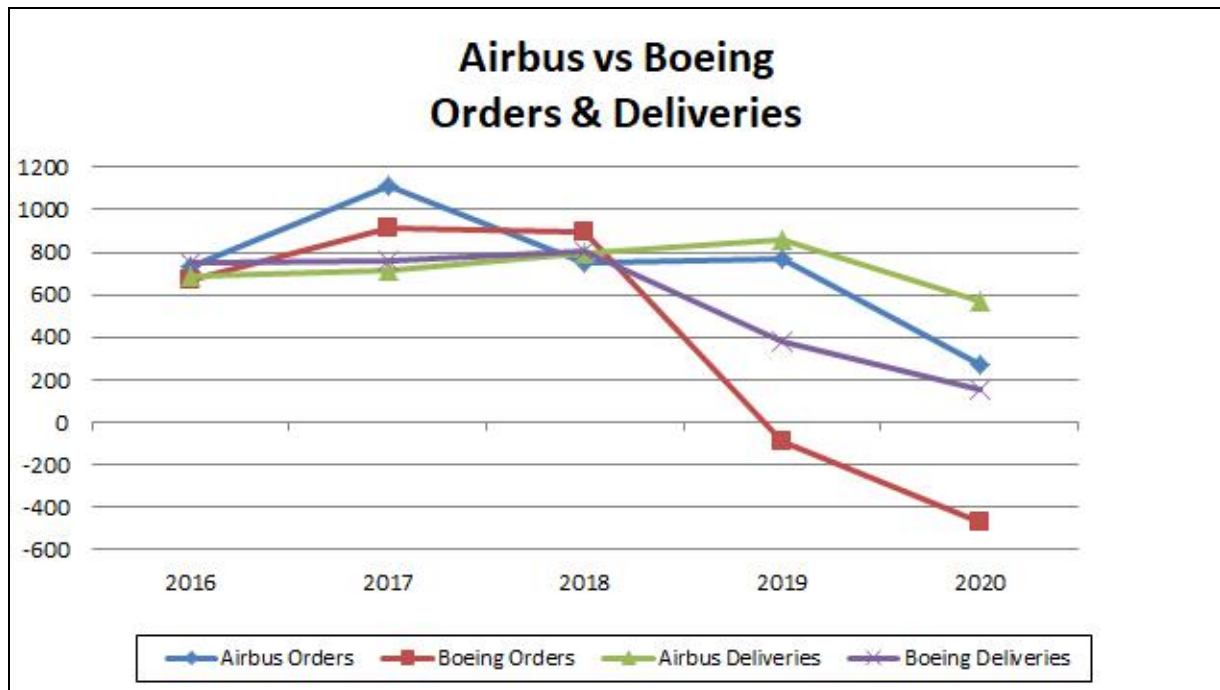
* All models included.

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
Airbus	731	1,109	747	768	268
Boeing	668	912	893	-87	-471
DELIVERIES	2016	2017	2018	2019	2020
Airbus	688	718	800	863	566
Boeing	748	763	806	380	157

Airbus



Sources:

Airbus orders and deliveries - <https://www.airbus.com/aircraft/market/orders-deliveries.html>

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

Major Competitors

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

In defense and space markets, the company faces competition from AVIC, BAE Systems, Boeing, Dassault Aviation, General Dynamics, Kawasaki Heavy Industries, Leonardo, Lockheed Martin, Northrop Grumman, Raytheon, Safran, Thales, and UAC.

In helicopter markets, competitors include Boeing, Bell, Leonardo, Russian Helicopters, and Sikorsky.

Strategic Outlook

As the world begins to emerge from the worst of the COVID-19 pandemic, the commercial aerospace industry is dealing with rebuilding in the aftermath.

The worst of the financial damage caused by the pandemic is in all likelihood over. It is expected that Airbus' financial figures will keep improving in 2021 and beyond as the company gradually ramps up commercial aircraft deliveries.

In 2020, Airbus delivered 566 aircraft and won the deliveries crown over rival Boeing for the second year in a row. The company also won the orders crown for the second year in a row with 268 net new orders (383 gross orders less 115 cancellations). At year-end 2020, Airbus reported a backlog of 7,184 jets, of which 6,372, or 89 percent, were A220 and A320ceo/neo

family narrowbodies. This is 541 aircraft below the company's all-time backlog record of 7,725 aircraft set a year ago.

Much of Airbus' recent success can be attributed to narrowbody airliners such as the A320neo and its most recent addition, the A220. Designed by Bombardier, the A220 was formerly known as the CSeries, but the airliner has been rebranded now that it is under the auspices of Airbus Canada – an Airbus-led joint venture with the government of Quebec following Bombardier's divestment of its stake in early 2020. Adding the CSeries to its product line has cost Airbus little in sales, and it expands the company's offerings down into the 100-130-seat range of the regional jet market.

Airbus

Prior to COVID-19, Airbus was targeting a 5 percent A320 rate increase to 63 jets per month from 2021 and was discussing a further ramp-up with its supply chain that could have brought the production rate up to as high as 67 aircraft per month – or 804 per year – by 2023. This would have put the company within reach of a total of 1,000 jet deliveries per year. Those plans have now been shelved.

Instead, Airbus has cut production on several programs and is looking to hold underlying jet output at 40 percent below prepandemic plans for two years.

The A320 production rate has been reduced to 40 aircraft per month, down from an average of over 53 aircraft per month in 2019. Recently, however, Airbus confirmed that the company is considering an increase to 43 A320neo jets in the third quarter and 45 in fourth quarter of 2021.

Widebody production of the A330 and A350 will stay at two and five per month, respectively. The company has pushed back a previously planned rate increase of the A350 to a later date.

No rate cut was announced for the A220. Instead, production is expected to increase from four to five aircraft per month in early 2021.

No cuts were announced for A380. With only five A380s in backlog, the end of the A380 program draws near, with the last aircraft slated for delivery in May 2022.

While production has been adjusted downward, the company expects to supply the same number of commercial aircraft deliveries in 2021 as it did in 2020, 566 units. As it stands, Airbus will likely retain the deliveries crown for years to come due to the company's comfortable backlog lead over Boeing, which holds orders for 4,997 aircraft. Prior to 2019, Boeing had out-delivered Airbus every year since 2012.

On a personnel level, Airbus was able to reduce the amount of job cuts thanks to government support. Originally, the plan was to slash some 15,000 jobs (5,000 in France, 5,100 in Germany, 900 in Spain, 1,700

in the U.K., and 1,300 elsewhere) as it deals with the coronavirus crisis. The current target appears to be around 13,600, with 6,100 positions eliminated so far. The company anticipates 7,500 cuts to come. The company said it is undertaking this action as air traffic is not expected to recover to pre-COVID-19 levels before 2023 and potentially as late as 2025.

Defense Looking to NextGen Programs

On the defense side of the ledger, Airbus is counting on the continued support of developmental programs. The company, along with partner Dassault Aviation, is a key contractor on Europe's proposed Future Combat Air System (FCAS), which is slated to complement and eventually replace current-generation Eurofighter and Rafale fighter aircraft between 2035 and 2040. The program took another step forward in 2020 when France and Germany awarded the Phase 1A contract, which launches the demonstrator phase for the FCAS.

Industry officials have stressed the importance of the program in maintaining an indigenous military aircraft production capability. Phase 1B, which will require an estimated EUR1 billion investment, is expected to face some painful politicking in light of current economic conditions. However, fears of a resurgent Russia may be enough of an impetus to keep it moving along.

Airbus is also looking to future rotorcraft requirements as it seeks to remain competitive with U.S. manufacturers. In October 2020, France, Germany, Greece, Italy, and the U.K. signed a letter of intent to develop Next Generation Rotorcraft Capability (NGRC) helicopters with a goal of getting them in service around 2035-2040. The primary goal of this effort is to develop a Eurocentric NGRC as a counter to the U.S. Future Vertical Lift effort. In January 2021, *FlightGlobal* reported that Airbus Helicopters is leading an effort to secure European Defence Fund support for a program it refers to as the European Next-Generation Rotorcraft (ENGR).

Further, in light of the COVID-19 crisis, governments have found it easier to invest stimulus in defense programs in order to keep job cuts to a minimum.

Prime Award Summary

Airbus did not rank in the Federal Procurement Data System - Next Generation (www.fpds.gov) Top 100 Contractors Report. Information on the company's U.S. Federal contracting can be sourced from the database of www.USAspending.gov – the official U.S. government source for data on federal awards. Individual contract awards are listed in the **U.S. Contract Awards** section of this report (below).

Airbus

Program Activity

The following are Airbus' business interests:

- Aircraft
- Civil and Military Fixed-Wing Aircraft
- Civil and Military Helicopters
- Defense Electronics
- Missiles
- Space Systems
- Unmanned Vehicles

Aircraft Programs

(Civil Aircraft)

Airbus A220

The A220 is short- to medium-range airliner in 110- and 160-seat configurations. After taking control of the program in 2018, Airbus immediately rebadged the CSeries family to fit seamlessly within the Airbus product line. The 110-seat CS100 became the A220-100, and the 135-160 seat CS300, the A220-300. Airbus now markets it like any other Airbus product. Airbus' involvement in the program is improving demand for the aircraft.

Airbus A300

The A300 was one of three aircraft originally designed for the high-capacity, short/medium-haul airline markets developing in the late 1960s. The other two were the Lockheed L-1011 and Douglas DC-10. The first true twin-engine widebody airliner has since been developed into a long-range aircraft embodied in the current A300-600R. The A300 was originally a German/French/British program with Rolls-Royce intended to develop the high-powered RB207 turbofan engine. In 1968, however, the consortium reduced the size and capacity of the aircraft and dropped the RB207s in favor of either RB211s or powerplants from the United States. The resulting design was designated A300B, and the term "airbus" was coined, which would later be capitalized in the consortium's new name. Shortly thereafter, the United Kingdom dropped out of the program, which continued as a Franco-German effort until 1979, when the British rejoined. This long-running program ended in 2007 with 561 aircraft produced.

Airbus A310

The A310 was a direct spin-off of the A300 and was originally known as the B10 variant of the A300 when introduced in the early 1970s. Although closely related to the A300, the A310 represented a scaling down of its stablemate. The fuselage was shortened by 13 frames and typically seated about 210 in a mixed-class layout,

although as many as 245 could be accommodated. The major design change was an all-new wing. Over the life of the A310 program, a total of 255 aircraft were built.

Airbus A318

This is a twin-turbofan-powered, short/medium-range narrowbody transport. The aircraft is powered by two Pratt & Whitney PW6000 engines. In November 2005, Airbus introduced the A318 Elite, a new member of the Airbus Corporate Jetliner family. In May 2011, this aircraft was renamed the ACJ318.

Airbus A319/320/321

First proposed in 1981, the A320 is a twin-turbofan-powered, narrowbody commercial passenger transport aircraft. The baseline A320 model has spawned the lengthened A321 derivative (1993) and the shortened A319 (1996). More recently, the A320neo re-engining program, launched in December 2010, has proved immensely popular, pushing the company's backlog to record levels. The contest between the A320 family and Boeing's 737 series has become a classic competition, with each side swapping the lead in annual sales and deliveries. The A320 is in such demand that Airbus opened an assembly plant in China and a final assembly facility in Mobile, Alabama.

A321LR. Long-range version of the A321neo model that is designed to replace Boeing 757s flying long, thin routes. It features a third auxiliary center fuel tank to increase range to 4,000 nautical miles (7,408 km) with 206 passengers aboard. The additional center fuel tank has one drawback: belly cargo capacity drops substantially, meaning operators have to forgo the cargo revenue generated by the standard A321 models. MTOW is increased to 97 tonnes (213,846 lb). This variant achieved FAA and European certification in October 2018.

A321XLR. Launched at the 2019 Paris Air Show, this variant offers a range of up to 4,700 nautical miles, allowing operators to fly longer transatlantic routes with narrowbody aircraft. Airbus says the range increase would result from increasing the capacity of the A321LR's center fuel tank.

Airbus A330

The Airbus A330 is a twin-engine, twin-aisle widebody aircraft. Featuring Airbus-developed digital fly-by-wire flight controls, the A330 was designed to replace first-generation widebodies – the A300, Douglas DC-10-10, and Lockheed L-1011 – while providing capacity growth for the high-density regional markets of the Pacific Rim, South Asia, Europe, and North

Airbus

America. The baseline A330-300 was followed by the A330-200 – a longer-range variant seating around 250 passengers in a two-class layout – that Airbus launched in 1995. The aircraft has sold well and has competed strongly against Boeing's 767. Deliveries of the new freighter variant, the A330-200F, began in 2010.

Airbus A330neo. At the 2014 Farnborough International Air Show, Airbus announced plans to upgrade its A330 with new engines aimed at increasing fuel efficiency by 14 percent. The new model of the dual-aisle, twin-engine widebody jetliner will be designated A330neo. In addition to the new Rolls-Royce Trent 7000 engines, the A330neo will feature incremental innovations, including aerodynamic enhancements such as new A350 XWB-inspired winglets, an increased wingspan, and new engine pylons. Two versions will be offered initially: the A330-800neo and the A330-900neo. These new aircraft are aimed at competing with Boeing's 787. Air Lease Corp became the launch customer, with an order for 25 A330-900neos. First flight occurred in October 2017. Airbus plans to completely transition to the A330neo model.

Airbus A340

This was a very long-range, four-engine, advanced-technology, widebody commercial transport aircraft. The aircraft was specifically designed to replace long-range, low-capacity Douglas DC-8s and some intercontinental-range L-1011s and DC-10s on the so-called long/thin routes where passenger densities do not justify use of the Boeing 747. However, the A340 had difficulty competing with the 777, particularly with regard to operating costs, which led to lower sales. In late 2011, Airbus announced that it had terminated production of the A340. Airbus is now looking to larger variants of the all-new A350 XWB widebody to take market share away from the 777.

Airbus A350 XWB

In December 2006, Airbus was given the go-ahead from its parent company EADS for launch of the A350 XWB family – a new medium-capacity, long-range line with an extra-wide body. Airbus said that the decision was based on strong market demand and customer backing. The A350 XWB is available in three basic passenger versions: the A350-800, which can fly 270 passengers in a spacious three-class configuration up to 15,750 kilometers (8,500 nm); the A350-900, which seats 314 people; and the A350-1000, which is designed for 350 passengers. Both the -900 and -1000 have ranges of up to 15,400 kilometers (8,300 nm). All three versions have a cruise speed of Mach 0.85. Besides the basic passenger model, the -900 is also available in two other versions: an ultra-long-range model called the

A350-900R and a freighter version dubbed the A350-900F.

Airbus A380

The A380 is a four-engine, intercontinental-range, widebody commercial transport aircraft. Typical passenger seating for this "super jumbo" is 525 in a three-class layout. One customer, Air Austral, ordered two aircraft with seating for 826 passengers in a single-class layout. The aircraft (formerly called the A3XX) was officially launched in December 2000. First metal was cut on the A380 in March 2002. The maiden flight occurred in April 2005, with the first production aircraft entering service early in 2006. The A380 is now a niche product, with its primary markets in Asia, the Middle East, and Europe. In February 2019, after years of weak sales, Airbus announced plans to terminate production of the A380 in 2021.

ATR Series

This is a series of twin-engine regional/commuter transport aircraft developed and manufactured by Avions de Transport Regional, a joint venture of Airbus and Leonardo. Military missions include maritime patrol and special mission applications. Production is ongoing; ATR delivered 478 ATR 42s and 1,105 ATR 72s through September 2020.

Electric Aircraft

In April 2014, Airbus announced plans to enter the light aircraft market with two electric-powered general aviation and training aircraft. The E-Fan 2.0 and 4.0 aircraft will be produced in a new factory at Bordeaux's Merignac Airport in France. Airbus leads the program with the development of an electric-powered light aircraft prototype called the E-Fan as a follow-on to its electric-powered Cri-Cri research aircraft, which has flown at a number of trade shows since 2010. The effort has been branded VoltAir. It is part of a wider plan to diversify the aviation industry in Bordeaux and the region of Aquitaine away from defense.

(Military Aircraft)

Airbus A330 MRTT

Also known as the KC-30, this is a twin-engine, aerial tanker variant of the commercial A330-200 transport. In 2004, the aircraft was selected to fulfill the U.K.'s need for a Multi-Role Tanker Transport under the Future Strategic Transport Aircraft program. Production is ongoing to fill outstanding orders for the U.K.'s AirTanker program, and Airbus Defence and Space is working on a second order from Saudi Arabia for three aircraft. Singapore ordered six MRTTs in March 2014. In June 2015, South Korea selected the A330 MRTT over Boeing's KC-46A for its aerial refueling requirement. Under the \$1.33 billion contract,

Airbus

Airbus Defence and Space would supply four A330 MRTTs to the South Korean Air Force by 2019. The Netherlands and Luxembourg agreed to buy two MRTTs in July 2016 as part of the Multinational MRTT Fleet (MMF) initiative to build a joint NATO tanker / transport capability. The first NATO MRTT was delivered in June 2020. Forty-five A330 MRTTs delivered through August 2020.

Airbus A400M

The A400M, formerly known as the Future Large Aircraft (FLA), is an advanced-technology, multiengine military tactical transport aircraft. The A400M was originally designed as a replacement for the Lockheed C-130 and Transall C-160 tactical transports. Additional applications include aerial refueling, reconnaissance, airborne early warning, and maritime patrol. Airbus Defence and Space is the lead contractor. The long-delayed first flight of the A400M occurred in December 2009.

In February 2018, Airbus signed a Declaration of Intent (DoI) with the A400M launch customer nations (Belgium, France, Germany, Luxemburg, Spain, Turkey, and the U.K.) to cap its exposure to fines and payment delays. According to reports, the buyers have accepted several contractual changes, including a revamped delivery plan for the A400M and a new schedule for development and completion of military capabilities.

Airbus delivered 95 A400Ms through 2020, out of the 174 aircraft that had so far been ordered by customers. Airbus issued a revised production schedule in 2018 for the A400M, calling for eight of the aircraft to be produced each year from 2020 onward for the program's seven launch customer nations. Production for the launch customers is slated to wrap up in 2030.

Airbus/IAe C-212

The C-212 is an unpressurized, 25- to 28-passenger, twin-turboprop regional/commuter and utility transport aircraft. Production of the C-212-300 and C-212-400 is ongoing. In early 2006, Airbus agreed to move final assembly of the C-212-400 to Indonesian Aerospace's facility. The C-212 is currently produced solely by IAe at its facilities in Bandung. Production of the aircraft in Spain by Airbus ended in 2012. Airbus and IAe launched a joint effort in 2012 to develop an improved version of the C-212, called the NC212i.

Deliveries of the NC212i got underway in May 2018, when two examples of the new model were delivered to the Vietnamese Air Force from an order for three of the type. The service's third aircraft followed in early June. Later that month, the Philippine Air Force took delivery of two NC212i aircraft. IAe had hoped to build up to

six NC212i aircraft per year, but forecasts point to only two per year at best.

Airbus/IAe CN-235/C-295

These are pressurized, twin-turboprop military transport and regional passenger aircraft. The CN-235 was originally sponsored by CASA and IPTN (now Indonesian Aerospace), with support from the respective governments. The partnership has since dissolved. The C-295 is a private venture of Airbus Defence and Space. However, Indonesian Aerospace is licensed to produce the CN-235 in Asia. This arrangement expanded under a new deal announced in February 2012. The Indonesian Air Force ordered nine C-295s at the same time that Airbus and IAe entered into a new industrial cooperation pact to allow IAe to build some of these aircraft in Indonesia. The pact also allows IAe to build the C-295 for other customers in the Asia-Pacific region.

Canada ordered 16 aircraft in December 2016 to replace its fleet of 40-year-old Buffalo transports. The \$2.4 billion contract covers delivery of the aircraft between 2019 and 2022.

Airbus had a backlog of 33 firm orders by the end of October 2020, including orders from Burkina Faso, Canada, the Czech Republic, Ireland, Thailand, and the United Arab Emirates.

Airbus PZL-106 BT Turbo Kruk

This turboprop version of the PZL-106 Kruk piston-engined agricultural aircraft made its initial flight in September 1985. Compared to the piston aircraft, the turboprop model has a 4.2-foot greater wingspan. Hopper capacity is 396 U.S. gallons.

Airbus PZL-130 Orlik

This single-turboprop, tandem-seat military training aircraft was developed from the piston-powered Orlik. Design work began in 1985 with the cooperation of Airtech Canada, which converted the third piston-powered Orlik prototype to Pratt & Whitney Canada PT6A-25A power. Major changes were made to the landing gear, avionics, and instrumentation, while the pneumatic system was replaced by a single high-pressure hydraulic system. Initial deliveries to the Polish Air Force were made in October 1992 and consisted of two PZL-130TMs, which were actually re-engined aircraft that had originally been piston-powered.

Eurofighter Typhoon

This is an advanced-technology, twin-engine, air superiority combat fighter aircraft developed by Eurofighter Jagdflugzeug GmbH, Munich, Germany, a consortium formed in 1986 to manage the European

Airbus

Fighter Aircraft program. The initial EFA project definition was carried out in Munich. In December 1997, the go-ahead for production was signed by the partner countries.

The four partner nations that developed the Eurofighter – Germany, Italy, Spain, and the U.K. – ordered 472 aircraft. The Eurofighter consortium completed deliveries of almost all of the aircraft the four partner nations ordered under the original umbrella contract in 2020. The consortium is now working on export orders. Export customers to date include Saudi Arabia (72), Kuwait (28), Qatar (24), and Oman (12). Through November 2020, the Eurofighter Consortium delivered seven EF Typhoon prototypes and approximately 571 production aircraft.

Panavia Tornado

This is a twin-engine, two-seat, high-performance, all-weather, multirole strike and air combat fighter. Production was completed in 1998. A total of 992 aircraft, including 12 prototypes and six pre-series aircraft, were produced. A number of modification programs are underway.

Rotorcraft Programs

HForce

HForce is an incremental, modular weapon management system that can be fitted onto any military version of Airbus Helicopters' commercial range (H125M, H145M, H225M). HForce is designed to meet the requirements of defense agencies seeking light attack mission capabilities or a complement to their existing fleet of specialized attack helicopters.

Website:

<https://www.airbus.com/helicopters/military-helicopters/hforce.html>

(Medium/Heavy Turbine Rotorcraft)

Airbus Helicopters H175

This is a twin-turbine-powered, 7.8-metric-ton, civil multirole helicopter. Several H175 versions are available, including an oil and gas variant, a VIP model, and a public services version. In December 2005, Airbus Helicopters and Avicopter signed a cooperation agreement covering development of the H175 (formerly EC 175). Airbus Helicopters is acting as the technical leader of the H175 project, retaining control over development of the aircraft. It is also responsible for the helicopter's main gearbox, tail rotor, avionics, autopilot, electrical and hydraulic systems, doors, and transparencies. Chinese firms are responsible for the

helicopter's structure, main rotor, powerplant, fuel system, flight controls, landing gear, and intermediate and tail gearboxes. The Pratt & Whitney Canada PT6C-67 was selected as the engine for the H175.

Two final assembly lines were established: one at Airbus Helicopters in Marignane, France, and the other at Avicopter in Harbin, China. Initially called the Z-15, the Chinese version is now known as the AC352. AC352s built by Avicopter will be for customers in China and, according to Airbus Helicopters, "countries within the Chinese sphere of influence." Airbus Helicopters will build H175s for the rest of the world. First flight occurred in December 2009.

Airbus Helicopters H215/H225

These are twin-engine military and commercial medium-lift transport and special-purpose helicopters, also known as the Super Puma/Cougar series. Military roles include troop transport, assault, cargo, medevac, search-and-rescue, anti-submarine warfare, and anti-surface operations. Commercial applications include resource development/offshore oil and gas field support, passenger shuttle operations, and general cargo transportation. Sales and marketing are performed by Airbus Helicopters International, Paris. Deliveries of the H225 are underway. The H225M (formerly EC 725) is a candidate to fill a number of military rotorcraft requirements around the world, and will often be competing with such aircraft as the Leonardo EH101, NH Industries NH90, and Sikorsky H-92.

NH Industries NH90

This is a medium-lift troop transport and anti-submarine warfare helicopter with potential commercial applications. NH Industries – a joint venture of Airbus Helicopters, Leonardo, and Fokker – produces the aircraft. Production shares in the NH90 program are currently as follows: Airbus Helicopters, 62.5 percent; Leonardo, 32 percent; and Fokker, 5.5 percent. Deliveries of the NH90 finally got underway in December 2006 when three were delivered to the German Army. Production is ongoing. The NH90 is a potential candidate for a number of upcoming helicopter acquisitions worldwide.

In November 2020, the German Bundeswehr ordered 31 NH90 helicopters, to be known as Sea Tiger, for the German Navy's shipborne operations. The helicopters will replace the German Navy's Sea Lynx Mk88A fleet, which entered into service in 1981. The Bundeswehr has ordered 18 NH90 Sea Lion naval transport helicopters, seven of which have already been delivered.

Airbus

(Light Turbine Rotorcraft)

Airbus Helicopters AS 355

The AS 355 is the twin-engine variant of the popular AS 350 light single. Applications include scheduled and non-scheduled short-range passenger transportation, passenger charter transportation, forestry and resource development, pollution control, maritime surveillance, fishery and border patrol, general police duties, emergency medical system duties, corporate transportation, and offshore oil and gas support. Military duties include forward observation, light attack, reconnaissance, naval search and rescue, light anti-shipping, and anti-submarine warfare. Airbus Helicopters officially dropped the AS 355 from its product line in September 2015 and production appears to have concluded in 2016. An estimated 815 AS 355/555 helicopters were produced.

Airbus Helicopters AS 365/565/H155

The AS 365 series are 10- to 15-seat, intermediate twin-turboshaft-powered commercial and military multirole helicopters. Applications include scheduled and non-scheduled short-range passenger transportation, corporate transportation, resource development, fishery protection, forestry work, emergency medical system duties, pipeline and utility power line patrol, drug interdiction, border patrol, and civilian search and rescue. Military uses include ground support, anti-armor and scout operations, medical evacuation, search and rescue, anti-submarine and anti-surface vessel warfare, and airborne assault.

In March 2015, Airbus Helicopters was selected to partner with Korea Aerospace Industries on development and production of the Light Armed Helicopter and Light Civil Helicopter. The LAH and LCH models will be based on the H155. Civil Dauphin models currently in production at Airbus Helicopters include the AS 365N3+ and H155. The company plans to eventually replace the AS 365 and H155 with the all-new H160 (see below).

Airbus Helicopters H120

This is a five-place, single-engine, advanced-technology light helicopter designed for flight training; EMS; short-haul scheduled, non-scheduled, and corporate passenger transportation; environmental protection; resource development; and law enforcement. Its principal military mission is pilot training. Research into a possible diesel-powered H120 was undertaken under the EU's Clean Sky initiative. Production of the H120 ended in 2017, with over 700 helicopters built.

Airbus Helicopters H125/H130

These single-turboshaft-powered commercial and military utility helicopters are in production for

domestic and international orders. Applications include scheduled and non-scheduled short-range passenger transportation, border patrol, maritime patrol, corporate service, forestry and resource development, and pollution control. Military missions include forward observation, artillery spotting, target acquisition, light ground attack, light anti-shipping, naval search and rescue, and pilot training. By a wide margin, the Ecureuil light single-turbine helicopter series continues to be Airbus Helicopters' most popular product family. Ecureuil models account for almost 40 percent of the global in-service fleet of Airbus Helicopters rotorcraft. Current models in production include the H125 and H130 civil helicopters and the H125M military version.

Airbus Helicopters H135

This is an advanced-technology, seven-place, commercial light twin-turbine helicopter. The H135M (formerly EC 635) is the dedicated military model, but the H135 (formerly EC 135) also garners sales in the military market. Civil applications include corporate and charter transportation, resource development, environmental protection, fishery protection, border patrol, drug interdiction, general law enforcement, and emergency medical services. Military applications include search and rescue, VIP transport, medevac operations, training, and support missions. The main sales competitors to the H135 are the Leonardo AW109 and Bell 429. Airbus Helicopters has produced and delivered more than 1,300 H135 series helicopters over the life of the program.

Airbus Helicopters H160

In March 2015, Airbus Helicopters unveiled its brand new H160 midsize rotorcraft at Heli-Expo 2015 in Orlando, Florida. The 12-seat rotorcraft – formerly known by its project name X4 – features sleek airframe profiling, the all-new Biplane Stabilizer, highly swept Blue Edge main rotor blades, and a double-canted tail incorporating the largest-ever Fenestron shrouded tail rotor. The H160 is targeted at multiple market segments, and a number of versions will be available. These include variants configured for offshore oil and gas support, VIP transport, commercial passenger transport, and public services. Two prototypes were undergoing flight tests as of April 2017, with a third slated to join them in the flight test campaign later in the year. The European Aviation Safety Agency granted the H160 its type certificate in July 2020.

Airbus Helicopters/Kawasaki EC 145/H145

This is a six- to 10-passenger, twin-engine, single-main-rotor commercial utility helicopter. The BK 117 (EC 145/H145) was originally sponsored by MBB and Kawasaki, with substantial funding provided by the

Airbus

governments of Germany and Japan. Applications include EMS, law enforcement, firefighting, resource development, mountain rescue, military utility duties, and short-haul corporate, scheduled, and non-scheduled passenger operations. A version of the EC 145 dubbed the UH-145, and designated the UH-72A in U.S. Army service, was selected for the U.S. Army's LUH program in 2006 (see entry below).

Airbus Helicopters Tiger

This is an advanced-technology, twin-engine, anti-tank / attack helicopter developed by Germany and France. This helicopter performs all-weather, day/night anti-tank, ground attack, anti-helicopter, and armed escort missions. The Tiger competes for sales with other attack helicopters, such as the Leonardo AW129, Bell AH-1Z, Boeing AH-64D Apache, Kamov Ka-52, and Mil Mi-28N. Even if new orders are not forthcoming, Airbus Helicopters will be busy with Tiger retrofits and upgrades. Most recently, work has begun on the Mk III midlife upgrade program for the Tiger.

Military Flight Training System (MFTS)

In May 2016, Airbus Helicopters in the U.K. was selected by Ascent, a joint venture of Lockheed Martin and Babcock, as the Aircraft Service Provider for the U.K.'s Military Flying Training System (MFTS). The contract, worth GBP500 million over 17 years, would see Airbus Helicopters deliver aircraft and an integrated support solution over the course of 18 months, ready to be applied for training in April 2018. This would involve the manufacture of aircraft in addition to developing the support infrastructure and training initial crews and maintenance personnel. As part of the contract, Airbus Helicopters will supply a fleet of helicopters – 29 H135s and three H145s – capable of delivering the 28,000 hours per year necessary to meet the training requirement. This effort will run to 2033. Airbus Helicopters beat rival offerings from incumbent Cobham with an AgustaWestland model and a new bid from Elbit Systems utilizing a model from Bell Helicopter.

Website: <https://ascentflighttraining.com>

UH-72A

In December 2006, EADS North America and American Airbus Helicopters began delivery of the U.S. Army's UH-72A Light Utility Helicopter (LUH). The delivery marked the beginning of this major defense program, with a requirement for up to 322 rotary-wing aircraft (plus an option for 30 more) and a potential total life-cycle value of more than \$2 billion. At the delivery ceremony, the Army also unveiled the UH-72A's official name, Lakota, which continues the service's tradition of naming its helicopters after Native American tribes.

The UH-72A (formerly called the UH-145) is a version of the commercial H145 (see entry above), which has been in production since 2002. Airbus North America leads a team of companies comprising four primary partners: Airbus Helicopters Inc, which will handle the helicopter's production, assembly, and delivery; Sikorsky Aircraft, responsible for contractor logistics support; WestWind Technologies, responsible for systems integration, engineering support, and program management; and CAE USA of Tampa, Florida, the supplier of UH-145 cockpit procedure trainers.

The UH-72A's industrial activity is centered at Airbus Helicopters' Columbus, Mississippi, facility, which has undergone a major expansion to accommodate the LUH program. Current plans call for the Army's overall UH-72A acquisition to total 478 helicopters, of which more than 450 had been delivered to the service through 2020. Starting in 2021, the Army will begin taking delivery of the UH-72B, an improved version featuring more powerful engines, a shrouded tail rotor, and the Helionix avionics suite.

Ordnance Programs

Multiple Launch Rocket System

Airbus SE is among the contractors involved in production of a tracked multiple-launch rocket system in Europe. The United Kingdom, France, and Germany signed an MoU with the U.S. in July 1979 that resulted in the Western European coproduction of the 227mm MLRS. Airbus Defence and Space provides the self-propelled loader-launcher and various components, and performs vehicle integration.

Space Systems – Launch Vehicles and Manned Platforms

In December 2014, Airbus and Safran finalized the formation of a joint venture to manage Ariane production called ArianeGroup (initially Airbus Safran Launchers).

Ariane 5

This is the Ariane heavy-lift expendable launch vehicle. Ariane 5 development is directed by CNES, the French space agency, for the European Space Agency. The Ariane 5 is one of the primary launch vehicles for commercial geosynchronous communications satellites. Production is ongoing, with over 100 Ariane 5 launches to date. Ariane 5 production is expected to remain steady into the mid-2020s despite the increased competition that the program is facing.

Ariane 6

Also known as the Next-Generation Launcher, the Ariane 6 will be a European heavy-lift expendable

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launch vehicle designed to replace the Ariane 5 and possibly the Soyuz. The Ariane 6 will also share components with Europe's smaller Vega launch vehicle, further increasing economies of scale.

In July 2015, ESA approved spending EUR4.2 billion (\$4.68 billion) to build a new launch center for the Ariane 6, design the Ariane 6 itself, and upgrade the Vega launch vehicle. A month later, a contract was signed with ArianeGroup to fund Ariane 6 development. This contract is worth up to EUR2.4 billion (\$2.67 billion), with a firm commitment of EUR680 million (\$757.1 million). The Ariane 6 will be built by ArianeGroup and will be operated by Arianespace. Due to the COVID-19 pandemic and accompanying production and testing delays, the first launch has been pushed back to sometime in 2021.

International Space Station

The International Space Station is an orbiting, crewed research and work center. Basic research is carried out in medicine, astronomy, space physics, and the solar system. Technological and scientific experiments are also conducted. ISS deployment and construction began with the launch of the Russian FGB, or Zarya, control module in 1998. Boeing Space Systems is the ISS prime contractor. Airbus Defence and Space, as one of hundreds of contractors, developed the Columbus data management system and ATV avionics bay.

Space Systems – Satellites & Spacecraft

(Civil Communications/TV Satellites)

1300

The 1300 is a large-capacity commercial communications satellite. Loral Space and Communications, Space Systems/Loral, is the prime contractor. Airbus Defence and Space produces the advanced gallium arsenide solar arrays.

Arabsat

The Arabsat is a geostationary commercial telecommunications satellite system. The Arabsat provides telecommunications and digital and analog TV broadcasting, VSAT voice data transmission, and high-speed Internet access to Arab Satellite Communications Organization members. Airbus Defence and Space built the Arabsat 4A and 4B. A consortium of Airbus Defence and Space and Thales Alenia Space built the Arabsat 5C and 6B satellites.

DFH

Dong Fang Hong (The East is Red) spacecraft are Chinese communications satellites. Seven DFH-2 series satellites were produced. Twenty-one DFH-3 satellites, including two commercial Chinasats, three military

Feng Huo communications satellites, and 16 Beidou navigational satellites, were built and launched. Eight DFH-4 series satellites have been launched. Airbus Defence and Space provides the Sinosat attitude and orbit control and Sinosat solar array and antenna system for the DFH-3.

Eurostar

The Eurostar is a series of high-power commercial telecommunications satellites produced by Airbus Defence and Space. The Eurostar is a next-generation communications platform utilized in a variety of programs, such as Arabsat, Eutelsat, and Inmarsat, to name a few. Approximately four Eurostar 1000, 22 Eurostar 2000/2000+, and 58 Eurostar 3000/3000+ satellites have been produced to date. The satellite remains in production for various applications, including DirectTV and EchoStar, among others.

Eutelsat

Eutelsat is a European commercial communications satellite system. It provides a range of satellite-based telecommunications services on behalf of member nations, including international telephony; business services, such as telex, videoconferencing, and high-speed data communication services; and television distribution on behalf of signatories and member states of the European Broadcasting Union. Satellites are manufactured by Airbus Defence and Space and Thales Alenia Space. Approximately 50 Eutelsat satellites of various models have been produced.

GEOSTar

The GEOSTar is a geosynchronous communications satellite platform. It is designed as a low- to medium-power satellite platform. It primarily serves the fixed satellite services (FSS) and broadcast satellite services (BSS) markets. However, it can be adapted to serve other markets, such as mobile satellite services (MSS), Earth and space science applications, and technology demonstration. Northrop Grumman is the prime. However, Airbus and Orbital ATK (now part of Northrop Grumman) teamed up to win the Eutelsat 5 West B contract in 2016. The satellite was launched in October 2019. Approximately 40 GEOSTar satellites have been delivered since 1997.

Inmarsat

The Inmarsat system is a constellation of telecommunications satellites that provides phone, fax, telex, data, and compressed video to customers aboard ships, yachts, cruise vessels, oil-drilling rigs, commercial aircraft, automobiles, and trucks. The Inmarsat 3 satellite is a development of Lockheed Martin, with Airbus Defence and Space providing the communications payload. The first Inmarsat 3 satellite was launched in 1996. Lockheed Martin took delivery

Airbus

of the first Inmarsat 5 and one developmental satellite built by an Airbus Defence and Space and Thales Alenia Space team in 2013. Inmarsat ordered two Inmarsat 6 satellites from Airbus Defence and Space in December 2015. Launches are scheduled for 2020 and 2021.

OneWeb

OneWeb is a proposed constellation of low-Earth-orbiting (LEO) satellites that will provide broadband Internet services with global coverage. In June 2015, OneWeb selected Airbus Defence and Space as its industrial partner on the project. Airbus will design the satellites with OneWeb, and produce the first 10 spacecraft at its facility in Toulouse, France. OneWeb will build the remaining satellites in a production plant in Exploration Park, Florida, which was opened in July 2019. The manufacturing facility is a joint venture between OneWeb and Airbus. Due to the COVID-19 pandemic, OneWeb was unable to secure funding and filed for Chapter 11 bankruptcy. This will likely have knock-on effects that remain to be seen. OneWeb has since been bought by the British government and Indian telecom company Bharti Global.

SES

SES Global, Betzdorf, Luxembourg, operates the Astra system through its SES Astra segment. SES Astra provides satellite capacity for European direct-to-home TV, radio, and IP-based content. The company also provides services to the Middle East and Africa. Boeing, Lockheed Martin, Thales Alenia Space, and Airbus Defence and Space have provided satellites for this system. In February 2015, SES ordered three new satellites: the SES-14, SES-15, and SES-16. The SES-14, which was launched in 2018, was built by Airbus Space and Defence.

(Military Space Systems)**Galileo Satellite Navigation System**

The Galileo is a European navigational satellite constellation similar to the U.S. Navstar Global Positioning System. The Galileo system is intended to provide secure civil navigational and positional data to all of Europe, relieving the continent of its dependence on the U.S. GPS. The Galileo will be used mainly for emergency, search-and-rescue, and security applications. It will be an independent civilian system that will be compatible with both the GPS and GLONASS. Interoperability among the three systems is being discussed; only minor adaptations to the ground systems' software would be required. In total, ESA has taken delivery of two prototypes (Giove-A and -B) and 26 Galileo satellites. The prime contractor is OHB Systems. Airbus Defence and Space is a program participant.

Helios

Helios satellites are military optical imaging reconnaissance satellites. The Helios 1 program was a cooperative venture between France (79 percent), Italy (14 percent), and Spain (7 percent), with Airbus Defence and Space in charge of the spacecraft and processing center. Airbus Defence and Space also became the Helios 2 prime contractor and assumed responsibility for the system's ground segment.

In June 2009, France awarded Airbus Defence and Space a \$92 million contract to begin development of Helios follow-on satellites. In December 2009, France awarded Airbus Defence and Space a \$1.04 billion contract to produce two Helios replacement satellites, with an option for a third satellite. In February 2015, Germany announced it would finance the majority of a third satellite in return for access to imagery collected by the entire constellation. With that agreement, three CSO satellites are now expected to be built. The first satellite launched in late 2018, with the second in December 2020. CSO-3 will be one of the first to launch aboard the Ariane-6 in 2021, provided there are no delays.

SARah

The SARah is a satellite reconnaissance system equipped with synthetic aperture radar (SAR) that will replace the SAR Lupe satellites currently in operation. In 2013, Germany signed a contract with OHB System for three SARah satellites. Airbus Defence and Space will provide one of the satellites under a subcontract to OHB. The total value of the contract is EUR816 million (\$1.1 billion). Germany will launch the SARah-1 in 2021, with the other two following. All three will launch on SpaceX Falcon 9 vehicles.

Skynet

The Skynet is a military communications satellite used by the U.K. Ministry of Defence. The Skynet satellite communications network is designed to link U.K. defense forces worldwide. In total, 13 Skynet satellites and two NATO 4 (Skynet) satellites have been delivered. In July 2020, Airbus Defence and Space was awarded a GBP500 million contract for Skynet 6A, planned for launch in 2025.

(Remote Sensing Satellites)**Airbus Geo-Information Services**

Airbus Geo-Information Services operates remote sensing satellites and provides commercial remote sensing satellite services and imagery products. The company utilizes data gathered by satellites to sell both raw data and geo-information services. Industries served by Airbus include security and defense, agriculture, environmental monitoring, and natural

Airbus

resource management. Airbus operates SPOT, TerraSAR-X, and TanDEM-X satellites. The company also has the right to distribute imagery on the commercial market from Pleiades, FORMOSAT-2, DEIMOS-2, and KOMPSAT-2 satellites.

CBERS

The China/Brazil Earth Resources Satellite (CBERS) is the product of a remote sensing spacecraft program. INPE, Brazil's National Institute for Space Research, primarily uses the satellites to monitor the Amazon rainforest. The satellites are also used to gather information for land use, agricultural products estimation, water resources investigation, mine exploration, urban planning, and coastal monitoring. Airbus provided the CBERS 3 & 4 Optical Imaging System. Six CBERS spacecraft have launched.

Copernicus

Copernicus, formerly known as Global Monitoring for Environment and Security (GMES), is an effort led by the European Space Agency and the European Union to improve Earth observation. The space component of Copernicus will consist of a series of Sentinel Earth observation satellites. ESA signed firm-fixed-price contracts with Airbus and Thales Alenia Space to build the satellites.

Sentinel-2 Satellites. In January 2016, Airbus Defence and Space signed a EUR285 million contract with the European Space Agency to deliver two more optical satellites for the European Copernicus program. As part of the Sentinel-2 Earth observation satellite system, these two new models, called the Sentinel-2C and Sentinel-2D, will observe the environment and land surfaces, and, starting in 2021, continue the measurements carried out by the first two flight units as part of the Copernicus program.

COSMO-SkyMed/Pleiades

This is an international dual-use civil/military constellation of four COSMO-SkyMed low-Earth-orbiting radar satellites and two Pleiades remote sensing satellites. Thales Alenia Space is the prime contractor for, as well as an investor in, COSMO-SkyMed. Airbus Defence and Space was the prime contractor for the Pleiades satellite bus, including all functions dedicated to satellite control and monitoring and payload data handling and transmission, and is responsible for software development and satellite validation. The Pleiades 1A and 1B are now in orbit. Airbus is pursuing a privately funded Pleiades Neo constellation, with plans to sell data to governments and commercial customers. The first COSMO-SkyMed Second Generation satellite launched in December 2019. The second satellite is scheduled to launch in 2021.

Disaster Monitoring Constellation

The Disaster Monitoring Constellation is a group of low-Earth-orbiting remote sensing microsatellites. The DMC program is used by many countries to develop the technology and resources needed to establish space programs. Once launched, the satellites also provide important data for the countries operating them. The DMC was developed by Surrey Satellite Technology Ltd (SSTL), now majority owned by Airbus Defence and Space.

Earth Observing System

The Earth Observing System (EOS) is a series of scientific spacecraft forming part of the U.S. Earth Science Enterprise program. In December 2012, Airbus Defence and Space was given the go-ahead to begin development of Gravity Recovery and Climate Experiment Follow-On spacecraft. Like the previous GRACE mission, the GRACE Follow-On effort is a joint project between NASA and Germany. The two GRACE Follow-On spacecraft were launched in 2018.

EUMETSAT Polar System

The prime objective of the EUMETSAT Polar System (EPS) MetOp mission series is to provide continuous, long-term data sets in support of operational meteorological and environmental forecasting and global climate monitoring. Airbus Defence and Space was the prime contractor for the MetOp spacecraft, MetOp payload module, and MetOp ASCAT radar. The MetOp-A and MetOp-B are orbiting Earth in a polar orbit. MetOp-C launched in November 2018.

EUMETSAT was awarded a contract to begin production of a follow-on system, known as the MetOp Second Generation (MetOp-SG). In April 2014, Airbus Defence and Space was selected as the prime contractor for the program, and in October 2014, Airbus was awarded a \$1.65 billion contract for all six satellites. The MetOp-SG program comprises two series of satellites, with three units in each series. The Satellite A series focuses on optical instruments and atmospheric sounders, while the Satellite B series focuses on microwave instruments. EUMETSAT is to launch pairs of MetOp-SG satellites in 2023-2024, 2030-2031, and 2037-2038.

Living Planet Program

The Living Planet program is divided into two core elements: a science and research arm in the form of the Earth Explorer missions, and the Earth Watch element, which is designed to facilitate the delivery of Earth observation data for eventual use in operational services.

Airbus

The Living Planet program involves four missions. The CryoSat-2, a replacement for the CryoSat satellites that failed to launch in 2005, successfully launched in April 2010. The ADM-Aeolus launched on August 22, 2018, and EarthCARE is expected to launch in 2021.

In March 2016, Airbus was selected as the prime contractor for Biomass, the seventh Earth Explorer mission. Biomass is slated to launch in October 2022.

Meteosat

This is a family of geosynchronous meteorological satellites. EUMETSAT is sponsoring this program. Thales Alenia Space is the Meteosat prime contractor, responsible for system assembly/integration tests and development of mutation dampers (with Onera). Thales Alenia Space is also the head of the COSMOS industrial consortium, which comprises Airbus Defence and Space (structure, thermal controls, solar array, radiometers, and amplifier equipment), ETCA (power supply and conditioning), SAT (telemetry equipment and solar cells), and Siemens (S/UHF transponders). Construction of Meteosat Third Generation (MTG) began in February 2012. The first MTG will launch in late 2021.

(Scientific Spacecraft)

Cosmic Vision 2015-2025

Cosmic Vision is a mechanism through which ESA science missions are implemented. The program aims to develop small-class (S-Class), medium-class (M-Class), and large-class (L-Class) spacecraft. The European Space Agency has nine missions scheduled to launch under the Cosmic Vision 2015-2025 program, with more on the way. Airbus Defence and Space is the prime contractor for the Solar Orbiter, CHEOPS, and JUICE; Thales Alenia Space is the prime contractor for the Euclid; and OHB is the prime contractor for PLATO. ESA will eventually select a prime contractor for other missions. Airbus was the prime contractor for the LISA Pathfinder mission; however, Thales Alenia Space was

awarded a contract to study LISA in June 2018. It is not clear who will ultimately build the spacecraft.

ExoMars

The ExoMars program consists of two missions to Mars: one comprises an orbiter and a descent module that were launched in 2016, and the other features a rover that was to be launched in 2020. In December 2016, ESA contracted Thales Alenia Space to handle the integration of scientific instruments on the rover, along with the navigation and guidance systems. The rover itself is being built by Airbus Defence and Space. The ExoMars rover launch date was delayed from 2018 to 2022 due to instrument development problems.

Unmanned Vehicle Programs

BREVEL

The BREVEL is a reconnaissance drone developed by Eurodrone GIE (Groupement d'Interet Economique), a joint venture company established in 1989 and involving Airbus Defence and Space and STN Atlas Elektronik GmbH. The initial German order covered the delivery of eight systems, 16 ground stations, and 80 air vehicles.

Direct Target Series

Airbus Defence and Space has steadily expanded its aerial target product line. There were five versions of the Fox: the Fox TM for missile training, Fox TC for gun training, Fox AT for battlefield surveillance / reconnaissance, Fox TX for electronic warfare, and Fox TK for combat and attack missions. CAC Systemes, Jouy-en-Josas, France, was the prime contractor until its acquisition by EADS. Additional aerial targets include the Alkyon, DT25, DT35, Iris, and Perseas. In addition, Airbus Defence and Space established a cooperative relationship with Aeronautics Unmanned Systems of Israel. Airbus Defence and Space is also working on the DT55, a miniature air-launched decoy that can be carried by a drone (such as the DT25).

Airbus**U.S. Contract Awards**

The following is a list of major contracts awarded to Airbus and its subsidiaries from the U.S. government as of press date. Note that the Description section is excerpted directly from U.S. DoD listings. For full details on individual contracts and their associated modifications, visit <http://www.defense.gov/contracts>. No contract awards were reported for 2019.

Date	Award (USD millions)	Contract #	Description
2015			
1/28/15	24.9	W58RGZ-06-C-0194	CONTRACTOR LOGISTICS SUPPORT FOR THE UH-72A LAKOTA.
2/12/15	220.6	W58RGZ-06-C-0194	41 UH-72A LAKOTA HELICOPTERS, INCLUDING 41 ARC-231 RADIOS.
2/24/15	28.3	W58RGZ-06-C-0194	CONTRACTOR LOGISTICS SUPPORT FOR 2015, WHICH ENTAILS FLYING HOURS FOR VARIOUS CONTRACT LINE ITEM NUMBERS WITHIN & OUTSIDE THE CONTINENTAL UNITED STATES, PLUS MISSION EQUIPMENT PACKAGES & DIRECT LABOR SUPPORT.
3/13/15	23.9	W58RGZ-06-C-0194	CONTRACTOR LOGISTICS SUPPORT FOR UH-72A LAKOTA HELICOPTERS.
4/3/15	9.4	W58RGZ-15-C-0027	UH-72A HELICOPTER SUPPORT, HARDWARE, AND SERVICES FOR THE ROYAL THAI ARMY.
5/7/15	24.0	W58RGZ-06-C-0194	MISSION EQUIPMENT PACKAGES TO BE CUT INTO THE LAKOTA HELICOPTER PRODUCTION LINE AS PART OF THE ARMY AVIATION RESTRUCTURE INITIATIVE FOR TRAINING AIRCRAFT.
6/23/15	28.3	W58RGZ-06-C-0194	LOGISTICS SUPPORT FOR THE UH-72A LAKOTA HELICOPTER PROGRAM.
11/4/15	65.8	W58RGZ-06-C-0194	LAKOTA HELICOPTERS WITH ARC-231 MISSION EQUIPMENT PACKAGE.
2016			
1/29/16	8.6	W58RGZ-06-C-0194	LOGISTICS SUPPORT FOR UH-72A LAKOTA HELICOPTERS.
6/24/16	73.1	W58RGZ-06-C-0194	LOGISTICS SUPPORT FOR UH-72A LAKOTA HELICOPTERS.
12/19/16	17.4	W58RGZ-17-C-0010	LOGISTICS PARTS SUPPORT & SUSTAINMENT OF THE ARMY'S U-72 LIGHT UTILITY HELICOPTER.
2017			
2/1/17	25.3	W58RGZ-17-C-0010	UH-72 LAKOTA CONTRACTOR LOGISTICS SUPPORT AND PARTS SUPPORT & SUSTAINMENT, TO INCLUDE THE FLYING HOUR RATE.
3/6/17	15.6	W58RGZ-17-C-001	UH-72 LAKOTA LOGISTICS SUPPORT, PARTS SUPPORT, AND SUSTAINMENT.
7/12/17	35.2	W58RGZ-17-C-0010	UH-72 LAKOTA CONTRACTOR LOGISTICS SUPPORT, PARTS SUPPORT, AND SUSTAINMENT.
8/21/17	34.5	W58RGZ-17-C-0010	UH-72 LAKOTA CONTRACTOR LOGISTICS SUPPORT, PARTS SUPPORT, SUSTAINMENT, AND ADDITIONAL FLYING HOURS.
2018			
3/8/18	273.3	W58RGZ-18-C-0007	PROCUREMENT OF 35 UH-72A AIRCRAFT.
3/22/18	116.9	W58RGZ-18-C-0007	PROCUREMENT OF 16 UH-72A AIRCRAFT.
5/3/18	9.3	W900KK-18-C-0031	RANGE COMMUNICATION SYSTEM AND OBSERVER/CONTROLLER COMMUNICATIONS SYSTEMS.

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Date	Award (USD millions)	Contract #	Description
2020			
1/13/20	37.7	N00421-20-D-0010	LOGISTICS SUPPORT TO INCLUDE GROUND AND REPAIR MAINTENANCE OF FIVE UH-72 AIRCRAFT, SUSTAINING ENGINEERING REQUIRED TO MAINTAIN UH-72 FAA CERTIFICATION, THE INCORPORATION OF U.S. NAVY TEST PILOT SCHOOL SPECIFIC MODIFICATIONS, AND THE SUPPORT TO PROVIDE GROUND AND FLIGHT TRAINING FOR THE UH-72/EC 145 AIRCRAFT.
3/3/20	122.7	W58RGZ-18-C-0007	MODIFICATION TO CONTRACT FOR PROCUREMENT OF 15 UH-72 AIRCRAFT.
8/7/20	10.0	H92241-20-C-0005	SUPPORT OF U.S. ARMY SPECIAL OPERATIONS AVIATION COMMAND FOR THE SUSTAINMENT & MODERNIZATION OF FIVE CASA 212-200 CC60 AIRCRAFT WITH NEW AVIONICS SUITES & AIRCRAFT MAINTENANCE REFRESHES.

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