Developing the Most Comprehensive Line of Products in Response to Customer Needs

Airbus Commercial Aircraft continuously seeks to develop and deliver new products to meet customers' evolving needs, while also improving its existing product line. The A330neo (new engine option) is one of the evolutions to the A330 Family and the A320neo (new engine option) is one of many product upgrades to the A320 Single-Aisle Family to maintain its position as the most advanced and fuel-efficient single-aisle aircraft family.

Airbus Commercial Aircraft is also currently pursuing (i) development and production on the A350 XWB programme, and (ii) research on the development of new aircraft in the short-range, medium-range and long-haul segments.

To support the A350 XWB ramp-up and other production increases, a new super transporter is under development, with the first of five Beluga XL aircraft to enter into service in 2019.

Expanding its Customer Services Offering

Airbus Commercial Aircraft seeks to remain at the forefront of the industry by expanding its customer services offering to meet customers' evolving needs. As a result, Airbus Commercial Aircraft has developed a wide range of value-added and customised services which customers can select based on their own make or buy policy and needs. This approach provides Airbus operators with solutions to significantly reduce their operating costs, increase aircraft availability and enhance the quality of their operations.

Building a Leaner, More Fully Integrated Company

In order to build a leaner, more fully integrated company and thereby bolster its competitiveness, Airbus Commercial Aircraft is adapting its organisation to foster an entrepreneurial spirit and empower more teams, while maintaining harmonised processes across all sites. For series programmes, additional responsibilities and means have been delegated to plants for delivery at increased rates. Airbus also has become a more integrated company, working towards one common culture across its global workforce, as well as aligning processes and planning with the global supplier base.

Market

Market Drivers

The main factors affecting the commercial aircraft market include passenger demand for air travel, cargo activity, economic growth cycles, oil prices, national and international regulation (and deregulation), the rate of replacement and obsolescence of existing fleets and the availability of aircraft financing sources. The performance, competitive posture and strategy of aircraft manufacturers, airlines, cargo operators and leasing companies as well as wars, political unrest, pandemics and extraordinary events may also precipitate changes in demand and lead to short-term market imbalances.

In recent years, China and India have emerged as significant new aircraft markets. According to internal estimates, they are expected to constitute the first and third most important markets by aircraft delivery value, respectively, in the next twenty years. As a result, Airbus Commercial Aircraft has sought to strengthen its commercial and industrial ties in these countries. New aircraft demand from airlines in the Middle East has also become increasingly important, as they have rapidly executed strategies to establish a global presence and to leverage the benefits the region can deliver.

The no-frills / low-cost carriers also constitute a significant sector, and are expected to continue growing around the world, particularly in Asia, where emerging markets and continued deregulation should provide increased opportunities. While single-aisle aircraft continue to be a popular choice for these carriers, demand for Airbus Commercial Aircraft's range of twin-aisle aircraft may also increase as some of these carriers develop or further develop their long-range operations.

Overall growth. The long-term market for passenger aircraft depends primarily on passenger demand for air travel, which is itself primarily driven by economic or GDP growth, fare levels and demographic growth. Measured in revenue passenger kilometres, air travel increased in every year from 1967 to 2000, except for 1991 due to the Gulf War, resulting in an average annual growth rate of 7.9% for the period. Demand for air transportation also proved resilient in the years following 2001, when successive shocks, including 9/11 and SARS in Asia, dampened demand. Nevertheless, the market quickly recovered.

At the end of 2008 and in 2009, the financial crisis and global economic difficulties witnessed resulted in only the third period of negative traffic growth during the jet age, and a cyclical downturn for airlines in terms of traffic (both passenger and cargo), yields and profitability.

More recently, air travel demand growth has gained solid momentum, supported by the ongoing improvement in global economic conditions throughout the year. World real GDP growth is projected to be at 2.7% in 2017, an acceleration from the 2.4% in 2016, and is expected to further strengthen to 2.9% in 2018. The upward trend was driven by the strengthening investment in advanced economies as well as the recovery in emerging market and developing economies owing to the increased export demand. The lower air fares owing to the low fuel price also continued to stimulate traffic growth, albeit at a more moderate level compared to 2016.

Preliminary figures released at the end of 2017, by the International Civil Aviation Organisation (ICAO), confirmed that some 4.1 billion passengers made use of the global air transport network for their business, tourism needs or for simply visiting friends and relatives (VFR) in 2017. The annual passenger total is up 7.1% compared to 2016 and the number of departures rose to approximately 37 million globally. World passenger traffic, expressed in terms of total scheduled revenue passenger-kilometres (RPKs), posted an increase of 7.6% with approximately 7.7 trillion revenue passenger kilometres performed.

In the long-term, Airbus Commercial Aircraft believes that air travel remains a growth business. Based on internal estimates, Airbus Commercial Aircraft anticipates a growth rate of 4.4% annually during the period 2017-2036. If the actual growth rate equals or exceeds this level, Airbus Commercial Aircraft expects that passenger traffic, as measured in revenue passenger kilometres, would more than double over the forecast period.

Cyclicality. Despite an overall growth trend in air travel, aircraft order intake can vary significantly from year to year and within different regions, due to the volatility of airline profitability, cyclicality of the economy, aircraft replacement waves and occasional unforeseen events which can depress demand for air travel. However, new product offerings and growth across the market has resulted in good levels of order activity in recent years. In the last seven years, order totals exceeded record Airbus Commercial Aircraft deliveries thus strengthening both order book and backlog totals.

Despite some cyclicality in airline demand, Airbus Commercial Aircraft aims to secure stable delivery rates from year to year, supported by a strong backlog of orders and a regionally diverse customer base. At the end of 2017, the backlog stood at 7,265 aircraft, representing around nine years of production at current rates. Through careful backlog management, close monitoring of the customer base and a prudent approach to production increases, Airbus Commercial Aircraft has successfully increased annual deliveries for 15 years running, even through the economic crisis of 2008-2009.

Regulation / Deregulation. National and international regulation (and deregulation) of international air services and major domestic air travel markets affect demand for passenger aircraft as well. In 1978, the US deregulated its domestic air transportation system, followed by Europe in 1985. The more recently negotiated "Open Skies Agreement" between the US and Europe, which became effective in 2008, allows any European or US airline to fly any route between any city in the EU and any city in the US. Other regions and countries are also progressively deregulating, particularly in Asia. This trend is expected to continue, facilitating and in some cases driving demand. In addition to providing greater market access (which may have formerly been limited), deregulation may allow for the creation and growth of new airlines or new airline models, as has been the case with the no-frills / low-cost airline model, which has increased in importance throughout major domestic and intra-regional markets since deregulation (*e.g.*, in the US and Europe).

Airline network development: "hub" and "point-to-point" networks. Following deregulation, major airlines have sought to tailor their route networks and fleets to continuing changes in customer demand. Accordingly, where origin and destination demand prove sufficiently strong, airlines often employ direct, or "point-to-point" route services. However, where demand between two destinations proves insufficient, airlines have developed highly efficient "hub and spoke" systems, which provide passengers with access to a far greater number of air travel destinations through one or more flight connections.

The chosen system of route networks in turn affects aircraft demand, as hubs permit fleet standardisation around both smaller aircraft types for the short, high frequency and lower density routes that feed the hubs (between hubs and spokes) and larger aircraft types for the longer and higher density routes between hubs (hub-to-hub), themselves large point-to-point markets. As deregulation has led airlines to diversify their route network strategies, it has at the same time therefore encouraged the development of a wider range of aircraft in order to implement such strategies (although the trend has been towards larger-sized aircraft within each market segment as discussed below).

Airbus Commercial Aircraft, like others in the industry, believes that route networks will continue to grow through expansion of capacity on existing routes and through the introduction of new routes, which will largely be typified by having a major hub city at least at one end of the route. These new route markets are expected to be well served by the latest product offering, the A350 XWB. In addition, the A380 has been designed primarily to meet the significant demand between the major hub cities, which are often among the world's largest urban centres (such as London, Paris, New York and Beijing). Airbus Commercial Aircraft has identified 58 major hub cities in its current market analysis, with this number expected to grow to over 95 by 2036. Airbus Commercial Aircraft believes that it is well positioned to meet current and future market requirements given its complete family of products.

Alliances. The development of world airline alliances has reinforced the pattern of airline network development described above. According to data from Ascend, a UK-based aviation industry consultancy, one-third of the world's jetliner seats being flown today are operated by just 15 airlines. In the 1990s, the major airlines began to enter into alliances that gave each alliance member access to the other alliance members' hubs and routings, allowing airlines to concentrate their hub investments while extending their product offering and market access.

Market Structure and Competition

Market segments. According to a study conducted by Airbus Commercial Aircraft, nearly 19,000 passenger aircraft with more than 100 seats were in service with airlines worldwide at the beginning of 2017. Currently, Airbus Commercial Aircraft competes in each of the three principal market segments for aircraft with more than 100 seats.

"Single-aisle" aircraft, such as the A320 Family, have 100 to more than 200 seats, typically configured with two triple seats per row divided by one aisle, and are used principally for short-range and medium-range routes.

"Wide-body" aircraft, such as the A330 / A350 XWB Families, have a wider fuselage with more than 210 seats, typically configured with eight seats per row and with two aisles. The A330 / A350 XWB Families are capable of serving all short- to long-range markets.

"Very large aircraft", such as the A380 Family, are designed to carry more than 400 passengers, non-stop, over very long-range routes with superior comfort standards and with significant

cost-per-seat benefits to airlines, although such aircraft can also be used over shorter ranges in high-density (including domestic) markets.

Freight aircraft, which form a fourth, related segment, are often converted ex-passenger aircraft. See "— Regional Aircraft, Aerostructures, Seats and Aircraft Conversion — EFW".

Airbus Commercial Aircraft also competes in the corporate, VIP business jet market with the ACJ.

Airbus Corporate Jets (ACJ) creates the world's most rewarding flying experiences with customers by providing them with unique expertise, the finest service, best technology and highest standards of care in corporate aviation.

Airbus continues to develop corporate jet versions of its modern airliner family, notably the ACJ319neo and ACJ320neo, as well as offering new variants, such as the ACJ330neo and ACJ350 XWB. The increased range of these aircraft extends Airbus' leadership in cabin comfort to even longer flights.

Airbus' ACJ319neo will fly eight passengers 6,750 nm/12,500 km or 15 hours, while the ACJ350 XWB can transport 25 passengers for 10,800 nm/20,000 km or 22 hours.

An ACJ Service Centre Network is progressively being implemented, building on the Company's philosophy of customer care.

More than 180 Airbus corporate jets are in service with companies, individuals and governments, and they are flying on every continent, including Antarctica.

Geographic differences. The high proportion of single-aisle aircraft in use in both North America and Europe reflects the predominance of domestic short-range and medium-range flights, particularly in North America due to the development of hubs following deregulation. In comparison with North America and Europe, the Asia-Pacific region uses a greater proportion of twin-aisle aircraft, as populations tend to be more concentrated in fewer large urban centres. The tendency towards use of twin-aisle aircraft is also reinforced by the fact that many of the region's major airports limit the number of flights, due either to environmental concerns or to infrastructure constraints that limit the ability to increase flight frequency. These constraints necessitate higher average aircraft seating capacity per flight. However, Airbus Commercial Aircraft believes that demand for single-aisle aircraft in Asia will grow over the next 20 years, particularly as domestic markets in China and India and low-cost carriers continue to develop in the region. Aircraft economics will also help to drive aircraft size, with airlines looking to reduce the cost per seat through higher density aircraft cabins and the use of larger aircraft types and variants where possible.

Competition. Airbus Commercial Aircraft has been operating in a duopoly since Lockheed's withdrawal from the market in 1986 and Boeing's acquisition of McDonnell Douglas in 1997. As a result, the market for passenger aircraft of more than 100 seats has been divided between Airbus Commercial Aircraft and Boeing. According to the manufacturers' published figures for 2017, Airbus Commercial Aircraft and Boeing, respectively, accounted for 48% and 52% of total commercial aircraft deliveries, 55% and 45% of total net orders (in units), and 55% and 45% of the total year-end backlog (in units). Airbus Commercial Aircraft's deliveries (718 in 2017) were the 15th year in a row of increased production.

Nevertheless, the high technology and high value nature of the business makes aircraft manufacturing an attractive industry in which to participate, and besides Boeing, Airbus Commercial Aircraft faces aggressive international competitors who are intent on increasing their market share. Regional jet makers Embraer and Bombardier, coming from the less than 100-seat commercial aircraft market, continue to develop larger airplanes (such as the new E190-E2 programme launched by Embraer). Additionally, other competitors from Russia, China and Japan will enter the 70- to 150-seat aircraft market over the next few years, and today are studying larger types.

In October 2017, Airbus SE and Bombardier Inc. agreed to form a partnership in relation to the C-Series. The transaction remains subject to regulatory approvals, as well as other conditions usual in this type of transaction. Completion of the transaction is currently expected for the second half of 2018.

Customers

As of 31 December 2017, Airbus Commercial Aircraft had 399 customers and a total of 18,191 Airbus aircraft had been ordered, of which 10,926 aircraft had been delivered to operators worldwide. The table below shows Airbus Commercial Aircraft's largest commitments in terms of total gross firm orders by customer for the year 2017.

Customer	Firm orders(1)
Wizz Air Hungary	156
Delta Air Lines	145
Frontier Airlines	134
GECAS	110
Volaris	80

(1) Options are not included in orders booked or year-end backlog.

Products and Services

The Family Concept — Commonality across the Fleet

Airbus Commercial Aircraft's aircraft families promote fleet commonality. This philosophy takes a central aircraft and tailors it to create derivatives to meet the needs of specific market segments, meaning that all new-generation aircraft share the same cockpit design, fly-by-wire controls and handling characteristics. Pilots can transfer among any aircraft within the Airbus Commercial Aircraft family with minimal additional training. Cross-crew qualification across families of aircraft provides airlines with significant operational flexibility. In addition, the emphasis on fleet commonality permits aircraft operators to realise significant cost savings in crew training, spare parts,

maintenance and aircraft scheduling. The extent of cockpit commonality within and across families of aircraft is a unique feature of Airbus Commercial Aircraft that, in management's opinion, constitutes a sustainable competitive advantage.

In addition, technological innovation has been at the core of Airbus' strategy since its creation. Each product in the Airbus Commercial Aircraft family is intended to set new standards in areas crucial to airlines' success, such as cabin comfort, cargo capacity performance, economic performance, environmental impact and operational commonality. Airbus Commercial Aircraft innovations often provide distinct competitive advantages, with many becoming standard in the aircraft industry.

A320 Family. With more than 14,000 aircraft sold, of which 5,995 A320neo (new engine option) Family, and nearly 8,000 delivered (of which 249 A320neo family), Airbus' family of single-aisle aircraft, based on the A320, includes the A319 and A321 derivatives, as well as the corporate jets family (including new members ACJ319neo and ACJ320neo). Each aircraft in the A320 Family shares the same systems, cockpit, operating procedures and cross-section.

At 3.95 metres diameter, the A320 Family has the widest fuselage cross-section of any competing single-aisle aircraft. This provides a roomy passenger cabin, a high comfort level and a spacious under floor cargo volume. The A320 Family incorporates digital fly-by-wire controls, an ergonomic cockpit and a lightweight carbon fibre composite horizontal stabiliser. The use of composite material has also been extended to the vertical stabiliser. The A320 Family's competitor is the Boeing 737 series.

To ensure this market leader keeps its competitive edge, Airbus Commercial Aircraft continues to invest in improvements across the product line, including development of the A320neo Family. The A320neo incorporates many innovations including latest generation engines, Sharklet wing-tip devices and cabin improvements, which together will deliver up to 20% in fuel savings by 2020. The A320neo received joint Type Certification from the European Aviation Safety Agency (EASA) and the Federal Aviation Administration (FAA) in November 2015. The A320neo with Pratt & Whitney engines was the first variant in the Neo Family to receive Type Certification. The A320neo with CFM engines was certified in May 2016. The A321neo with Pratt & Whitney engines received Joint Type Certification in December 2016 and with CFM engines in March 2017. Type Certifications for the A319neo in both engine variants will follow.

The A320neo Family versions have over 95% airframe commonality with the A320ceo (current engine option) versions, enabling them to fit seamlessly into existing A320 Family fleets – a key factor for Airbus Commercial Aircraft customers and operators who have taken delivery of nearly 8,000 A320 Family aircraft so far.

With 5,995 firm orders received from 98 customers since its launch in December 2010, the A320neo Family has captured 57% of the market to the end of 2017.

In October 2015, Airbus Commercial Aircraft announced the decision to further increase the production rate of the Single Aisle Family to 60 aircraft a month in mid-2019, in response to strong customer demand and following thorough studies on production ramp-up readiness in the supply chain and in Airbus Commercial Aircraft's facilities.

In 2017, Airbus Commercial Aircraft received 1,160 gross orders for the A320 Family of aircraft (1,054 net orders), and delivered 558 aircraft (including 181 A320neo family aircraft).

The first A321neo powered by CFM engines was delivered in April 2017 to Virgin America and the first A321neo powered by P&W engines in September to ANA.

A320 FAMILY TECHNICAL FEATURES (CURRENT VERSION)

Model	Entry-into-service	Passenger capacity[1]	Range *(km)*	Length *(metres)*	Wingspan *(metres)*
A318	2003	107	5,750	31.4	34.1
A319	1996	124	6,950[2]	33.8	35.8
A320	1988	150	6,100[2]	37.6	35.8[3]
A321	1994	185	5,950[2]	44.5	35.8[3]
A319neo		140	6,950	33.8	35.8
A320neo	2016	165	6,500	37.6	35.8
A321neo		206	7,400	44.5	35.8

(1) Two-class layout.
(2) Range with sharklets.
(3) Wingspan with sharklets.

A330 Family. With 1,707 aircraft sold (of which 220 A330neo) and 1,323 delivered, the A330 Family covers all market segments with one twin-engine aircraft type and is designed to carry between 247 and 277 passengers. The A330 Family offers high levels of passenger comfort as well as large under-floor cargo areas. The competitors of the A330 Family are the Boeing 767, 777 and 787 aircraft series.

The newest evolution to the A330 Family is the A330neo (new engine option), comprising the A330-800neo and A330-900neo versions. These aircraft incorporate latest generation Rolls-Royce Trent 7000 engines. Airbus Commercial Aircraft commenced final assembly for the first A330neo, an A330-900, in 2016. The first flight took place in October 2017 and both Type Certification and first delivery are planned for 2018. The final assembly of the A330-800 started in November 2017 and the aircraft is on track for the first flight planned mid-2018.

In 2017, Airbus Commercial Aircraft received 6 net orders for the A330neo.

The platform for developing the Neo is the 242-tonne maximum take-off weight A330 variant. This upgrade was first applied to the A330-300 with the first enhanced A330-300 variant delivered to Delta Airlines in May 2015 and subsequently for the A330-200.

Airbus Commercial Aircraft is also adapting the A330-300 to rapidly growing markets, where the aviation infrastructure is struggling to keep us with surging demand. The A330 Regional, the lower-weight variant will carry up to 400 passengers on shorter haul missions resulting in significant cost savings. Saudi Arabian Airlines became the A330-300 Regional launch customer with an order announced in June 2015 and the first delivery in August 2016.

Airbus Commercial Aircraft is continuously developing the A330 Family to keep the aircraft at the leading edge of innovations.

In 2017, Airbus Commercial Aircraft received 25 gross orders (21 net) for the A330 Family of aircraft including 10 for the A330neo, and delivered 67 aircraft to customers.

A330 FAMILY TECHNICAL FEATURES (CURRENT VERSION)

Model	Entry-into-service	Passenger capacity(1)	Maximum range *(km)*	Length *(metres)*	Wingspan *(metres)*
A330-200	1998	247	13,450	58.8	60.3
A330-300	1994	277	11,750	63.7	60.3
A330-800neo		257	13,900	58.8	64
A330-900neo		287	12,130	63.7	64

(1) Three-class configuration.

A380. The double-deck A380 is the world's largest commercial aircraft flying today. Its cross-section provides flexible and innovative cabin space, allowing passengers to benefit from wider seats, wider aisles and more floor space, tailored to the needs of each airline. Carrying 544 passengers in a comfortable four-class configuration and with a range of 8,200 nm / 15,200 km, the A380 offers superior economic performance, lower fuel consumption, less noise and reduced emissions. The A380's competitor is the Boeing 747-8.

In 2017, Airbus Commercial Aircraft delivered 15 aircraft.

Following an agreement reached between Emirates Airline and Rolls-Royce and a subsequent agreement between Emirates Airline and Airbus Commercial Aircraft, Airbus is to adapt the A380 delivery stream with six aircraft deliveries shifted from 2017 to 2018 and six others from 2018 to 2019.

Airbus Commercial Aircraft re-confirms the target to deliver around 12 aircraft in 2018 and 8 in 2019. Airbus Commercial Aircraft has an industrially robust process to deliver down to 6 aircraft a year.

Airbus Commercial Aircraft is continuing to invest in the A380 and in 2017 announced the outcome of a development study: The A380plus; Aerodynamic improvements, cabin enablers (new forward stairs / optimizing galleys and staircases / crew-rest) allowing 80 additional seats, bringing the baseline offering of the A380 to some 575 seats in 4 classes, additional range (+300 nm) or payload (+3 tonnes MTOW), system improvements and maintenance optimisation together is expected to bring 13% COC per seat reduction compared to today's A380s.

Airbus Commercial Aircraft launched the iflyA380.com website enabling passengers to identify if the A380 is operated on a particular route and to book flights directly with the airlines flying A380s.

A380 TECHNICAL FEATURES

Model	Entry-into-service	Passenger capacity(1)	Maximum range *(km)*	Length *(metres)*	Wingspan *(metres)*
A380-800	2007	544	15,200	73.0	79.8

(1) Four-class layout.

A350 XWB Family. The A350 XWB is an all-new family of wide-body aircraft, designed to accommodate between 280 and 366 passengers. The A350 XWB features A380 technology, a wider fuselage than that of competing new generation aircraft, and a greater use of composite material. The A350 XWB's main competitors are the Boeing 787 and 777 aircraft series.

With the Ultra-Long Range version of the A350-900 launched in 2015, the A350 XWB demonstrates its versatility by offering the capability to perform flights of up to 19 hours.

Airbus Commercial Aircraft has developed the larger A350-1000, which is now certified by EASA and the FAA and was delivered to its first customer in February 2018. This follows final assembly line start in February 2016 and a successful first flight in November 2016.

In 2016, Airbus Commercial Aircraft received 44 gross orders for the A350 XWB Family (36 net), and delivered 78 aircraft.

In July 2017, Airbus Commercial Aircraft celebrated the delivery of its 100th A350 aircraft – an A350-900 for China Airlines just some 30 months after the first delivery of an A350.

A350 XWB FAMILY TECHNICAL FEATURES

Model	Entry-into-service	Passenger capacity(1)	Maximum range *(km)*	Length *(metres)*	Wingspan *(metres)*
A350-900	2014	325	14,350	66.8	64.7
A350-1000	2018	366	14,800	73.7	64.7

(1) Two-class layout.

Customer Services

Customer Services' prime role is to support its customers in operating their Airbus fleet safely and profitably and to the satisfaction of passengers all around the world. As a result of its continued growth, Airbus Commercial Aircraft's customer base has increased consistently over the past years reaching 9,950 aircraft in-service by the end of 2017 operated by 424 customers. The fleet is maintained by more than 100 Maintenance and Repair Organisations and partially owned by 100 leasing companies.

A worldwide network of more than 5,000 people cover all areas of support from technical engineering / operational assistance and spare parts supply, to crew and maintenance training. Hundreds of technical specialists provide Airbus Commercial Aircraft customers with advice and assistance 24 hours a day, 7 days a week. There are 143 field service stations available worldwide for on-site assistance to our operators, covering 167 operators. 201 operators are covered by 15 Hubs. Our worldwide support is also based on an international network of support centres, training centres and spares' warehouses.

Beyond the core customer support activities, Airbus Commercial Aircraft has developed a comprehensive services portfolio including a wide range of modular and customised services driven by the unique added value that an aircraft manufacturer can bring.

The services portfolio is clustered around four pillars: Maintenance & Engineering Solutions consisting of Flight Hour Services & Material Services, Training, Upgrades and Flight Operations.

A recent major step in the development of Customer Services is the creation of Navblue out of the Navtech acquisition in 2016. With its comprehensive product suite of solutions for electronic flight bags (EFBs), aeronautical charts, navigation data, performance-based navigation (PBN), flight planning, aircraft performance and crew planning, Navblue further strengthens Airbus Commercial Aircraft's provision of end-to-end flight operations services. At the 2016 Farnborough International Airshow, the launch of two new services has been announced as well: Airline Operating Control Centre and Aeronautical Data solutions.

In addition, three new training centres have been opened in Singapore, Mexico and Sao Paulo, and the Services digital roadmap is progressing well with the launch of new e-solutions on Predictive Maintenance notably.

In 2017, Sepang Aircraft Engineering (SAE), an MRO centre based in Kuala Lumpur, Malaysia, partially owned by Airbus since 2011, has become a fully owned Airbus subsidiary, following the acquisition by Airbus of its remaining shares. It will boost growth strategy of services by Airbus in Asia Pacific.

Airbus launched a new offer, Airbus Interiors Services, dedicated to supporting airlines with their cabin upgrade development strategies.

At Le Bourget airshow, Airbus launched a new aviation data platform in collaboration with Palantir Technologies – pioneers in big-data integration and advanced analytics. Skywise aims to become the single platform of reference used by all major aviation players to improve their operational performance and business results and to support their own digital transformation.

Customer Finance

Airbus Commercial Aircraft favours cash sales, and does not envisage customer financing as an area of business development. However, Airbus Commercial Aircraft recognises the commercial need for manufacturers to assist customers in arranging financing of new aircraft purchases, and in certain cases to participate in financing those aircraft for the airline.

Extension of credit or assumption of exposure is subject to corporate oversight and monitoring, and follows strict standards of discipline and caution. Airbus Commercial Aircraft's dedicated customer finance team has accumulated decades

of expertise in aircraft finance. When Airbus Commercial Aircraft finances a customer, the financed aircraft generally serves as collateral, with the engine manufacturer participating in the financing. These elements assist in reducing the risk borne by Airbus Commercial Aircraft. The difference between the gross exposure resulting from the financing and the collateral value is fully provisioned for (for further information, please refer to the "— Notes to the IFRS Consolidated Financial Statements — Note 25: Sales Financing Transactions"). Airbus Commercial Aircraft's customer Financing Transactions are designed to facilitate subsequent sell-down of the exposure to the financial markets, third-party lenders or lessors.

In 2017, Airbus Commercial Aircraft continued to benefit from market appetite for both aircraft financing and sale and leaseback lessor opportunities, supported by a high level of liquidity available in the market at good rates for Airbus aircraft. Despite a continued suspension of Export Credit Agency support, Airbus Commercial Aircraft customer financing exposure remained limited in 2017 and decreased compared to 2016. Airbus Commercial Aircraft will continue to provide direct aircraft financing support as it deems necessary. Management believes, in light of its experience, that the level of provisioning protecting Airbus Commercial Aircraft from default costs is adequate and consistent with standards and practice in the aircraft financing industry. See "— Risk Factors – Financial Market Risks – Sales Financing Arrangements".

Asset Management

The Asset Management department was established in 1994 to manage and re-market used aircraft acquired by Airbus Commercial Aircraft, originally as a result of customer bankruptcies, and subsequently in the context of certain buy-back commitments. The department operates with a dedicated staff and manages a fleet comprised of used aircraft across a wide range of models. Through its activities, the Asset Management department helps Airbus Commercial Aircraft to respond more efficiently to the medium- and long-term fleet requirements of its customers.

Its key roles comprise commercial, technical and financial risk management of its used aircraft portfolio, as well as the enhancement of all Airbus Commercial Aircraft products' residual value.

It also provides a full range of remarketing services, including assistance with entry-into-service, interior reconfiguration and maintenance checks. Most of the aircraft are available to customers for cash sale, while some can also be offered on operating lease. In the latter, the Airbus Commercial Aircraft Asset Management team aims at eventually selling down the aircraft with lease attached to further reduce its portfolio exposure.

At the end of 2017, the Asset Management portfolio contained 27 aircraft, representing a 27% net portfolio reduction from 2016.

Production

Industrial Organisation

Each task in the building of Airbus aircraft (from design to production) is allocated to a designated plant. The Airbus Commercial Aircraft plants are typically organised around different aircraft components and sections, in component delivery teams. Each component delivery team is either in charge of one aircraft programme, or organised by manufacturing technology clusters depending on the optimum solution for each plant. Every plant is organised with production, engineering, quality, supply chain, manufacturing, engineering and logistics capabilities to ensure a seamless production flow of operations.

A transversal "Industrial Systems" Centre of Competences is in charge of ensuring that harmonised and standardised processes, methods and tools are developed and implemented across the plants, in order to increase efficiency, based on best practices. Another transversal "Manufacturing technologies" Centre of Competences is in charge of disseminating new technologies and innovation in manufacturing across the plants and preparing manufacturing solutions for future product evolutions.

Following production by the respective plants, the various aircraft sections are transferred between the network of sites and the final assembly lines using dedicated transport means, such as the "Beluga" Super Transporters. To support the A380 production flow, Airbus Commercial Aircraft has also integrated road, river and sea transport. Programme management is then responsible for the final assembly line activities. The programme management works closely with the plants to secure delivery of aircraft sections to the final assembly lines on time, cost and quality.

Following the commencement of aircraft assembly at the A320 Family final assembly line in Mobile, Alabama (US) in July 2015, the first delivery of a Mobile-assembled aircraft took place in April 2016. At the time of publication, Airbus Commercial Aircraft anticipates delivering four aircraft per month from the Mobile plant. The vast majority of the aircraft produced in Mobile will be delivered to North American customers.

In 2017, Airbus Commercial Aircraft announced the following production rate:

- A320 family: rate 60 by mid 2019 with a 4th A320 line in Hamburg, Mobile fully on schedule and Tianjin (China) ramping- up further;
- A330: rate 6 in 2018;
- A380: 12 deliveries in 2018 and 8 in 2019.

Engineering

Airbus Engineering is a global organisation that develops civil aircraft and aircraft components, and that conducts innovative research applicable to the next generation of aircraft. Airbus Engineering operates transnationally, with most engineers employed in France, Germany, the UK and Spain. A growing population of experienced aerospace engineers is also employed worldwide at five other engineering centres in Wichita (Kansas, US), Mobile (Alabama, US), Moscow (Russia), Bangalore (India) and Beijing (China).

A key part of the Airbus engineering organisation is the architect and integration centre, which ensures, together with a team of senior aircraft architects and the programme chief engineers, that a consistent and multi-disciplinary approach is applied during aircraft development.

Research & Technology activities continue to deliver incremental innovations for existing aircraft, matured breakthrough technologies, with reinforced focus on industrial aspects. Airbus Engineering is a major contributor to numerous international initiatives dedicated to the preservation of the environment and the reduction of noise and CO_2 emissions. Fully integrated change projects are also implemented to continuously implement innovative and efficient ways of working.

Regional Aircraft, Aerostructures, Seats and Aircraft Conversion

ATR

ATR (*Avions de Transport Régional*) is a world leader in the 30 to 78 seat regional turboprop aircraft market. Its aircraft are currently operated by more than 200 airlines in over 100 countries. ATR is an equal partnership between Airbus and Leonardo, with Airbus' 50% share managed by Airbus Commercial Aircraft. Headquartered in Toulouse, ATR employs more than 1,300 people. Since the start of the programme in 1981, ATR has registered net orders for 1,671 aircraft (465 ATR 42s and 1,206 ATR 72s).

In 2017, ATR delivered 78 new aircraft (compared to 80 in 2016) and recorded net firm orders for 103 new aircraft (compared to 32 in 2016), including significant orders from Indigo and Iran Air, and an order from Fedex for the new ATR-72 F (freighter). As of 31 December 2017, ATR had a backlog of 235 aircraft (compared to 212 in 2016).

Products and Services

ATR 42 and ATR 72. ATR has developed a family of high-wing, twin turboprop aircraft in the 30- to 78-seat market which comprises the ATR 42 and ATR 72, designed for optimal efficiency, operational flexibility and comfort. Like Airbus Commercial Aircraft, the ATR range is based on the family concept, which provides for savings in training, maintenance operations, spare parts supply and cross-crew qualification. By the end of 2017, ATR had delivered 1,436 aircraft.

Customer service. ATR has established a worldwide customer support organisation committed to supporting aircraft over their service life. Service centres and spare parts stocks are located in Toulouse, Paris, Miami, Singapore, Bangalore, Auckland and Johannesburg. ATR worldwide presence also includes a representative office in Beijing.

ATR Asset Management addresses the market for second-hand aircraft by assisting in the placement and financing of used and end-of-lease aircraft. ATR Asset Management activity is marginal today as the leasing market has strongly developed since 2007.

Production

The ATR fuselage is produced in Naples, Italy, and ATR wings are manufactured in Merignac near Bordeaux, France. Final assembly takes place in Saint Martin near Toulouse on the Airbus Commercial Aircraft production site. Flight-testing, certification and deliveries also occur in Toulouse. ATR outsources certain areas of responsibility to Airbus Commercial Aircraft, such as wing design and manufacturing, flight-testing and information technology.

STELIA Aerospace

STELIA Aerospace is a wholly-owned subsidiary of Airbus. Following the merger of Sogerma and Aerolia in 2015, it now offers global solutions for aeronautical manufacturers and airlines supported by its aerostructure, cabin interior and pilot seats business lines.

As one of the world leading tier-1 aerostructure suppliers, STELIA Aerospace designs and manufactures fully integrated aircraft sections for civil and military programs.

From full aircraft wings and fuselage sections, to fully equipped "plug and fly" structures, STELIA Aerospace is a global partner for major aeronautical players worldwide, such as Airbus, ATR, Bombardier or Boeing.

With more than 6,900 employees worldwide, working within 11 Centres of Excellence based in France, Canada, Morocco and Tunisia, STELIA Aerospace has the capability to offer both Build-to-Print and Design & Build solutions.

Other specialisms include mechanical milling of rolled and stretched panels, and tubes & pipes covering all ATA systems.

STELIA Aerospace also designs and manufactures luxury First Class and Business Seats for key partners in the world including Etihad Airways, Singapore Airlines or Thaï Airways.

By combining innovative materials and technology with a drive to improve the passenger experience, STELIA Aerospace has created an outstanding range of seats used in civil aircraft globally.

STELIA Aerospace – a joint world leader Pilot seats manufacturer – provides cockpit and pilot seats for all kinds of aircraft, and offers support from design to production, including after-sales service.

As part of its development strategy, STELIA Aerospace is actively seeking new commercial and strategic opportunities.

Premium AEROTEC

Premium AEROTEC is a wholly owned subsidiary of the Company (consolidated within Airbus Commercial Aircraft), is one of the world's leading tier-1 suppliers of commercial and military aircraft structures and is a partner in the major European international aerospace programmes.

Its core business is the development and production of large aircraft components from aluminum, titanium and carbon fiber composites (CFRP). Premium AEROTEC is Europe's no. 1 in this segment with roughly 10,000 employees at various sites in Germany and Romania. Premium AEROTEC is represented by its products in all Airbus Commercial Aircraft programmes. The current military programmes include the Eurofighter "Typhoon" and the new military transport aircraft A400M.

Besides main customer Airbus, Premium AEROTEC will further intensify business with other customers and actively approach other aircraft or structural manufacturers. The Company is also striving to expand its maintenance, repair and spare parts business.

In order to contribute successfully to the shaping of the future of aviation, the engineers and developers at Premium AEROTEC are continuously working on the new and further development of lightweight and highly durable aircraft structures. They cooperate closely with universities and research institutes in the process. Premium AEROTEC plays a significant role in the design of new concepts in such fields as carbon composite technologies (incl. thermoplastic processes) or 3D-printing of aircraft components made of titanium or aluminum.

Elbe Flugzeugwerke GmbH — EFW

EFW combines various aviation and technology activities under a single roof: development and manufacturing of flat fibre-reinforced composite components for structures and interiors, the conversion of passenger aircraft into freighter configuration, maintenance and repair of Airbus Commercial Aircraft aircraft as well as engineering services in the context of certification and approval.

On 17 June 2015, Airbus Commercial Aircraft signed an agreement with Singapore-based ST Aerospace Ltd. (STA) to offer passenger-to-freighter (P2F) conversion solutions for its A320 and A321 aircraft. STA acquired an additional 20% of the shares of EFW, Dresden (Germany) by way of a contribution in kind and a capital increase to EFW. The transaction closed on 4 January 2016. Consequently, 45% of the shares of EFW were retained and Airbus effectively lost its control over EFW (previously reported in Airbus Commercial Aircraft).

1.1.3 Helicopters

Airbus Helicopters is a global leader in the civil and military rotorcraft market, offering one of the most complete and modern ranges of helicopters and related services. This product range currently includes light single-engine, light twin-engine, medium and medium-heavy rotorcraft, which are adaptable to all kinds of mission types based on customer needs. See "— 1.1.1 Overview" for an introduction to Airbus Helicopters.

Strategy

Airbus Helicopters' strategy is to continue driving improvement initiatives via its company-wide digital transformation plan, which places customer satisfaction, quality and safety at the core of its operations, along with increasing industrial competitiveness.

A Commitment to Innovation

Development of the next-generation H160 medium helicopter – the first of the "H Generation" – is ongoing at a steady pace. Flight-test activities were carried out throughout 2017. The third H160 prototype has been introduced in early October enabling flight tests to accelerate with the final assembly line in Marignane being in the final stages of preparation. In 2017, products and services continued to be enhanced, with several initiatives such as the ongoing development of the H175 Public Services version for delivery in 2018 and the first fire campaign of the H145 equipped with H-Force suite for German Special Operation Forces.

Airbus Helicopters is investigating future unmanned VTOL (Vertical Take-off and Landing) systems. In that frame, Airbus Helicopters is currently working on the design and development of the VSR700 unmanned aerial vehicle. The French DGA (*Direction Générale de l'Armement*) has awarded a contract to the Naval Group and Airbus Helicopters consortium to identify, deploy and test the necessary technologies for the integration of a tactical drone-system capacity within a heavily armed vessel.

Airbus Helicopters is also exploring Urban Air Mobility (UAM) via theCityAirbus project, which is an electrically operated platform concept for multiple passengers. As part of Clean Sky 2 European Research programme, Airbus Helicopters has unveiled at the Le Bourget airshow the aerodynamic configuration of the high speed demonstrator codenamed Racer. This demonstrator will incorporate a host of innovative features and will be optimised for a cruise speed of more than 400 km/h. Beyond the platform Airbus Helicopters wants to play a leading role in UAM services like on-demand helicopter booking platforms. Voom, now operational in Sao Paulo, will be the entity that will provide this new service to be deployed to other locations notably in the Americas and Asia-Pacific.

Focusing on Customers

Airbus Helicopters achieved the first wave of its transformation plan in 2017 by further enhancing customer support and services, with safety as the top priority. This is underscored by indicators like increasing fleet availability for customers and operators, or improved On Time Delivery rates for spare parts.

Delivering Safety

An H225 Super Puma helicopter was involved in an accident on 29 April 2016. Management is cooperating fully with the authorities to determine the precise cause of the accident. Subsequently, Airbus Helicopters has reviewed and applied new safety measures to its product range. Furthermore, design changes have been introduced on the Super Puma and Dauphin family of helicopters.

Airbus Helicopters' chief priority is to enhance flight safety for the thousands of men and women around the world who are transported in its aircraft every day. This commitment is reflected across all company activities involving the lifecycle of a helicopter, with focus on meeting and exceeding industry safety standards and supporting the safe operation of its aircraft.

Market Drivers

According to market forecasts produced by Airbus Helicopters, around 22,000 civil helicopters and 14,000 military helicopters are expected to be built globally over the next 20 years (all turbine helicopters). This forecast, particularly with respect to the military sector, relies to a large extent on large US development programmes. Overall, the global helicopter market is still evolving in a difficult environment, despite improved economic indicators in 2017.

Helicopters sold in the civil and parapublic sector, where Airbus Helicopters is a leader, provide transport for private owners and corporate executives, offshore oil operations, diverse commercial applications and state agencies, including coast guard, police, medical and fire-fighting services. Thanks to its existing mission segment diversity, the helicopter market (both Platforms and Services activities) is expected to be resilient through the coming decade, even though one of the key segments, Oil & Gas (in value), continues to experience challenging conditions. Airbus Helicopters expects market softness to continue in the short term but believes that the demand over the next 20 years will be driven by large replacement needs from advanced economies and by growth from emerging countries (especially in Asia still largely under equipped). Airbus Helicopters' market data indicates that in 2017, worldwide deliveries of civil and parapublic turbine helicopters over five seats stood at ~520 units. Demand for military helicopters and related services is mainly driven by budgetary and strategic considerations, and the need to replace ageing fleets. Airbus Helicopters believes that the advanced age of current fleets, the emergence of a new generation of helicopters equipped with integrated systems and the ongoing introduction of combat helicopters into many national armed forces will contribute to increased military helicopter procurement in the medium term. Nevertheless, demand from the military sector has historically been subject to large year-to-year variations due to evolving strategic considerations, and may be limited, due to budgetary constraints on public spending in some regions like Western Europe and Middle East, while other regions like Asia Pacific or Eastern Europe are expected to continue to grow. Despite recent threats and a growing geopolitical instability, which has accelerated military spending and a reassessment of defence budgets, the military market is still low in 2017. Economic difficulties (*i.e.*, low commodities prices), saturation of the Western countries markets as well as postponement of significant military campaigns have resulted in a decrease for all mission segments. According to Airbus Helicopters' market data, worldwide deliveries of military turbine helicopters stood at ~700 units in 2017.

Competition

Airbus Helicopters' primary competitors in the civil and parapublic sector are Leonardo and Bell Helicopter. Sikorsky and Russian Helicopters (except in Russia) continue to reflect very low order intake in the C&P market while concentrating their activity on the military sector.

The civil and parapublic sector has seen more local competitors in recent years (China, India, Japan, South Korea, Turkey). Airbus Helicopters has consolidated its market share (in bookings of 2.0t helicopters and five seats and above), in a low market, with 50% in unit in 2017, followed by Bell and Leonardo with respectively 18% and 17%.

Airbus Helicopters' main competitors in the military sector are Sikorsky, Boeing and Russian Helicopters, thanks to large captive market and strong political support for export.

The military sector is highly competitive and is characterised by major restrictions on foreign manufacturers' access to the domestic defence bidding process (*i.e.* USA, China, Russia). Thanks to several Super Puma family contracts, Airbus Helicopters increased its market share on this sector (in value) from 4% in 2016 to 12% in 2017. Airbus will continue to focus on large military campaigns in 2018.

Customers

More than 3,000 operators currently fly Airbus Helicopters' rotorcraft in over 150 countries. Airbus Helicopters' principal military clients are Ministries of Defence ("MoDs") in Europe, Asia, the US and Latin America. In the civil and parapublic sector, Airbus Helicopters has a leading market share in Europe, the Americas and Asia-Pacific.

With 50% of the worldwide market share-based on deliveries, the versatility and reliability of Airbus Helicopters products have made them the preferred choice of the most prominent civil and parapublic customers (turbine helicopters over five seats).

Products and Services

Airbus Helicopters offers a complete range of helicopters that covers nearly the entire civil and military market spectrum, which it continuously improves with leading-edge technologies. This product range includes light single-engine, light twin-engine, medium and medium-heavy helicopters, and is based on a series of new-generation platforms designed to be adaptable to both military and civil applications. In addition, products share multiple technical features as part of a family concept approach.

The following table sets forth Airbus Helicopters' existing product line, consisting of optimised products for different mission types:

Helicopter Type	Primary Missions
Single Engine ("Ecureuil" family)	
H125 "Ecureuil" / H125M "Fennec"	Public Services(1), Military Utility(2) & Armed Reconnaissance, Corporate / Private, Commercial Pax Transport & Aerial Work
H130	Commercial Pax Transport & Multipurpose, Emergency Medical, Tourism, Corporate / Private
Light Twin Engine	
H135 / H135M	VIP, Military Utility & Armed Reconnaissance, Emergency Medical, Public Services(1)
H145 / LUH (UH-72) / H145M	VIP, Military Utility(2), Emergency Medical, Public Services(1)
Medium ("Dauphin" family)	
AS365 "Dauphin" / AS565 "Panther"	Military Naval Warfare Mission & Maritime Security, Public Services(1) (in particular Coast Guard & SAR), Oil & Gas, Commercial Pax Transport & Multipurpose
H155	Corporate / Private, VIP, Oil & Gas, Public Services(1)
H175	Corporate / Private, VIP, SAR, Emergency Medical, Public Services(1), Oil & Gas
Medium-Heavy	
H215 "Super Puma" / H215M "Cougar"	Civil Utility, Military Transport / SAR, Oil & Gas
H225 / H225M	SAR, Combat-SAR, Military Transport, Oil & Gas, VIP, Public Services(1)
NH90 (TTH / NFH)	SAR, Military Transport, Naval
Attack	
Tiger	Combat, Armed Reconnaissance / Escort

(1) Public Services includes homeland security, law enforcement, fire-fighting, border patrol, coast guard and public agency emergency medical services.
(2) Civil Utility includes different kinds of commercial activities such as aerial works, electrical new gathering (ENG), passenger and cargo transport.

Airbus Helicopters confirms serial production of the H120 has ended in September 2017. The decision to stop production of the H120 is the result of Airbus Helicopters' strategy to focus on markets where high-end technologies bring most value to customers.

Civil Range

Airbus Helicopters' civil range includes light single-engine, light twin-engine, medium and medium-heavy helicopters, which are adaptable to all mission types based on customer needs. To maintain and strengthen its competitive edge in the civil sector, Airbus Helicopters is pursuing a fast-paced product range renewal. This entails development for the next generation of helicopters with the H175 Public Services variant and the H145 H-Force.

In the civil market, Airbus Helicopters is preparing the future – the H Generation – embodied by the all-new, medium-weight H160 civil helicopter which was unveiled and started flight testing.

Military Range

Airbus Helicopters' military range comprises platforms derived from its commercial range (such as the H225M derived from the H225) as well as purely military platforms developed for armed forces (the NH90 and the Tiger).

Designed for modern multi-mission capabilities and cost effectiveness throughout its lifecycle, the NH90 has been developed as a multi-role helicopter for both tactical transport (TTH) and naval (NFH) applications. The programme, mainly financed by the governments of France, Germany, Italy and the Netherlands, has been jointly developed by Airbus Helicopters, Leonardo of Italy and Fokker Services of the Netherlands as joint partners in NATO Helicopter Industries ("NHI") in direct proportion to their countries' expressed procurement commitments. Airbus Helicopters' share of NHI is 62.5%. There were 40 NH90 deliveries in 2017, for a cumulative total of 345 deliveries as of the end of 2017. The NH90 fleet has accumulated ~145,000 flight hours.

The Tiger combat attack helicopter programme includes four variants based on the same airframe: the HAP (turreted gun, rockets and air-to-air missile); the UHT (antitank missile, air-to-air missile, axial gun and rockets); the ARH (antitank missile, turreted gun and rockets); and the HAD (antitank missile, air-to-air missile, turreted gun, rockets and upgraded avionics and engines) Overall in 2017, 17 Tigers were delivered, for a cumulative total of 171 deliveries by year-end. The Tiger fleet has accumulated more than 96,000 flight hours.

Airbus is also a major contractor to the US Army, having been chosen to supply the service's UH-72A Lakota helicopter. As of 1 January 2018, 430 aircraft had been delivered to the US Defense Department for operation by US Army and Army National Guard units, the Navy and foreign military sales buyers.

Customer Services

With more than 3,000 operators in over 150 countries, Airbus Helicopters has a large fleet of some 12,000 in-service rotorcraft to support. As a result, customer service activities to support this large fleet generated 44% of Airbus Helicopters' revenues for 2017 after the disposal of Vector Aerospace in November 2017.

Airbus Helicopters' customer service activities consist primarily of maintenance, repairs, spare parts supply, training and technical support. In order to provide efficient worldwide service, Airbus Helicopters has established an international network of subsidiaries, authorised distributors and service centres.

Production

Airbus Helicopters' industrial activities in Europe are conducted in four primary locations, two in France, one in Germany and one in Spain. The French sites are in Marignane, southern France and Paris-Le Bourget. The German site is located in Donauwörth, and the Spanish site is located in Albacete.

In the US, Airbus Helicopters, Inc. has two industrial sites: Grand Prairie, Texas and Columbus, Mississippi. Grand Prairie serves as the company's headquarters and main facility and also serves as the Airbus Helicopters Training facility for North America. The Columbus facility is dedicated to the assembly and delivery of the UH-72A Lakota and H125.

In Australia, Australian Aerospace assembles, upgrades and maintains NH90 and Tiger for the country's armed forces; while a rotary-wing centre of excellence in Helibras — Itajuba, Brazil produces, assembles and maintains H225M helicopters acquired by the Brazilian armed forces.

1.1.4 Defence and Space

Airbus Defence and Space develops and engineers cutting-edge products, systems and services in the field of defence and space, enabling governments, institutions and commercial customers to protect people and resources while staying connected to the world.

Airbus Defence and Space is organised in four Programme Lines: Military Aircraft; Space Systems; Communications, Intelligence & Security (CIS); and Unmanned Aerial Systems (UAS), which are focusing on the following key activities respectively:

- Military Aircraft designs, develops, delivers and supports military aircraft. It is the leading fixed-wing military aircraft centre in Europe, and one of the market leaders for combat, mission, transport and tanker aircraft worldwide. Key products include the Eurofighter Typhoon, the A400M, the A330 Multi Role Tanker Transport (MRTT) and the C295;
- Space Systems covers a broad range of civil and military space applications. Its satellite solutions for telecommunications, earth observation, navigation and science include spacecraft, ground segments and payloads. It also manufactures orbital and space exploration systems. Space transportation capabilities (comprising launchers and services) are offered via ArianeGroup, a 50/50 joint venture between Airbus and Safran;
- Communications, Intelligence & Security (CIS) includes four business clusters: Secure Communications, Intelligence, Cyber Security and Security Solutions. These clusters develop specific solutions for customers ranging from governments to small companies and commercial enterprises. In addition, CIS houses a dedicated unit for developing future applications for commercial markets, leveraging Airbus Defence and Space innovations, products and capabilities;
- Unmanned Aerial Systems (UAS) develops, delivers and operates UAS and UAV solutions for airborne intelligence, surveillance, reconnaissance, and combat missions. The commercial part of the UAS Programme Line, Airbus Aerial, delivers actionable data for different vertical markets, connectivity and cargo delivery services – fitting customer needs.

Strategy

The ambition of Airbus Defence and Space is to become the world's leading provider of smart aerospace and defence solutions. Following a comprehensive strategy review and update in 2016, Airbus Defence and Space is currently implementing a growth strategy based on strengthening its core product portfolio and expanding the services business, with a major emphasis on digitalisation ("Smarter Products – More Services – More Digital").

This growth strategy includes the following objectives:

- **shape the next generation of integrated combat systems and services**: As a replacement for the current generation of European combat aircraft, our vision for Future Air Power is based on a secure, interconnected, scalable and upgradable system of manned and unmanned platforms, including a new fighter and enhanced sensors and effectors;
- **lead the market in multi-mission and military transport solutions**: We will develop further upgrades and capabilities for our A330 MRTT and C295 platforms including greater connectivity and automatisation. We will progress our products towards multi-mission capability and will enlarge our portfolio;
- **build an innovative UAS portfolio for commercial and military applications**: In the area of commercial UAS, Airbus Aerial will focus on remote sensing, cargo drone services and connectivity applications. In defence we will shape sovereign European programmes such as a medium-altitude, long-endurance UAS, while concurrently developing teaming and swarming solutions;
- **take leadership in space solutions**: As the no. 1 in Europe and no. 3 in the world, we aim to further strengthen our position by pushing innovation and accessing new customers. We will develop next generation space-based systems to deliver earth-observation, telecom and connectivity solutions, and offer cutting-edge in-orbit services;
- **establish a leading position in cyber for governments and critical industries**: We will protect Airbus and its products against cyber attacks, and develop solutions to protect government and critical industry assets, products and operations;
- **make digital services and secure connectivity our new growth engine**: Digital platforms will be a key enabler for the creation of future data-driven services and new business models, e.g. drone services, imagery intelligence or aircraft in-service support. We also aim to be a leader in end-to-end secure connectivity across satellite, terrestrial, maritime and airborne networks;
- **grow our capability in the US**: Leveraging our existing products and services, we will strengthen our position in the US market through innovation and select strategic partnerships.

Market

Airbus Defence and Space is mainly active in public and para-public markets. As a general trend, defence budgets in Europe are set to gradually increase, triggered by heightened security risks and reinforced by recent discussions on the NATO commitments. In addition, the implementation of the European Defence Action Plan of November 2016 was bolstered by the joint declaration published in July 2017 by the French and German governments outlining the intention to strengthen European defence, including the joint development of military and security capabilities; together, these may provide new sales opportunities through members' collaborative procurement mechanisms. Market access outside the home countries may be subject to restrictions or preconditions such as national content.

Nevertheless, Airbus Defence and Space, in conjunction with Airbus, is well-placed to benefit from growth potential in defence across its solutions.

Military Aircraft

Customers

The Military Aircraft Programme Line with its products combat aircraft, military transport aircraft, mission aircraft and related services supplies the public sector, mainly armed forces.

Customer relationships in this segment are characterised by their long-term, strategic nature and long decision-making cycles. Once a contract is signed, its life span including considerable services business often amounts to decades. Beyond a strong foothold in home countries, the customer base is increasingly global, in particular due to the success of the A330 MRTT and C295 programmes.

The turbulence created by changes in the US administration and the Russian situation is gradually leading to a shift in importance of defence in Europe. The commitment to go towards a 2% of GDP is being gradually pursued and should lead to new optimism for the sector. The Franco-German declaration in summer 2017 and the establishment of "Permanent Structured Cooperation (PESCO)" by the European Union on 11 December 2017 are also clear signals in this direction.

With its C295 platform, Military Aircraft has also entered into the leasing market for civil operation, such as the UN World Food programme, and is looking for other civil opportunities.

Competitors

The market for military aircraft is dominated by large- and medium-sized American and European companies capable of complex system integration. Among the competitive factors are affordability, technical and management capability, the ability to develop and implement complex, integrated system architectures and the ability to provide solutions to customers. In particular special mission aircraft, such as heavy tankers, are derived from existing aircraft platforms. Adapting them requires thorough knowledge of the basic airframe, which generally only the aircraft manufacturer possesses. The skills necessary for the overall systems integration into the aircraft are extensive and the number of participants in the world market is very limited.

The main competitors in military transport and mission aircraft include Boeing, Lockheed Martin, Leonardo, UAC, Kawasaki, Ilyushin, AVIC and Antonov/Taqnia.

Heavy military transport has historically been driven by US policy and budget decisions and has therefore been dominated by US manufacturers and split in strategic and tactical aircraft segments. The A400M represents the Company's entry into this market, at a time when nations are expected to begin replacing their existing fleets. The aircraft is designed to disrupt the divide between strategic and tactical transport by offering both capabilities in one. This saves both time and cost as you can fly a long range strategic aircraft into a tactical zone of operation.

In revenues, Airbus is the largest continental European combat aircraft manufacturer. The major combat aircraft activities are taking place through the contribution to the Eurofighter Typhoon programme jointly with the consortium partner companies BAE Systems and Leonardo. Competitors in the segment of combat aircraft include Boeing, Dassault, Lockheed Martin, Saab and Sukhoi.

Market Trends

The sale of aircraft is expected to remain sound in the transport and special mission aircraft segments and even grow considerably for the heavy transport segment, where the A400M occupies a unique position.

In 2017, a contract for the supply of 24 units to Qatar was secured for the Eurofighter Typhoon consortium. A number of further sales are expected, prolonging the Eurofighter Typhoon production life.

After-Sales Services are an important business for Military Aircraft and are undergoing strong growth in line with the deliveries of A400M and A330 MRTT on top of the existing robust revenue stream associated with Eurofighter Typhoon in-service support.

The announcement of France and Germany in July 2017 to jointly develop and procure the next generation fighter jet may also contribute to safeguarding critically-needed European defence capabilities in the future.

Space Systems

Public Sector: Satellites, Space Infrastructure, Launchers, Deterrence

In the public market for Earth observation, scientific / exploration and navigation satellites, competition in Europe is organised on a national and multinational level, primarily through the European Space Agency (ESA), the European Commission (EC) and national space agencies.

Decisions at the latest ESA Ministerial Conferences and under EC Horizon 2020 paved the way for future European programmes in which Airbus Defence and Space does or may seek to participate. There is also important export demand for Earth observation systems, for which the Company is a leading provider. The export market is expected to continue growing over the medium-term.

For military customers, demand for telecommunication and observation satellites has increased in recent years.

The equipment segment can rely on a stable European market, with potential growth to come from developing space countries as well as the US.

The orbital infrastructure segment comprises manned and unmanned space systems mainly used for space exploration, *i.e.* scientific missions. Demand for orbital infrastructure systems originates solely from publicly funded space agencies, in particular from ESA, NASA, Roscosmos (Russia) and NASDA (Japan). Such systems are usually built in cooperation with international partners. The International Space Station (ISS), together with related vehicle and equipment development programmes and services, constitutes the predominant field of activity in this segment and Airbus Defence and Space leads as prime contractor on industrial level the European contribution to the international Space Station ISS. Airbus Defence and Space is involved in NASA's Orion project as the prime contractor for the European contribution: the mission-critical service module of the MPCV (Multi-purpose Crew Vehicle) Orion spacecraft, which will allow astronauts to fly beyond low Earth orbit for the first time since the American Apollo programme.

The joint venture ArianeGroup is prime contractor for the Ariane 5 launcher system. ArianeGroup is contracted for the development of the future Ariane 6 launcher and is the prime contractor responsible for the development, manufacturing and maintenance of the French deterrence systems.

Commercial Sector: Telecommunications Satellites, Launch Services

The commercial telecommunication satellite market is highly competitive, with customer decisions primarily based on price, technical expertise and track record. The main competitors for telecommunications satellites are Boeing, Lockheed Martin, MDA and Orbital in the US, Thales Alenia Space in France and Italy, and Information Satellite Systems Reshetnev in Russia. The market for telecommunications satellites is expected to remain largely stable over the coming years at a level of approximately 20 orders per year on average.

The market for commercial launch services continues to evolve. Competitive pressure is increasing in light of other competitors entering or coming back into the market. ArianeGroup provides a complete range of launch services with the Ariane, Soyuz, Vega and Rockot launchers. Competitors for launch services include ILS, SpaceX, ULA, Sea Launch and CGWIC. The accessible market to Arianespace for commercial launch services for geostationary satellites is expected to remain stable at around 20 payloads per year. However, due to various factors (such as technology advances, increasing competition and consolidation of customers), this figure remains volatile. This market does not include institutional launch services for the US, Russian or Chinese military and governmental agencies.

In 2015 Airbus Defence and Space announced the creation of OneWeb Satellites JV, an equally owned company with OneWeb that will design and build 900+ satellites for the OneWeb constellation programme. This satellite constellation aims to provide competitive global internet access. This participation is entrepreneurial in nature and is meant to drive innovation in a new space market – an area that is set to expand dramatically in coming years. In 2017, OneWeb Satellites JV broke ground on the world's first state of the art high-volume satellite manufacturing facility in Exploration Park, Florida, and inaugurated its serial production line for the assembly, integration, and test of OneWeb's first satellites in Toulouse.

Communications, Intelligence & Security

The Communications, Intelligence and Security (CIS) Programme Line brings together the growing but increasingly competitive market for satellite and terrestrial communication, intelligence and security services and solutions. CIS serves a common customer base which includes governments, defence institutions, security and public safety agencies, and increasingly commercial sectors such as transportation (maritime, aviation, road), energy (oil, gas, electricity), mining and agriculture.

This programme line is divided into four clusters: Intelligence, Secure Communications, Cyber Security and Security Solutions.

Through Intelligence, Airbus Defence and Space develops Command and Control solutions for Ministries of Defence. Competitors in this area largely come from European or American based defence companies. Intelligence is also amongst the largest players in the satellite imagery (optical and radar) market. This sector remains mainly government orientated. However, the demand for satellite imagery is growing in commercial markets as many companies see geospatial data as key information for their business development.

Through its Secure Communications cluster, Airbus Defence and Space is also a leader in governmental satellite communications. This cluster offers a full portfolio of mobile and fixed satellite communication and terrestrial secure communications solutions for application at sea, on land and in the air. Customers are Ministries of Defence, Ministries of Interior and NGOs.

Airbus Defence and Space is also a leading provider of cyber security products and services, including consultancy services in Europe. The market growth is driven by an exponential increase of cyber-attacks, the increase in use of connected assets and global digital transformation. Customers are governments and private companies with a high grade security requirement.

In addition to the business clusters, CIS also houses Future Applications, which is a business accelerator taking existing capabilities from anywhere within the Division to new markets not traditionally served. The goal is to form stable and sustainable new business bringing profitable revenue to Airbus Defence and Space on a scale significant to the Division within five years.

CIS focuses on public customers such as armed forces for government satellite communications, where we have long-term relationships with our customers. Whereas budget pressures on public expenditure are high in Europe, investment into the services and solutions offered by CIS is likely to continue in the face of new global security threats, a re-emphasis on defence and security and the growth in demand for digital services. CIS has the objective to develop and scale digital services e.g. new services based on data generated by existing Airbus Defence and Space products to generate significant profitable revenues.

Unmanned Aerial Systems

Customers

Unmanned Aerial Systems could lead to diversification into services-driven markets. It is also a sector in which Europe has a strong need for investment, which could set the stage for new cooperation programs. France, Germany, Italy and Spain have signaled their intention to cooperate on a medium altitude, long endurance Unmanned Aerial System and Airbus Defence and Space is participating in the two-year definition study of the system.

Competitors

With regards to platforms, Chinese, Israeli and US firms are well established in the Unmanned Aerial Systems market segment, along with other European companies such as BAE Systems, Dassault and Thales, who are competing for new European projects. The market itself features strong growth with significant opportunities in Europe, the U.S. and Asia Pacific.

Market Trends

Unmanned Aerial Systems have a very promising growth potential. Market structures in this segment are not clearly set out yet and will see some movement, including a new European collaborative programme. Services verticals will offer increasingly interesting prospects as the market evolves.

Products and Services

Military Aircraft

A400M — Heavy military transport. The A400M is designed to be the most capable new generation airlifter on the market today. It is designed to meet the needs of the world's armed forces and other potential operators for military, humanitarian and peacekeeping missions in the 21st century. The A400M is designed to do the job of three different types of military transport and tanker aircraft conceived for different types of missions: Tactical (short to medium range airlifter capability with short, soft and austere field operating performance), strategic transport (longer range missions for outsized loads) as well as tactical tanker.

A total of 174 aircraft have been ordered so far by the seven launch customer nations Belgium, France, Germany, Luxemburg, Spain, Turkey, the UK and one export customer, Malaysia. Type Certificate and Initial Operating Clearance have been achieved in 2013. Since then, 57 units have been delivered to six nations by the end of 2017. The A400M is already deployed operationally since 2014 and military capability is expected to grow over time.

Multi-role tanker transport — A330 MRTT. The A330 MRTT, a derivative of the Airbus A330 family, offers military strategic air transport as well as air-to-air refueling capabilities. Its large tank capacity is sufficient to supply the required fuel quantities without the need for any auxiliary tanks. This allows the entire cargo bay to be available for freight, with the possibility of incorporating standard LD3 or LD6 containers, military pallets

and/or any other type of load device in use today, as well as the full cabin available for personnel transport. The A330 MRTT is equipped with state of the art refueling systems, including an Aerial Refueling Boom System (ARBS) and under-wing refueling pods. At the end of 2017, the A330 MRTT programme has a total of 56 aircraft firm orders by eight customers, of which 29 already delivered and in service in four nations.

Eurofighter Typhoon combat aircraft. The Eurofighter Typhoon multi-role combat aircraft (also referred to as Typhoon) has been designed to enhance fleet efficiency through a single flying weapon system capable of fulfilling both air-to-air and air-to-ground missions.

The Eurofighter Jagdflugzeug GmbH shareholders are Airbus Defence and Space (46% share), BAE Systems (33% share) and Leonardo (21% share). With regard to series production, the respective production work shares of the participating partners within the Eurofighter Typhoon consortium stand at 43% for Airbus Defence and Space, 37.5% for BAE Systems and 19.5% for Leonardo. Airbus Defence and Space develops and manufactures the center fuselage and the right wing and leading edge slats for all aircraft, and is in charge of final assembly of aircraft ordered by the German and Spanish air forces. In addition Airbus Defence and Space is responsible for the development of the flight control system and the identification and communication sub-systems.

Airbus Defence and Space signed long-term global sustainment and material availability contracts for the Eurofighter Typhoon weapon system with the UK, Spain, Italy and Germany. The new agreement on Contract 1, effective 1 January 2017, runs for five years and is the second phase of sustainment for the Eurofighter Typhoon weapon system for all core nations forming the baseline for all in-service activities.

The new Contract 3, also effective from 1 January 2017, runs as well for five years and is the first milestone on the way to performance based logistics securing for the first time material availability for the Spanish and German air forces.

At the end of 2017, a total of 599 Eurofighter Typhoon aircraft had been ordered by eight customers (UK, Germany, Italy, Spain, Austria, Saudi Arabia, Oman and Kuwait), with a total of 532 aircraft delivered. Export opportunities are being actively developed together with the other shareholders of the Eurofighter consortium.

C295 — Light and Medium military transport/mission aircraft. The C295 is the work horse of tactical military transport, conducting logistical missions including the transport and delivery of personnel and cargo as well as medical evacuations. The aircraft are deployed in demanding environments (meteorological conditions, operational complexity, etc.), such as peacekeeping on the Sinai Peninsula. The aircraft are offered in varied versions and configurations beyond the traditional airlifter version, for example maritime patrol and anti-submarine warfare, airborne early warning and control, firefighting and intelligence surveillance reconnaissance (ISR), *etc.* In more than 30 years in service, this family of aircraft has proven to be robust, reliable, high-performing, efficient, flexible, easy to operate in any environment, and at low operating costs. 490 orders had been recorded for both CN235 and C295 types together at the end of 2017, with 22 aircraft ordered in 2017.

Customer Services. Airbus Defence and Space offers and provides various services for and related to military aircraft. Throughout the life-time of our aircraft, Military Aircraft Services includes integrated logistics support, in-service support, maintenance, upgrades, training or flight hour service. For example, the A330 MRTT contract with the UK Ministry of Defence through the AirTanker consortium includes alongside 14 aircraft the provision for all necessary infrastructure, training, maintenance, flight management, fleet management and ground services to enable the Royal Air Force to fly air-to-air refueling and transport missions worldwide. Customer services go beyond the fleet of aircraft currently in production at Airbus Defence and Space, conducting upgrade programs for aircraft such as the Tornado and P-3 Orion. Airbus Defence and Space maintains a network of Maintenance, Repair and Overhaul centers strategically located throughout the world for greater proximity to the customer, for example in Seville or Manching in Europe, in Mobile, Alabama (US) or at subsidiaries in Saudi Arabia or Oman.

Space Systems

Manned Space Flight. Airbus Defence and Space has been the prime contractor for the European part of the International Space Station (ISS). This includes the development and integration of Columbus, the pressurised laboratory module on ISS with an independent life-support system successfully in orbit since 2007. It provides a full-scale research environment under microgravity conditions (material science, medicine, human physiology, biology, Earth observation, fluid physics and astronomy) and serves as a test-bed for new technologies.

In 2015, ESA awarded Airbus Defence and Space a contract to handle the engineering support of the European components of the ISS, which represents a key part of the ISS operational activities. Airbus Defence and Space was also the prime contractor for the development and construction of the Automated Transfer Vehicle (ATV) cargo carrier. The expertise gained on the ATV served to become the prime contractor for the European service module of NASA's next generation manned capsule MPCV Orion.

Launch services. Airbus Defence and Space is active in the field of launch services through its ArianeGroup joint venture.

ArianeGroup is responsible for the coordination and programme management of civil activities of the launcher business and relevant participations that have been transferred. ArianeGroup owns a total 74% stake in Arianespace, 46% of Starsem and 51% of Eurockot, providing a complete range of launch services with the Ariane, Soyuz, Vega and Rockot launchers.

Commercial launchers. ArianeGroup manufactures launchers and performs research and development for the Ariane programmes. Member States, through ESA, fund the development cost for Ariane launchers and associated technology. Airbus Defence and Space has been the sole

prime contractor for the Ariane 5 system since 2004. In December 2014, the Ariane 6 programme was decided by ESA ministerial conference with an approval of the joint Airbus Defence and Space and Safran concept. In addition a new industrial set-up was announced with the creation of ArianeGroup between the two main Ariane manufacturers. This vertical integration secures the future by cutting costs and being more competitive. Ariane 6 is targeted to be launched in 2020.

Telecommunication satellites. Airbus Defence and Space produces telecommunication satellites used for both civil and military applications, such as television and radio broadcasting, fixed and mobile communication services and Internet broadband access. Current Airbus Defence and Space geostationary telecommunication satellites are based on the Eurostar family of platform, the latest version of which is the Eurostar E3000, including an all-electric variant. In 2015, Airbus Defence and Space also started the development of the Eutelsat Quantum telecommunication satellite, which will be the first satellite that can be fully reconfigured in orbit through its flexible antennae and repeater. Through its contract with OneWeb to design and produce 900 small telecommunication satellites for a constellation in Low Earth Orbit, Airbus Defence and Space is spearheading the industrial and commercial development of very large satellite constellations.

Observation and scientific / exploration satellites. Airbus Defence and Space supplies Earth observation satellite systems including ground infrastructures for both civil and military applications. Customers can derive significant benefits from the common elements of Airbus Defence and Space's civil and military observation solutions, which allow the collection of information for various applications, such as cartography, weather forecasting, climate monitoring, agricultural and forestry management, mineral, energy and water resource management, as well as military reconnaissance and surveillance.

Airbus Defence and Space also produces scientific satellites and space infrastructure, which are tailor-made products adapted to the specific requirements of the mostly high-end mission assigned to them. Applications include astronomical observation of radiation sources within the Universe, planetary exploration and Earth sciences. Airbus Defence and Space designs and manufactures a wide range of highly versatile platforms, optical and radar instruments and equipment. For example, Airbus Defence and Space contributed to the scientific community with the launches of the Sentinel-1B radar, Sentinel-2A and LISA pathfinder. It also signed a major contract to develop and build the JUICE spacecraft, ESA's next life-tracker inside the Solar System. JUICE will study Jupiter and its icy moons.

Navigation satellites. Airbus Defence and Space plays a major industrial role in the "Galileo" European navigation satellite system, which delivers signals enabling users to determine their geographic position with high accuracy and is expected to become increasingly significant in many sectors of commercial activity. Airbus Defence and Space was responsible for the Galileo in-orbit validation phase (IOV) to test the new satellite navigation system under real mission conditions. The IOV phase covered the construction of the first four satellites of the constellation and part of the ground infrastructure for Galileo. After the successful launch of the first four Airbus Defence and Space Galileo IOV satellites in 2011 and 2012, this early constellation was successfully tested in orbit and handed over to the customer in 2013. Airbus Defence and Space is playing an active role in the Galileo full operation capability phase (FOC) with a nearly 50% work share, including the FOC ground control segment and providing the payloads for the first 22 FOC satellites through its subsidiary SSTL.

Satellite products. Airbus Defence and Space offers an extensive portfolio of embedded subsystems and equipment for all types of space applications: telecommunications, Earth observation, navigation, scientific missions, manned spaceflight and launchers.

French deterrence systems. ArianeGroup as prime contractor holds the contracts with the French State for the submarine-launched deterrence system family.

Communications, Intelligence & Security

Intelligence. Airbus Defence and Space is a provider of commercial satellite imagery, C4ISR systems and related services with unrivalled expertise in satellite imagery acquisition, data processing, fusion, dissemination and intelligence extraction allied to significant command and control capabilities.

The cluster is a designer and supplier of C4I systems (Command, Control, Communications, Computers and Intelligence), which provides information systems and solutions to armed forces worldwide to support land, air and sea operations, assuring information superiority and supporting decision making at all levels of the command chain.

Airbus Defence and Space's lead systems integration offering includes the ability to design, develop and integrate the widest possible range of individual platforms and subsystems into a single effective network.

Airbus Defence and Space is also a provider of both optical and radar-based geo-information services to customers including international corporations, governments and authorities around the world.

With the very-high-resolution twin satellites Pleiades 1A and 1B, SPOT 6 and SPOT 7, Airbus Defence and Space's optical satellite constellation offers customers a high level of detail across wide areas, a highly reactive image programming service and unique surveillance and monitoring capabilities. Spot 6 and 7 provide a wide picture over an area with its 60-km swath, Pleiades 1A and 1B offer, for the same zone, products with a narrower field of view but with an increased level of detail (50 cm).

Airbus Defence and Space is currently producing four Pléiades Neo, Airbus' new very high resolution satellites. They will join the already large Airbus constellation of optical and radar satellites and will offer enhanced performances and the highest reactivity in the market thanks to direct access to the data relay communication system, known as SpaceDataHighway.

TerraSAR-X, a radar-based Earth observation satellite that provides high-quality topographic information, enabled Airbus Defence and Space to significantly expand its capabilities by proposing new kinds of images based on radar. TanDEM-X, its almost identical twin, was successfully launched in 2010 and achieved in 2014 WorldDEM, the first high precision 3-D elevation model of the entire surface of the Earth.

Secure Communications. Airbus Defence and Space offers a full portfolio of mobile and fixed satellite communication and secure terrestrial communications solutions for application at sea, on land and in the air. Airbus Defence and Space provides armed forces and governments in the UK, Germany, France and Abu Dhabi with secure satellite communications. For example in the UK, Airbus Defence and Space delivers in the frame of the "Skynet 5 programme" tailored end-to-end in-theatre and back-to-base communication solutions for voice, data and video services, ranging from a single voice channel to a complete turnkey system incorporating terminals and network management. This contract, pursuant to which Airbus Defence and Space owns and operates the UK military satellite communication infrastructure, allows the UK MoD to place orders and to pay for services as required. The service is fully operational since 2009 and extends to 2022. In Abu Dhabi, Airbus Defence and Space together with Thales Alenia Space built a secure satellite communication system.

Cyber Security. Airbus Defence and Space has established a cyber security business to meet the growing cyber security needs of users of critical IT infrastructure, including governments and global companies. Airbus Defence and Space provides expertise and solutions to help such organisations to protect themselves against, detect, analyse, prevent and respond to cyber threats. As a leading provider of Security Operation Centres, incident response services, key management, cryptography and high-security national solutions and consulting and training services, Airbus Defence and Space has a long track record in providing the most sensitive secure IT and data handling and training solutions to defence and security customers throughout France, Germany, the UK and other NATO countries.

Security Solutions

Security Solutions include sensor networks ranging from IR and video cameras through radars to airborne and space surveillance systems, all connected to command and control centres, mainly for border security systems. Apart from Intelligence, Surveillance and Reconnaissance (ISR) systems for gathering, aggregation and evaluation of incident data, highly reliable and encrypted digital data and voice networks are provided. Sophisticated decision-making tools support security forces to prioritise incidents, allocate required resources and control events in real-time. Services for long-term sustainable operation and life-cost optimisation such as simulation and training, maintenance, support to operation, local partnerships are also proposed.

Unmanned Aerial Systems

In the field of Unmanned Aerial Systems (UAS), Airbus Defence and Space is active at both product and service level. Airbus Defence and Space is the leading UAS Service provider for the German air forces meeting their Medium-Altitude Long-Endurance (MALE) Intelligence, Surveillance and Reconnaissance needs in the operational theatre. These interim solutions, based on non-proprietary MALE systems, will be replaced by a new generation European MALE system where Airbus Defence and Space is working on the Definition Study with its European partners. Airbus Defence and Space also provides mini-UAS to the French armed forces and selected export customers and the KZO UAS to the German armed forces. It is developing the solar-powered Zephyr for the UK MoD, but also for civil applications such as relay stations for internet provision to remote or sparsely populated regions.

In May 2017, Airbus Aerial was launched. It brings together a variety of aerospace technologies – including drones and satellites – combines them in a software infrastructure, and applies industry specific analytics to deliver tailored solutions to help its customers efficiently run their business. The portfolio of services will primarily focus on three applications – remote sensing, cargo drone services and connectivity. The Airbus Aerial activities will span both drone enabled digital services as well as the development of certifiable drones. Its focus lies on commercial customers in agriculture, insurance, infrastructure, state and local government.

Production

Airbus Defence and Space is headquartered in Munich. The main engineering and production facilities of the Division are located in France (Paris region and southwest France), Germany (Bavaria, Baden-Württemberg and Bremen), Spain (Madrid region and Andalusia) and the UK (southern England and Wales). In addition, Airbus Defence and Space operates a global network of engineering centres and offices in more than 80 countries.

MBDA

The Company's missile business, in addition to the ArianeGroup joint venture, derives from its 37.5% stake in MBDA (a joint venture between the Company, BAE Systems and Leonardo). MBDA offers missile systems capabilities that cover the whole range of solutions for air dominance, ground-based air defence, maritime superiority and battlefield engagement. Beyond its role in European markets, MBDA has an established presence in export markets like Asia, the Gulf region and Latin America.

The broad product portfolio covers all six principal missile system categories: air-to-air, air-to-surface, surface-to-air, anti-ship, anti-submarine and surface-to-surface. MBDA's product range also includes a portfolio of airborne countermeasures such as missile warning and decoy systems, airborne combat training and counter-IED and counter-mine solutions. The most significant programmes currently under development are the ground based air defence system TLVS/MEADS for Germany, the Aster Block 1 NT air and missile defence family of systems

for France and Italy, the Sea Venom/ANL anti-ship missile for the UK and French navies' helicopters, the portable medium range battlefield "Missile Moyenne Portée (MMP)", the network enabled precision surface attack SPEAR missile and the "Common Anti-Air Modular Missile (CAMM)", which is an anti-air missile family with land, naval and air launched applications.

ArianeGroup

Airbus Defence and Space is active in the field of launchers and launch services through its ArianeGroup joint venture, which prior to July 2017 was named Airbus Safran Launchers (ASL).

1.1.5 Investments

Dassault Aviation

Following on from the 2014 and 2015 share sales, the Company sold in 2016 approximately 0.83 million shares in Dassault Aviation, representing around 9.05% of the Company's share capital at the time. As a result of the implementation of 2016 and 2017 Dassault Aviation's share buyback programs and of Dassault Aviation's capital increase, which took place on 21 June 2017 and at the occasion of which 61,136 shares were issued to remunerate the shareholders who opted for a dividend payment through attribution of shares, the Company holds approximately 9.93% of Dassault Aviation's share capital and 6.16% of its voting rights. In case of exchange in full of the bonds issued by the Company and which are due in 2021, the Company will no longer hold any of Dassault Aviation shares and voting rights.

1.1.6 Insurance

The Company's Insurance Risk Management function ("**IRM**") is established to proactively and efficiently respond to risks that can be treated by insurance techniques. IRM is responsible for all corporate insurance activities and related protection for the Company and is empowered to deal directly with the insurance and re-insurance markets. A continuous task of IRM in 2017 was to further improve efficient and appropriate corporate and project-related insurance solutions.

IRM's mission includes the definition and implementation of the Company's strategy for insurance risk management to help ensure that harmonised insurance policies and standards are in place for all insurable risks worldwide for Airbus. A systematic review, monitoring and reporting procedure applicable to all Divisions is in place to assess the exposure and protection systems applicable to all Airbus sites. The Company's insurance programmes cover high risk exposures related to its assets and liabilities.

Asset and liability insurance policies underwritten by IRM for the Company cover risks such as property damage, business interruption, aviation and non-aviation general and product liability. IRM also provides a Group insurance policy for Supervisory and Managing Board members and certain other employees of Airbus, which is renewed on an annual basis. The Company follows a policy of seeking to transfer the insurable risk of the Company to external insurance markets at reasonable rates, on customised and sufficient terms and limits as provided by the international insurance markets.

The insurance industry remains unpredictable. There may be future demands to change scope of coverage, premiums and deductible amounts. Thus, no assurance can be given that the Company will be able to maintain its current levels of coverage nor that the insurance coverages in place are adequate to cover all significant risk exposure of Airbus.

1.1.7 Legal and Arbitration Proceedings

Airbus is involved from time to time in various legal and arbitration proceedings in the ordinary course of its business, the most significant of which are described below. Other than as described below, Airbus is not aware of any material governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened), during a period covering at least the previous twelve months which may have, or have had in the recent past significant effects on the Company's or Airbus' financial position or profitability.

Regarding Airbus' provisions policy, Airbus recognises provisions for litigation and claims when (i) it has a present obligation from legal actions, governmental investigations, proceedings and other claims resulting from past events that are pending or may be instituted or asserted in the future against Airbus, (ii) it is probable that an outflow of resources embodying economic benefits will be required to settle such obligation and (iii) a reliable estimate of the amount of such obligation can be made. Although Airbus believes that adequate provisions have been