1.1 Presentation of the Company

1.1.1 Overview

Due to the nature of the markets in which the Company operates and the confidential nature of its businesses, any statements with respect to the Company’s competitive position set out in paragraphs 1.1.1 through 1.1.5 below have been based on the Company’s internal information sources, unless another source has been specified below.

With consolidated revenues of €63.7 billion in 2018, the Company is a global leader in aeronautics, space and related services. Airbus offers the most comprehensive range of passenger airliners. The Company is also a European leader providing tanker, combat, transport and mission aircraft, as well as one of the world’s leading space companies. In helicopters, the Company provides the most efficient civil and military rotorcraft solutions worldwide. In 2018, it generated 84.6% of its total revenues in the civil sector (compared to 85% in 2017) and 15.5% in the defence sector (compared to 15% in 2017). As of 31 December 2018, the Company’s active headcount was 133,671 employees.

Strategy

2018 was the year Airbus operated as One Company after the completion of the Airbus Group and Airbus integration. This evolution simplified our company’s governance, eliminated redundancies and supported further efficiencies, while at the same time driving further integration of the entire group. The Company overall will derive considerable benefit from the integration through more focused business support and reduced costs.

Airbus Defence and Space continued to reshape its portfolio and reflow on military aircraft, missiles, launchers and satellites. The Company pursued the divestment process of the businesses that do not fit with the new strategic goals and have better futures in more tailored ownership structures. The Company completed the divestment of its North American Airbus DS Communications Inc. business.

Airbus Helicopters retained its leadership in civil and parapublic segment and managed to increase its market share in military segment, while operating in a challenging market environment. The eight long term paths of the Company’s strategy remain as follows:

1. Remain a leader in commercial aerospace, strengthen market position and profitability

The commercial aircraft business aims to be largely self-sufficient going forward. Focus upon on-time, on-cost and on-quality deliveries is paramount given the huge backlog execution challenge (over 7,500 aircraft). Airbus aims to further strengthen its position through focusing on digitalisation, innovation, services, improving our industrial system, and a more global approach.

On 1 July 2018, Airbus announced the closing of the A220 (formerly known as C Series) transaction between Airbus SAS, Bombardier Inc. and Investissement Québec. Airbus now owns a 50.01% majority stake in the aircraft programme. A220 aircraft expand the Airbus single-aisle family to cover the 100-150 seat segment – and respond to a worldwide market demand for single-aisle jetliners in that segment.

Despite challenges in the traditional helicopter market, Airbus Helicopters has shown resilient performance, keeping its market leadership in the civil & parapublic segments.

2. Preserve our leading position in European Defence, Space and Government markets by focusing on providing military platforms, space assets, and associated services, as well as through our participation in missile and launcher joint ventures

The disproportionate scale of our commercial aircraft business compared to our Defence, Space and Government activities has diluted the latter’s ability to serve as an effective tool to manage and hedge against commercial cycles. Nevertheless, the Company remains fully committed to serving its institutional and government customers by actively shaping and strengthening its Defence, Space and Government businesses. The Company is doing so by: (i) leveraging customer funding to develop and deliver high performance military aircraft, space, and related service offerings as well as through its participation in missile and launcher joint ventures; and (ii) focusing on productivity improvements – both through internal means and in the context of European industrial optimization – that will better position the Company in Space and export markets.

In 2018, the Company worked with our government and institutional customers to anticipate and prepare competitive next generation solutions – including in the domains of Future Combat Air Systems, European MALE RPAS, Maritime Airborne Warfare Systems, and space situational awareness – while concurrently developing new digital and other services, e.g SmartForce offerings that will improve availability and total lifecycle costs of our military aircraft fleets.

On military markets, Airbus Helicopters also showed strong performance, as market share increased.

3. Pursue incremental innovation potential within product programmes while pioneering and fostering disruptions in our industry, and developing necessary skills and competencies required to compete in the future

Airbus innovates every day to increase its value propositions by enhancing product performance, creating new customer benefits and reducing costs. Our cutting-edge technologies
and scientific excellence contribute to global progress and to delivering solutions for society’s challenges, such as environmental protection, mobility and safety.

After many new product developments in recent years, the majority of the Company’s revenues are generated today in segments where we have competitive, mature products that are far from the end of their lifecycle. Innovation will therefore target maintaining, expanding and continually leveraging the competitiveness of these products.

In addition, the Company raised its ambitions to pioneer and disrupt the aerospace industry in areas that will shape the market and our future and made a substantial effort in breakthrough innovation.

A prime example of how the Company leads disruption in the aerospace industry is Urban Air Mobility, “UAM”: we expect a large-scale market to emerge by adding the third dimension to transport options in megacities. This will require new end-to-end solutions combining electrical Vertical Take Off and Landing (“eVTOL”) vehicles, self-piloting/automation, and a digital, services driven economy with new mobility-as-a-service business models and seamless integration into other transport systems. Starting around 2014, the Company has made significant progress on technical solutions (e.g., eVTOL vehicle demonstrators, air traffic management, infrastructure) and business aspects (disruptive strategy, on-demand helicopter transport, policy making support) and has become a precursor in the field.

4. Exploit digitalisation to enhance our current business as well as pursue disruptive business models

Digitalisation will support the Company’s transformation by focusing on five main axes: (i) enabling high employee engagement, (ii) digital operational excellence, (iii) mastering our product data value chain and turning product data into insight, (iv) capturing the end-user experience and (v) driving our business agility.

Airbus launched Skywise, a data platform in collaboration with pioneers in data integration and advanced analytics. Skywise has established an early lead in the race to connect the aviation industry since its launch in 2017 at the Paris Air Show. 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.

In 2018, Airbus Defence and Space together with Airbus Helicopters launched the SmartForce suite of services to enable military operators to exploit the data gathered by their aircraft to enhance operational safety, boost mission availability and reduce maintenance support costs.

5. Adapt to a more global world as well as attract and retain global talents

The Company has a worldwide presence in 38 countries. The number of employees employed outside core countries is circa 15,300 and this will continue to grow. In Canada alone our numbers have increased significantly from 152 in 2017 to about 2,300 employees in 2018 following our C Series Joint Venture with Bombardier.

An important aspiration for the Company with a global workforce is to build on its diversity and multicultural teams to support our Industrial cooperation, help us anticipate and respond to geopolitical changes. Our desire to move from an ethnocentric to a geocentric approach is reflected in our mobility strategy which aims to enrich our founding countries with international talents. Our “Regional Focus Reviews” is another platform used to identify and develop our top talents in all regions and encourage inter and intra mobilities between our regions and founding countries.

Other key programmes introduced are as follows:
- **iJet**: launched in 2017 to create customised development programmes to accelerate the career of our top junior international talents (internal);
- **IGP**: a two-year international development programme aimed to attract young and talented individuals (external).

Our Airbus Global University Partner Programme connects a global network of universities and aims to develop engineering and technology specialists of the future. The programme currently covers 26 universities in 13 countries over 4 continents.

We are also looking at developing new innovative ideas for the future like designing an end-to-end process between Airbus Foundation and Airbus HR programmes to channel students into Airbus jobs and to conduct a feasibility study on launching an International Bursary Programme to inspire less privileged children from countries such as Africa and India to study aerospace engineering.

Last but not least, with a view to obtaining external perspectives, the Company is building an external community of international leadership profiles to facilitate open exchanges with the Company.

6. Focus services on and around the Company’s platforms

The strategy going forward is to focus on services where the Company can differentiate and add value for its customers according to the motto “no one knows our products better than we”, aiming at developing long-term customer intimacy and bringing competitive advantage to its customers. As services are executed locally, the portfolio will be adapted to the increasingly global customer base. Cooperation with military customers is set to increase substantially through maintenance and support services thanks to the new platforms in the still growing fleet, which will include about 600 Eurofighters, over 170 A400M aircraft, around 550 NH90s and over 200 Tiger helicopters.

Since 1974, Airbus has delivered close to 12,000 commercial aircraft with over 7,500 still to be delivered. As the installed base is expanding rapidly, new innovative services (power by the hour, maintenance, and training) are being offered successfully.

Airbus Helicopters is a typical example of a well-balanced business mix between platform manufacturing and services. Through the HCare service offer, Airbus Helicopters provides material management, helicopter maintenance, technical support, training and flight ops, and connected services.

Airbus Defence and Space is developing GEO-Information & GEO-Intelligence services to better cater not just to governments but also commercial needs.
7. Strengthen the value chain position

The Company’s core capability has been to master programme management and architect / integrator capabilities in order to design, develop, manufacture, market and service large-sell aeronautics / space platforms and integrated systems. As the Company performs a strong platform prime integrator role, managing the supplier base to enable the delivery of on time and on quality product to the final customer. We aim to strengthen and optimise selected strategic value chain areas to protect our intellectual property, manage risks, improve customer satisfaction, increase profit, offer services, build competencies and differentiate our offerings. The Company’s suppliers provide a large proportion of the value in our products, necessitating a robust supply-chain governance framework. This is supported by processes and tools that foster partnership, risk mitigation and supplier performance development.

In order to secure our value chain position and maintain a competitive advantage, the Company is continually assessing its strategy with regard to topics such as, supplier selection, dual source, make or buy, core non-core and M&A. This allows the Company to offer and deliver the best product to the customer whilst consistently enhancing key bricks in the value chain.

8. Focus on profitability, value creation and market position; no need to chase growth at any cost; actively manage portfolio

Thanks to strong organic growth potential, mainly in the commercial airplane business, Airbus is going through a series of production ramp-ups with associated financial needs. On top of that, targeted investments are expected to help to position the Company for the future. The financial strength of the Company is vital for mastering these challenges, and to ensure that we have enough room for manoeuvre for further strategic moves. As a prerequisite, the Company must remain attractive for investors, notably compared to its peers.

Organisation of the Company’s Businesses

In 2018, the Company organised its businesses into the following three operating segments: (i) Airbus (formerly Commercial Aircraft), (ii) Helicopters and (iii) Defence and Space. However, as a continuation of a number of integration and normalisation steps that took place in 2012, 2013 and 2015, the Company merged its Group structure with its largest division Commercial Aircraft. The merger began mid-2017 and provided the opportunity to introduce a single Airbus brand for the Company and all its entities, effective since January 2017. In 2017, Airbus Group SE’s name was changed to Airbus SE, following approval at the Annual General Meeting. Therefore, Airbus SE together with its subsidiaries is referred to as “the Company” and no longer the “Group”. Consequently, the segment formerly known as “Airbus Commercial Aircraft” is referred to as “Airbus”. In this new set-up, the Company retains Airbus Defence and Space and Airbus Helicopters as Divisions. The chart set out in “— General Description of the Company and its Share Capital — 3.3.6 Simplified Group Structure Chart” illustrates the allocation of activities.

Airbus (Commercial Aircraft)

Airbus is one of the world’s leading aircraft manufacturers of passenger airliners. Across all its aircraft families Airbus’ unique approach ensures that aircraft share the highest commonality in airframes, on-board systems, cockpits and handling characteristics. This significantly reduces operating costs for airlines.

Since it was founded in 1970 and up to the end of 2018, Airbus has received net orders for 19,340 commercial aircraft from 414 customers around the world. In 2018, Airbus delivered 800 aircraft (compared to 718 deliveries in 2017) and received 831 gross orders (compared to 1,229 gross orders in 2017), or 41% of the gross worldwide market share (in value terms) of aircraft with more than 100 seats (compared to 50% in 2017). After accounting for cancellations, net order intake for 2018 was 747 aircraft (compared to 1,109 aircraft in 2017). As of 31 December 2018, Airbus’s backlog of commercial orders was 7,577 aircraft (compared to 7,265 aircraft in 2017).

In 2018, Airbus recorded total revenues of €47.97 billion — representing 75% of the Company’s revenues. See “— 1.1.2 Airbus”.

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.

Airbus Helicopters delivered 356 helicopters in 2018 (409 in 2017) and received 381 net orders in 2018 (compared to 335 net orders in 2017). Order intake amounted to €5.95 billion (2017: €6.23 billion). Civil contracts accounted for 43% of this order volume, with military sales representing the remaining 57%. At the end of 2018, Airbus Helicopters order book stood at 717 helicopters (2017: 692 helicopters).

In 2018, Airbus Helicopters recorded total revenues of €5.93 billion, representing 9% of the Company’s revenues. See “— 1.1.3 Helicopters”.

Defence and Space

Airbus Defence and Space is Europe’s number one defence and space enterprise, one of the world’s leading space companies and among the top 10 global defence enterprises. Defence and Space puts a strong focus on core businesses: space, military aircraft, missiles and related systems and services.

Airbus Defence and Space is organised in four Programme Lines: Military Aircraft; Space Systems; Communications, Intelligence & Security (CIS); and Unmanned Aerial Systems (UAS). It develops and engineers cutting-edge products in the field of defence and space, enabling governments, institutions and commercial customers alike to protect resources and people while staying connected to the world. Airbus Defence and Space solutions guarantee sovereignty in foreign affairs and defence matters.

In 2018, Airbus Defence and Space recorded total revenues of €11.1 billion, representing 17% of the Company’s revenues. See “— 1.1.4 Defence and Space”.

1.1 Presentation of the Company
Summary Financial and Operating Data

The following tables provide summary financial and operating data for the Company for the past three years.

The 2017 financial information has been restated to reflect the new segment structure. In addition, the 2017 financial information has been restated under IFRS 15 when required by the standard.

The 2016 financial information has not been restated under IFRS 15. See “— Management’s Discussion and Analysis of Financial Condition and Results of Operations — 2.1 Operating and Financial Review”.

Additionally, the 2017 and 2016 figures for order intake and order backlog have not been restated for IFRS 15. See “— 2.1.3.2: Order Intake and Order Backlog”.

REVENUE BY BUSINESS SEGMENT

<table>
<thead>
<tr>
<th>Year ended 31 December</th>
<th>In € million</th>
<th>Year ended 31 December as restated</th>
<th>Year ended 31 December as reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbus</td>
<td>47,970</td>
<td>43,486</td>
<td>50,958</td>
</tr>
<tr>
<td>Airbus Helicopters</td>
<td>5,934</td>
<td>6,335</td>
<td>6,450</td>
</tr>
<tr>
<td>Airbus Defence and Space</td>
<td>11,063</td>
<td>10,596</td>
<td>10,804</td>
</tr>
<tr>
<td>Subtotal segmental revenue</td>
<td>64,967</td>
<td>60,417</td>
<td>68,212</td>
</tr>
<tr>
<td>Transversal / Eliminations</td>
<td>(1,260)</td>
<td>(1,395)</td>
<td>(1,445)</td>
</tr>
<tr>
<td>Total</td>
<td>63,707</td>
<td>59,022</td>
<td>66,767</td>
</tr>
</tbody>
</table>

(1) “Transversal / Eliminations” comprises activities not allocable to the reportable segments, combined together with consolidation effects.

REVENUE BY GEOGRAPHICAL AREAS

<table>
<thead>
<tr>
<th>Year ended 31 December</th>
<th>(In € billion)</th>
<th>(In percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asia / Pacific</td>
<td>23.3</td>
<td>36.6%</td>
</tr>
<tr>
<td>Europe</td>
<td>17.8</td>
<td>27.9%</td>
</tr>
<tr>
<td>North America</td>
<td>11.1</td>
<td>17.4%</td>
</tr>
<tr>
<td>Other countries</td>
<td>11.5</td>
<td>18.1%</td>
</tr>
<tr>
<td>Total</td>
<td>63.7</td>
<td>100%</td>
</tr>
</tbody>
</table>

(1) Percentage of total revenue after eliminations.
(2) Including the Middle East.

ORDER INTAKE BY BUSINESS SEGMENT

<table>
<thead>
<tr>
<th>Year ended 31 December</th>
<th>(In € billion)</th>
<th>(In percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbus</td>
<td>41.5</td>
<td>73.7%</td>
</tr>
<tr>
<td>Airbus Helicopters</td>
<td>6.3</td>
<td>11.3%</td>
</tr>
<tr>
<td>Airbus Defence and Space</td>
<td>8.4</td>
<td>15.0%</td>
</tr>
<tr>
<td>Subtotal segmental order intake</td>
<td>56.3</td>
<td>100%</td>
</tr>
<tr>
<td>Transversal / Eliminations</td>
<td>(0.8)</td>
<td>(1.1)</td>
</tr>
<tr>
<td>Total</td>
<td>55.5</td>
<td>100%</td>
</tr>
</tbody>
</table>

(1) Without options.
(2) Before “Transversal / Eliminations”.

The 2017 financial information has been restated to reflect the new segment structure. In addition, the 2017 financial information has been restated under IFRS 15 when required by the standard.
ORDER BACKLOG BY BUSINESS SEGMENT

<table>
<thead>
<tr>
<th></th>
<th>Year ended 31 December 2018 (In € billion) (In percentage)</th>
<th>Year ended 31 December 2017 (In € billion) (In percentage)</th>
<th>Year ended 31 December 2016 (In € billion) (In percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airbus</td>
<td>411.7 (89.1%)</td>
<td>950.4 (95.1%)</td>
<td>1,010.2 (95.0%)</td>
</tr>
<tr>
<td>Airbus Helicopters</td>
<td>14.9 (3.2%)</td>
<td>11.2 (1.1%)</td>
<td>11.3 (1.1%)</td>
</tr>
<tr>
<td>Airbus Defence and Space</td>
<td>35.3 (7.7%)</td>
<td>37.4 (3.8%)</td>
<td>41.5 (3.9%)</td>
</tr>
<tr>
<td>Subtotal segmental order backlog</td>
<td>461.9 (100%)</td>
<td>999.0 (100%)</td>
<td>1,063.0 (100%)</td>
</tr>
<tr>
<td>Transversal / Eliminations</td>
<td>(2.4)</td>
<td>(2.1)</td>
<td>(2.6)</td>
</tr>
<tr>
<td>Total</td>
<td>459.5</td>
<td>996.8</td>
<td>1,060.4</td>
</tr>
</tbody>
</table>

(1) Without options.
(2) Before “Transversal / Eliminations”.

Relationship between Airbus SE and the Company

In line with the previous organisational structure, Airbus SE itself does not engage in the core aerospace, defence or space business of the Company but coordinates related businesses, sets and controls objectives and approves major decisions for the Company. As the parent company, Airbus SE conducts activities which are essential to the Company’s activities and which are an integral part of the overall management of the Company. In particular, finance activities pursued by Airbus SE are in support of the business activities and strategy of the Company. In connection therewith, Airbus SE provides or procures the provision of services to the subsidiaries of the Company. General management service agreements have been put in place with the subsidiaries and services are invoiced on a cost plus basis.

For management purposes, Airbus SE acts through its Board of Directors, Executive Committee, and Chief Executive Officer in accordance with its corporate rules and procedures as described below under “— Corporate Governance — 4.1 Management and Control”.

Within the framework defined by Airbus SE, Airbus, each Division, Business Unit and subsidiary is vested with full entrepreneurial responsibility.

1.1.2 Airbus (Commercial Aircraft)

Airbus is one of the world’s leading aircraft manufacturers of passenger airliners. In order to help shape the future of air transportation and drive steady growth around the world, Airbus seeks incremental innovative technological solutions and the most efficient sourcing and manufacturing possible – so airlines can grow and people can connect. Airbus’ comprehensive product line comprises successful families of jetliners ranging in capacity from 100 to more than 600 seats: the A220 Family (formerly Bombardier Inc.’s C Series); the A320 Family, which is civil aviation’s best-selling product line; the A330 Family, including the advanced A330neo; the new-generation widebody A350 XWB; and the double-deck A380. Across its aircraft families Airbus’ solutions ensure that aircraft share high commonality in airframes, on-board systems, cockpits and handling characteristics. This significantly reduces operating costs for airlines. See “— 1.1.1 Overview” for an introduction to Airbus.

Airbus’ global presence includes, on top of France, Germany, Spain and the United Kingdom, fully-owned subsidiaries in the United States, China, Japan, India and in the Middle East, and spare parts centres in Hamburg, Frankfurt, Washington, Beijing, Dubai and Singapore. Airbus also has engineering and training centres in Toulouse, Miami, Mexico, Wichita, Hamburg, Bangalore, Beijing and Singapore, as well as an engineering centre in Russia. There are also hubs and field service stations around the world. Airbus also relies on industrial co-operation and partnerships with major companies and a wide network of suppliers around the world.

Strategy

Airbus’ primary goal is to deliver strong results in a sustained manner, while commanding a further increased share of the worldwide commercial aircraft market over the long-term and expanding its customer services offering. To achieve these goals, Airbus is actively:

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

Airbus continuously seeks to develop and deliver new products to meet customers’ evolving needs, while also improving its existing product line. Several products entered into service in 2018:

- the A321LR, extending the capabilities of the A320 Single-Aisle Family in order to maintain its position as the most advanced and fuel-efficient single-aisle aircraft family;
- the A330neo (new engine option), the new generation of the A330 Family;
- the A350-900 ULR (Ultra Long Range), variant of the A350 XWB capable of flying up to 9,700 nautical miles;
the A350-1000, Airbus’ latest and largest widebody in the twin-aisle category.

To support the A350 XWB ramp-up and other production increases, a new super transporter is under development, with the first five of Beluga XL aircraft to enter into service in 2019. The first flight of the Beluga XL took place in July 2018.

Airbus remains at the forefront of the industry by expanding its customer services offering – see Customer Services.

Building a Leaner, More Fully Integrated Company

In order to build a leaner, more fully integrated company and thereby bolster its competitiveness, Airbus 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.

According to internal estimates, demand for 37,400 passenger and freight aircraft is forecast in the next 20 years with Asia-Pacific accounting for 42% of deliveries. In recent years, China and India have emerged as significant new aircraft markets. As a result, Airbus has sought to strengthen its commercial and industrial ties in these countries. 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’ 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 maintained solid momentum, supported by positive ongoing improvement in global economic conditions throughout the year. World real GDP growth is projected to be at +3.2% in 2018, and forecast to remain positive with +3.0% in 2019 and +2.9% in 2020.

Preliminary figures released at the end of 2018, by the International Civil Aviation Organisation (ICAO), confirmed that some 4.3 billion passengers made use of the global air transport network for their business, tourism needs or for simply visiting friends and relatives (VFR) in 2018. The annual passenger total is up 6.1% compared to 2017 and the number of departures rose to approximately 38 million globally. World passenger traffic, expressed in terms of total scheduled revenue passenger-kilometres (RPKs), posted an increase of 6.7% with approximately 8.2 trillion revenue passenger kilometres performed.

Through its analysis Airbus continues to believe in the long term growth potential of our industry. The commercial aviation industry has been resilient to external shocks and traffic has grown X2.3 since 2000. Based on internal estimates, Airbus a growth rate of 4.4% annually during the period 2018-2037, if the actual growth rate equals or exceeds this level, Airbus expects that passenger traffic, as measured in revenue passenger kilometres, will double in the next 15 years.

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, cyclicity 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. For example, in 2018, Airbus added 747 net orders to its order book, with orders for aircraft from all segments of the market.

Despite some cyclicity in airline demand, Airbus 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 2018, the backlog stood at 7,577 aircraft. Through careful backlog management, close monitoring of the customer base and a prudent approach to production increases, Airbus has successfully increased annual deliveries for 16 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.
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 flight 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.

Airbus, 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 has identified 58 major hub cities in its current market analysis, with this number expected to grow to over 95 by 2036. Airbus 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 are operated today are operated by just 18 airlines. In the 1990s, the major airlines began to enter into alliances that gave each airline 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, some 19,800 passenger aircraft with more than 100 seats were in service with airlines worldwide at the beginning of 2018. Currently, Airbus competes in each of the four principal market segments for aircraft with more than 100 seats.

“Small” aircraft, such as the A220 and A320 Families, having 100 to more than 200 seats, and which are used principally for short-range and medium-range routes of up to 3,000 nautical miles.

“Medium” aircraft typically offering up to 300 seats on routes of up to 6,000 nautical miles. This includes long range versions of the A220 and A320 as well as the A330 family.

“Large” aircraft, such as the A330’s and variants of the A350-900 XWB. These families are typically configured with two aisles and seat up to 350 on routes of up to 10,000 nautical miles.

“Very Large aircraft”, such as the A350-1000 and A380, are designed to carry more than 350 passengers and also to operate on routes of up to 10,000 nautical miles.

Freight aircraft, which form a fifth, related segment, are a combination of new build and converted ex-passenger aircraft. Converted aircraft are prevalent in the expanding e-commerce market which typically sees relatively low aircraft utilization. This can provide an economical “second life” for in-service aircraft from the A320 and A330 families. See “— Regional Aircraft, Aerostructures, Seats and Aircraft Conversion — EFW”.

Airbus also competes in the corporate, VIP business jet market with the ACJ. 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. First flight of the ACJ320neo took place on 16 November 2018 with the first aircraft delivered on 16 January 2019.

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 Airbus’ philosophy of customer care.

More than 200 Airbus aircraft operate worldwide in service with companies, individuals and governments.

**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, both from the expansion of the low-cost carrier and 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 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 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 and Boeing. According to the manufacturers’ published figures for 2018, Airbus and Boeing, each accounted for 50% of total commercial aircraft deliveries, 46% and 54% of total net orders (in units), and 56% and 44% of the total year-end backlog (in units). With 800 deliveries, 2018 was Airbus’ 16th 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 faces international competitors. Regional jet maker Embraer, coming from the less than 100-seat commercial aircraft market, continues to develop larger airplanes and is working towards a strategic partnership with Boeing. 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. Having received all required regulatory approvals, Airbus SE, Bombardier Inc. and Investissement Québec closed the C Series transaction effective on 1 July 2018 and as a result, the Company has acquired a majority stake in the C Series Aircraft Limited Partnership.

The partnership brings together two complementary product lines, the A220-100 and A220-300, targeting the 100-150 seat market segment with an addressable market of at least 7,000 new aircraft over the next 20 years in the segments in which they compete.

The Mirabel-based partnership benefits from Airbus’ global reach, scale, procurement organisation and expertise in selling, marketing and producing the A220. Significant production efficiencies are anticipated by leveraging Airbus’ production ramp-up expertise.

Customers

As of 31 December 2018, Airbus had 414 customers and a total of 19,340 Airbus aircraft had been ordered, of which 11,763 aircraft had been delivered to operators worldwide. The table below shows Airbus’ largest commitments in terms of total gross firm orders by customer for the year 2018.

<table>
<thead>
<tr>
<th>Customer</th>
<th>Firm orders(1)(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avolon</td>
<td>100</td>
</tr>
<tr>
<td>Jetblue Airways</td>
<td>60</td>
</tr>
<tr>
<td>Moxy</td>
<td>60</td>
</tr>
<tr>
<td>Vietjet Air</td>
<td>50</td>
</tr>
<tr>
<td>Scandinavian Airlines</td>
<td>36</td>
</tr>
<tr>
<td>Lufthansa</td>
<td>32</td>
</tr>
<tr>
<td>Aegean Airlines</td>
<td>30</td>
</tr>
<tr>
<td>Delta Air Lines</td>
<td>25</td>
</tr>
<tr>
<td>Turkish Airlines</td>
<td>25</td>
</tr>
<tr>
<td>Viva Aerobus</td>
<td>25</td>
</tr>
</tbody>
</table>

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

Products and Services

The Family Concept — Commonality across the Fleet

Airbus’ 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 the A320, A330, A350 and A380 all share the same cockpit philosophy, fly-by-wire controls and handling characteristics. Pilots can transfer among these aircraft within the Airbus 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 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 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 innovations often provide distinct competitive advantages, with many becoming standard in the aircraft industry.

A220 Family. Complementing the A320 Family, the A220-100 and A220-300 models cover the segment between 100 and 150 seats and offer a highly comfortable five-abreast cabin. With the most advanced aerodynamics, CFRP materials, high-bypass engines and fly-by-wire controls, the A220 delivers 20 percent lower fuel burn per seat compared with previous generation aircraft. The type will serve a worldwide market for smaller single-aisle airliners, estimated at least at 7,000 such aircraft over the next 20 years. Airbus manufactures, markets and supports A220 aircraft under the “C Series Aircraft Limited Partnership” (CSALP) agreement, finalised in 2018.
A320 Family. With more than 15,000 aircraft sold, and nearly 8,700 delivered, the Airbus family of single-aisle aircraft, based on the A320, includes the A319 and A321 derivatives, as well as the corporate jet 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 six-abreast 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 modern structural material selection. The A320 Family’s competitor is the Boeing 737 series.

To ensure this market leader keeps its competitive edge, Airbus 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 compared with earlier A320 family aircraft. 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 Certification for the A319neo with CFM engines was achieved in December 2018 with the variant with the Pratt & Whitney engine to 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 customers and operators.

Since its launch in December 2010, the A320neo Family has received 6,526 firm orders from 104 customers, with a total of 635 aircraft delivered to the end of 2018. A320neo deliveries commenced in February 2016 followed by the first A321neo in April 2017 and in November 2018 the first A321 LR. Overall, the A320 family retains a 56% share of the backlog against the Boeing 737 Family.

During 2018, Airbus received 577 gross orders for the A320 Family of aircraft and 541 net orders.

In October 2015, Airbus 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’ facilities.

A330 Family. With 1,734 aircraft sold (of which 238 A330neo) and 1,439 delivered, the A330 Family covers all market segments with one twin-engine aircraft type and is designed to carry between 247 and 287 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 and enhanced aerodynamics for improved fuel efficiency. The first flight took place in October 2017 and both Type Certification and first delivery were achieved in 2018, with TAP taking delivery of its first three A330-900s during the year. The final assembly of the A330-800 started in November 2017 and the aircraft performed its first flight on 6 November 2018.

A320 FAMILY TECHNICAL FEATURES (CURRENT VERSION)

<table>
<thead>
<tr>
<th>Model</th>
<th>Entry-into-service</th>
<th>Passenger capacity⁽¹⁾</th>
<th>Range (km)</th>
<th>Length (metres)</th>
<th>Wingspan (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A220-100</td>
<td>2016</td>
<td>116</td>
<td>2,950</td>
<td>35.0</td>
<td>35.1</td>
</tr>
<tr>
<td>A220-300</td>
<td>2016</td>
<td>141</td>
<td>3,200</td>
<td>38.7</td>
<td>35.1</td>
</tr>
</tbody>
</table>

⁽¹⁾ Two-class layout.

A220 FAMILY TECHNICAL FEATURES (CURRENT VERSION)

<table>
<thead>
<tr>
<th>Model</th>
<th>Entry-into-service</th>
<th>Passenger capacity⁽¹⁾</th>
<th>Range (km)</th>
<th>Length (metres)</th>
<th>Wingspan (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A318</td>
<td>2003</td>
<td>107</td>
<td>5,750</td>
<td>31.4</td>
<td>34.1</td>
</tr>
<tr>
<td>A319</td>
<td>1996</td>
<td>124</td>
<td>6,950⁽²⁾</td>
<td>33.8</td>
<td>35.8</td>
</tr>
<tr>
<td>A320</td>
<td>1988</td>
<td>150</td>
<td>6,100⁽²⁾</td>
<td>37.6</td>
<td>35.8⁽³⁾</td>
</tr>
<tr>
<td>A321</td>
<td>1994</td>
<td>185</td>
<td>5,950⁽²⁾</td>
<td>44.5</td>
<td>35.8⁽³⁾</td>
</tr>
<tr>
<td>A319neo</td>
<td></td>
<td>140</td>
<td>6,950</td>
<td>33.8</td>
<td>35.8</td>
</tr>
<tr>
<td>A320neo</td>
<td>2016</td>
<td>165</td>
<td>6,500</td>
<td>37.6</td>
<td>35.8</td>
</tr>
<tr>
<td>A321neo</td>
<td>2017</td>
<td>206</td>
<td>7,400</td>
<td>44.5</td>
<td>35.8</td>
</tr>
</tbody>
</table>

⁽¹⁾ Two-class layout.
⁽²⁾ Range with sharklets.
⁽³⁾ Wingspan with sharklets.
Airbus is continuously developing the A330 Family to keep the aircraft at the leading edge of innovations and future versions of the A330neo will offer increased take-off weight of up to 251 tonnes, offering a 15,000 km range for the A330-800.

In 2018, Airbus received 37 gross orders (27 net) for the A330 Family of aircraft including 18 for the A330neo, and delivered 49 aircraft to customers.

### A330 Family Technical Features (Current Version)

<table>
<thead>
<tr>
<th>Model</th>
<th>Entry-into-service</th>
<th>Passenger capacity(1)</th>
<th>Maximum range (km)</th>
<th>Length (metres)</th>
<th>Wingspan (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A330-200</td>
<td>1998</td>
<td>247</td>
<td>13,450</td>
<td>58.8</td>
<td>60.3</td>
</tr>
<tr>
<td>A330-300</td>
<td>1994</td>
<td>277</td>
<td>11,750</td>
<td>63.7</td>
<td>60.3</td>
</tr>
<tr>
<td>A330-800neo</td>
<td>2018</td>
<td>257</td>
<td>13,900</td>
<td>58.8</td>
<td>64</td>
</tr>
<tr>
<td>A330-900neo</td>
<td>2018</td>
<td>287</td>
<td>12,130</td>
<td>63.7</td>
<td>64</td>
</tr>
</tbody>
</table>

(1) Three-class configuration.

### A350 XWB Family

The A350 XWB is an all-new family of wide-body aircraft, designed to accommodate between 325 and 366 passengers. The A350 XWB features a wider fuselage than that of competing new generation aircraft, Rolls-Royce Trent XWB engines, A380 technology and over 50% composite material. The A350 XWB’s main competitors are the Boeing 787 and 777 aircraft series.

With the Ultra-Long Range (ULR) 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.

The first A350-900 ULR was delivered in September 2018 to Singapore Airlines.

Airbus has also developed the larger A350-1000, which is now certified by EASA and the FAA and was delivered to its first customer in February 2018 with a total of 14 aircraft delivered during the year.

In 2018, Airbus received 62 gross orders for the A350 XWB Family (40 net), and delivered 93 aircraft, achieving the target rate of 10 aircraft per month by the end of the year.

### A350 XWB Family Technical Features

<table>
<thead>
<tr>
<th>Model</th>
<th>Entry-into-service</th>
<th>Passenger capacity(1)</th>
<th>Maximum range (km)</th>
<th>Length (metres)</th>
<th>Wingspan (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A350-900</td>
<td>2014</td>
<td>325</td>
<td>15,000</td>
<td>66.8</td>
<td>64.8</td>
</tr>
<tr>
<td>A350-1000</td>
<td>2018</td>
<td>366</td>
<td>15,557</td>
<td>73.8</td>
<td>64.8</td>
</tr>
</tbody>
</table>

(1) Three-class layout.

### 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 575 passengers in a comfortable four-class configuration and with a range of 8,000 nm / 14,800 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 2018, Airbus Commercial Aircraft delivered 12 aircraft.

In February 2019, following a review of its operations, and in light of developments in aircraft and engine technologies, Emirates reduced its A380 orderbook from 162 to 123 aircraft. Emirates will take delivery of 14 further A380s over the next two years. As a consequence and given the lack of order backlog with other airlines, Airbus will cease deliveries of the A380 in 2021.

### A380 Technical Features

<table>
<thead>
<tr>
<th>Model</th>
<th>Entry-into-service</th>
<th>Passenger capacity(1)</th>
<th>Maximum range (km)</th>
<th>Length (metres)</th>
<th>Wingspan (metres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A380-800</td>
<td>2007</td>
<td>575</td>
<td>14,800</td>
<td>72.7</td>
<td>79.8</td>
</tr>
</tbody>
</table>

(1) Four-class layout.

### Customer Services

Airbus seeks to remain at the forefront of the industry by expanding its customer services offering to meet customers’ evolving needs. As a result, Airbus has developed a wide range of customer centric and value-added services. This approach provides Airbus operators with solutions to significantly reduce their operating costs, increase aircraft availability, enhance the quality of their operations and passenger experience.

Customer Services’ primary 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’ customer base has increased consistently over the past years reaching more than 10,700 aircraft in operation by the end of 2018 operated by more than 430 operators. 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 6,500 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 customers with advice and assistance 24 hours a day, 7 days a week. There are 142 field service stations available worldwide for on-site assistance to our operators, covering 159 operators. 216 operators are covered by 16 Hubs. Airbus worldwide support is also based on an international network of support centres, training centres and spares warehouses.

As the worldwide fleet is growing, so is the demand in the services market. Airbus offers optimised aircraft operational availability, streamlined flight operations and enhanced passenger experience by covering the full aircraft lifecycle and focusing on adding value to its customers. Growing fast on the market with organic growth, JVs, co-developments and acquisitions in recent years, here are some examples:

- in 2016, full acquisition of Navtech, now re-named Navblue, offering products in the Flight Operations area;
- in 2017, full acquisition of Sepang Aircraft Engineering (SAE), an MRO centre based in Kuala Lumpur, Malaysia, that had been partially owned by Airbus since 2011;
- launch of Airbus Interiors Services (2017) specialised in timely and flexible solutions for cabin equipments. For its first participation in the Crystal Cabin Award 2018, Airbus Interiors Services was among the finalists of the "Visionary Concepts" category, presenting its novel "Day & Night" concept seat;
- the Airbus MRO alliance was launched in 2017;
- the Airbus Training network has tripled in the last three years and currently counts 17 training network locations around the world, the latest acquisition being a flight training center in Denver, Colorado (January 2018). In December 2018, Airbus and the French Civil Aviation University, ENAC, have obtained EASA certification for a co-developed Ab initio Pilot Cadet Training Programme that will be used by a worldwide network of partner flight schools, starting with the first customer Escuela de Aviacion Mexico (EAM) in Mexico City early 2019;
- Airbus’ worldwide support is also based on an international network of support centres, training centres and spares warehouses all around the world, offering customers the solutions they need close to their operational base. To ensure this proximity Airbus empowered local teams and developed hubs in the regions, most recently in Asia and China;
- since the launch of Skywise at Le Bourget in 2017, Airbus has accelerated with its digital transformation. In October 2018, Airbus created the Skywise campus – “a place to foster internal and external collaboration” – and developing new ways of working, with customers at the heart of each service, to offer the best value proposition across the full lifecycle, securing and optimising their operations end-to-end, providing tailored solutions that deliver impactful outcomes and enhancing the user’s experience all along the way. Skywise brings all the ecosystem data to a single platform. 52 customers have now chosen Skywise, representing a potential of over 4,000 aircraft connected.

Leveraging on Skywise digital capabilities, Airbus’ Customer Services portfolio offer is evolving to provide the best and most efficient solutions available on the market:

- FHS powered by Skywise: stepping-up services capabilities with digital Skywise (April 2018);
- launch of Skywise Reliability Services (October 2018);
- launch of Skywise Predictive Maintenance (October 2018).

Preparing the future of Airbus Services, at the Farnborough 2018 Air show Airbus presented its route to US$ 10 billion revenues in the next decade, to further address market needs.

**Customer Finance**

Airbus favours cash sales, and does not envisage customer financing as an area of business development. However, Airbus 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’ dedicated customer finance team has accumulated decades of expertise in aircraft finance. When Airbus 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. 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’ customer financing transactions are designed to facilitate subsequent sell-down of the exposure to the financial markets, third-party lenders or lessors.

In 2018, Airbus 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. Airbus customer financing exposure remained limited in 2018 and decreased compared to 2017. Airbus 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 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, 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 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 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 Asset Management team aims at eventually selling down the aircraft with lease attached to further reduce its portfolio exposure.

At the end of 2018, the Asset Management portfolio contained 15 aircraft, representing a 44% net portfolio reduction from 2017.
### Production

#### Industrial Organisation

Each task in the building of Airbus aircraft (from design to production) is allocated to a designated plant. The Airbus 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.

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.

In 2018, construction started on the new FAL in Mobile, Alabama (US) for the A220. The first A220 delivery from Mobile is expected in mid-2020.

Airbus announced the following programme production rates:

- A220 family: by next mid-decade, rate 10 per month targeted in Mirabel and rate 4 per month targeted in Mobile;
- A320 family: rate 60 per month targeted by mid 2019 with a 4th A320 line in Hamburg, Mobile fully on schedule and Tianjin (China) ramping- up further;
- A350: rate 10 reached at the end of 2018;
- A380: Airbus expects to deliver 8 aircraft in 2019, 7 in 2020 and the remaining 2 in 2021.

#### 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 CO₂ 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 market for regional aircraft up to 90 seats. 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. Headquartered in Toulouse, ATR employs more than 1,400 people. Since the start of the programme in 1981, ATR has registered net orders for 1,717 aircraft (483 ATR 42s and 1,234 ATR 72s).

In 2018, ATR delivered 76 new aircraft (compared to 78 in 2017) and recorded net firm orders for 46 new aircraft (compared to 103 in 2017), including orders from NAC/Silver. As of 31 December 2018, ATR had a backlog of 205 aircraft (compared to 235 in 2017).

#### 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, the ATR range is based on the family concept, which provides for savings in training, maintenance operations, spare parts supply and cross-crew qualification. ATR is now entering the cargo market as 2018 is the year of the launch of the ATR72/F (Freighter) with a brand new windowless fuselage, a forward Large Cargo Door (LCD) and a rear upper hinged cargo door. First delivery is planned in 2020 to FedEx.

By the end of 2018, ATR had delivered 1,512 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, Sao Paulo and Johannesburg. ATR worldwide presence also includes representative offices in Beijing and Tokyo.

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, such as wing design and manufacturing, flight-testing and information technology.
STELIA Aerospace

STELIA Aerospace is a wholly-owned subsidiary of Airbus. It 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 programmes.

From aircraft wings and fuselage sections, to fully equipped and tested work packages, STELIA Aerospace is a global partner for major aeronautical players worldwide, such as Airbus, ATR, or Bombardier Aerospace.

With more than 7,000 employees worldwide, working within 11 Centres of Excellence based in France, Canada, Morocco and Tunisia, STELIA Aerospace has a wide range of capabilities, from Build-to-Print to Design & Build solutions, including mechanical milling of rolled and stretched panels and tubes & pipes covering all ATA systems.

Through its cabin interior specialty, STELIA Aerospace designs and manufactures luxury First Class and Business Seats for key partners in the world including Etihad Airways, Singapore Airlines or Thai 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 has taken a majority stake in Portalliance Engineering end of 2018. Portalliance Engineering is an SME founded in 2006 and focuses on modelisation and digital simulation of structural calculation. This acquisition will enable STELIA Aerospace to benefit sustainably from innovative digital solutions and strengthen its position on the aerostructure market.

Premium AEROTEC

Premium AEROTEC is a wholly owned subsidiary of the Company (consolidated within Airbus), 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. Premium AEROTEC 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 as well as engineering services in the context of certification and approval.

On 17 June 2015, Airbus 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).

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 2018. The three H160 prototypes have already accumulated over a 1,000 flight hours in the final steps of the flight test campaign. The first serial H160 has performed its first flight on 14 December 2018. In 2018, products and services continued to be enhanced, with several initiatives such as the first H175 Public Services version delivered in July 2018.

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 Direction Générale de l’Armement (DGA) 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.

A first unmanned flight took place at the end of 2018.

Airbus Helicopters is also actively involved into the Urban Air Mobility (UAM) via several commercial and military projects:
- CityAirbus 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.

Focusing on Customers

Airbus Helicopters achieved the second wave of its transformation plan in 2018 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.

The transformation, which began five years ago, continues to yield results in various areas, with the objective of responding fully to customers’ requirements and over-achieve market standards in terms of quality, safety, customer satisfaction and competitiveness. This transformation is and remains based on fundamental requirements: quality and safety, leadership, digital and competitiveness.

Delivering Safety

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.

Following a H225 Super Puma helicopter accident on 29 April 2016 in Norway, a final AIBN report was published and closed the investigations. The accident was the result of a fatigue fracture in a second stage planet gear in the epicyclic module of the main rotor gearbox.
- Neither aviation authorities nor industry had ever seen the type of failure mode that lead to this accident.
- Extensive analysis of the accident has led to the development of a set of safety measures, approved by global aviation authorities, which have allowed the H225 fleet to resume worldwide.

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.

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. 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 2018.

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 2018, worldwide deliveries of civil and parapublic turbine helicopters of five seats and above stood at ~510 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 2018. 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 have decreased at ~620 units in 2018.

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 maintained its leading market share (in bookings
of 2.0t helicopters and five seats and above), in a low market, with ~52% in unit in 2018, followed by Leonardo and Bell with respectively 26% and 13%.

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 major contracts (i.e. H145M/Lakota and NH90), Airbus Helicopters increased its market share on this sector (in units) from 9% in 2017 to 25% in 2018. The Company will continue to focus on large military campaigns in 2019.

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 54% of the worldwide market share based on deliveries in 2018, the versatility and reliability of Airbus Helicopters products have made them the preferred choice of the most prominent civil and parapublic customers (turbine helicopters of five seats and above).

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 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:

<table>
<thead>
<tr>
<th>Helicopter Type</th>
<th>Primary Missions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single Engine (“Ecureuil” family)</strong></td>
<td></td>
</tr>
<tr>
<td>H125 “Ecureuil” / H125M “Fennec”</td>
<td>Public Services(^1), Military Utility(^2) &amp; Armed Reconnaissance, Corporate / Private, Commercial Pax Transport &amp; Aerial Work</td>
</tr>
<tr>
<td>H130</td>
<td>Commercial Pax Transport &amp; Multipurpose, Emergency Medical, Tourism, Corporate / Private</td>
</tr>
<tr>
<td><strong>Light Twin Engine</strong></td>
<td></td>
</tr>
<tr>
<td>H135 / H135M</td>
<td>VIP, Military Utility &amp; Armed Reconnaissance, Emergency Medical, Public Services(^1)</td>
</tr>
<tr>
<td>H145 / LUH (UH-72) / H145M</td>
<td>VIP, Military Utility(^2), Emergency Medical, Public Services(^1)</td>
</tr>
<tr>
<td><strong>Medium (“Dauphin” family)</strong></td>
<td></td>
</tr>
<tr>
<td>AS365 “Dauphin” / AS565 “Panther”</td>
<td>Military Naval Warfare Mission &amp; Maritime Security, Public Services(^2) (in particular Coast Guard &amp; SAR), Oil &amp; Gas, Commercial Pax Transport &amp; Multipurpose</td>
</tr>
<tr>
<td>H155</td>
<td>Corporate / Private, VIP, Oil &amp; Gas, Public Services(^1)</td>
</tr>
<tr>
<td>H160</td>
<td>Corporate / Private, VIP, Oil &amp; Gas, Public Services(^1)</td>
</tr>
<tr>
<td>H175</td>
<td>Corporate / Private, VIP, SAR, Emergency Medical, Public Services(^1), Oil &amp; Gas</td>
</tr>
<tr>
<td><strong>Medium-Heavy</strong></td>
<td></td>
</tr>
<tr>
<td>H215 “Super Puma” / H215M “Cougar”</td>
<td>Civil Utility, Military Transport / SAR, Oil &amp; Gas</td>
</tr>
<tr>
<td>H225 / H225M</td>
<td>SAR, Combat-SAR, Military Transport, Oil &amp; Gas, VIP, Public Services(^1)</td>
</tr>
<tr>
<td>NH90 (TTH / NFH)</td>
<td>SAR, Military Transport, Naval</td>
</tr>
<tr>
<td><strong>Attack</strong></td>
<td></td>
</tr>
<tr>
<td>Tiger</td>
<td>Combat, Armed Reconnaissance / Escort</td>
</tr>
</tbody>
</table>

(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.

Civil Range
Airbus Helicopters’ civil range includes 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 maintaining R&D investments including:

- certification of the H160, which realised its first serial flight in December 2018;
- improvement of the existing range in the field of performances and safety in order to meet customer’s requirements;
- preparing the future H generation with major upgrades and new products pursuing a fast-paced product range renewal.

Military Range
Airbus Helicopters’ military range comprises platforms derived from its commercial range (such as the H145M and H225M respectively derived from the H145 and H225) as well as purely military platforms developed for armed forces (the NH90 and the Tiger).
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; and Unmanned Aerial Systems, 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 for institutional customers as well as the export market, for the latter as recognised world leader. 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 five main business clusters: Secure Communications, Intelligence, Cyber Security, Security Solutions and Secure Land Communications. 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 and adaptation to evolving market dynamics, Airbus Defence and Space is currently implementing a growth strategy based on strengthening its core product portfolio and expanding its services business, with a major emphasis on digitalisation (“Smarter Products – More Services – More Digital”).

Airbus Defence and Space is applying its growth strategy along three domains:

- Defence: Airbus Defence and Space is leveraging momentum in Franco-German cooperation and pursuing new European programme opportunities as it works to deliver its vision for Future Air Power. Key opportunities include Future Combat Air System, European Medium-Altitude Long-Endurance (“MALE”), Maritime Airborne Warfare System, special mission aircraft, and space situational awareness initiatives, among others. The Division is concurrently working to shape and address future secure, upgradeable, and dynamic network and Command and Control architecture requirements while continuing to evolve existing platforms and capabilities (e.g., Eurofighter Typhoon, A330 MRTT, A400M, C-295, predictive aircraft maintenance) for long-term competitiveness and value to future force structures;

- Space: Airbus Defence and Space will retain its leadership position in space within Europe and in the export market and growing above market rate by leveraging competitiveness programmes across all sectors (equipment, satellite, vehicle and infrastructure domains, etc.). In parallel, it is developing end-to-end solutions and accelerating new products and services to strengthen its position across the space value chain. Last but not least, it is working with European Governments and institutions to ensure long-term competitiveness of the entire European space industrial base;

- Digital Services and Secure Connectivity: Digital transformation and digital platforms will be a key enabler to unlocking greater value from our portfolio while providing new data-driven services and business models. The division will provide imagery intelligence, aircraft in-service support, and other services while also striving to be a leader in end-to-end secure connectivity across satellite, terrestrial, maritime, and airborne network and communication domains.

Globally, the Division intends to leverage its existing products and services, innovate new offerings, and strike selected strategic partnerships in order to strengthen its position in the US and other international markets.

Market
Airbus Defence and Space is mainly active in public and para-public markets. As a general trend, defence budgets in Europe are expected to continue to grow, triggered by geopolitical tensions, heightened security risks and reinforced by recent discussions on NATO defence spending target of 2% of GDP. 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, then by the agreement in 2018 to develop jointly the Future Combat Air System (“FCAS”), the European MALE drone and the Future Maritime Airborne Warfare Systems. 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 or local industrial participation. Nevertheless, Airbus Defence and Space, in conjunction with Airbus, is well-placed to benefit from growth in defence expenditure. The upward outlook for defence spending may continue to drive M&A activity in the industry as has been the case since 2017. The market may be influenced in the short-term by a potential softening of the global economy and Brexit.

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 2% of the 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.

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, Embraer, Lockheed Martin, Leonardo, UAC, Kawasaki, AVIC and Antonov.

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 terms of revenues, Airbus Defence and Space 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 UAC.

Market Trends
The sale of aircraft is expected to remain stable in the transport and special mission aircraft segments and could grow for the heavy transport segment, where the A400M occupies a unique position.

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 agreement signed between France and Germany in April 2018 to jointly develop and procure the FCAS and the Future Maritime Airborne Warfare System will 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, science / 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. Space Systems, through its Programme Unit Earth Observation, Navigation and Science, is a major actor in these respective segments and the recognised European leader on ESA science programmes.

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, of which the Company is the world’s leading provider. The export market is expected to continue growing over the medium-term driven by the demand coming from new governmental operators on top of the replacement of existing assets.

On the military customer side, 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 JAXA (Japan). Such systems are typically built in cooperation with international partners. Continuing support to the operations of the International Space Station (ISS), together with vehicle and equipment development programmes and services such as the Service Module for NASA’s Orion spacecraft, constitutes the predominant field of activity in this segment, and Airbus Defence and Space leads the European contribution on industrial level as prime contractor. As the future exploration plans of the various national space agencies take shape with a growing focus on a sustainable return to the Moon, Airbus Defence and Space is well-positioned to take a leading role in providing vehicles, platforms and services to support these ambitious endeavours.

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, MAXAR and Northrop Grumman in the US, Thales Ailenia Space in France and Italy, Information Satellite Systems Reshetnev in Russia, and CASC in China. The market for commercial geostationary telecommunications satellites has experienced a down turn since 2017 and is expected to gradually recover in the mid-term. In parallel, the demand for large constellations of smaller telecom satellites in Low Earth Orbit has increased dramatically in the last few years.

The market for commercial launch services continues to evolve. Competitive pressure is increasing in light of new entrants into the market. ArianeGroup provides a complete range of launch services with the Ariane, Soyuz, and Vega launchers. Competitors for launch services include SpaceX, ULA, ILS 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), the 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 designs and builds satellites for the OneWeb constellation programme. The 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. In 2018, design of the pilot satellites was completed. The launch of the first satellites in 2019 will allow validation of the design.

Communications, Intelligence & Security
The 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 five main clusters: Intelligence, Secure Communications, Cyber Security, Security Solutions and Secure Land Communications.

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 in cyber-attacks, the increased use of connected assets and global digital transformation. Customers are governments and private companies with a high grade security requirement.

Combining our heritage in the defence domain and expertise in maritime safety and security systems, Security Solutions answers manifold operational needs in security and critical infrastructure protection by providing adaptable solutions and services needed to achieve everyday missions. As a world-leading system integrator for border security, maritime surveillance, critical national infrastructure protection and site security services, Security Solutions’ aim is to build on these assets in operation, thereby fulfilling the requirements of the security market today and in the future with the latest technology and most attractive service packages.

Secure Land Communications offers communication and collaboration solutions with the highest standards of security and reliability. These include voice, messaging and multimedia sharing solutions based on Tetra, Tetrapol and 4G / 5G technologies tailored to the needs of professionals from Public Safety and Transport, Utility and Industry (TUI). As the European leader and a key international player, Secure Land Communications has customers in more than 80 countries.

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 - an area characterised by long-term relationships with 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 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 programmes. France, Germany, Italy and Spain have signaled their intention to cooperate on a medium altitude, long endurance UAS and Airbus Defence and Space and its partners finalised the two-year definition study of the system end of 2018.

Competitors

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

Market Trends

UAS 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, Luxembourg, Spain, Turkey, the UK and one export customer, Malaysia. Type Certificate and Initial Operating Clearance have been achieved in 2013. Since then, 74 units have been delivered to six nations by the end of 2018. 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 2018, the A330 MRTT programme has a total of 60 aircraft firm orders by eight customers (twelve countries (seven through direct acquisition, five through pooling acquisition in the frame of the MMF (Multinational MRTT Fleet) programme)), of which 35 already delivered and in service in seven 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.

At the end of 2018, a total of 623 Eurofighter Typhoon aircraft had been ordered by nine customers (UK, Germany, Italy, Spain, Austria, Saudi Arabia, Oman, Kuwait, and Qatar), with a total of 557 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 over 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. 492 orders had been recorded for both CN235 and C295 types together at the end of 2018.

**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 programmes 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 positioned Airbus Defence and Space to become the prime contractor for the European service module of NASA’s next generation Orion manned capsule.

**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 Rocket 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 and 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, including all-electric variant. In 2018, Airbus Defence and Space was selected by Eutelsat to build the HotBird new generation satellites, two sophisticated telecom satellites based on Eurostar Neo platform, the new flagship product for
Airbus Telecom Geo Satellites. Airbus Defence and Space also develops the Eutelsat Quantum telecommunication satellite, 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 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 and space exploration missions, manned spacecraft 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 Pleiades 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 will extend 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 include sensor networks ranging from infrared 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.

Secure Land Communications. Airbus Defence and Space offers advanced communication and collaboration solutions enabling its customers to gather process and deploy intelligence. Its portfolio is tailored to the needs of professionals from Public Safety and Transport, Utility and Industry (TUI). It includes infrastructures, devices, applications and services based on Tetra, Tetrapol and Broadband technologies. As the European leader and a key international player, Secure Land Communications has customers in more than 80 countries.

Unmanned Aerial Systems

In the field of 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 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 RPAS system where Airbus Defence and Space is working 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 both military and civil applications such as relay stations for internet provision to remote or sparsely populated regions.

Airbus Aerial 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 focuses primarily 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, utilities, 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 (CAML)”, 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

As a result of the implementation of Dassault Aviation’s capital increase, which took place on 27 June 2018, at the occasion of which 36,782 shares were issued to remunerate the shareholders who opted for a dividend payment through attribution of shares, the Company holds approximately 9.89% of Dassault Aviation’s share capital and 6.15% 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 via the Company’s inhouse broker entity Airbus Aéroassurances. IRM’s continuous task in 2018 was to further implement and 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 the Company. A systematic review, monitoring and reporting procedure applicable to all Divisions is in place to assess the exposure and protection systems applicable to all the Company’s sites. The Company’s insurance programmes cover high risk exposures related to its assets and liabilities.

1.1.7 Legal and Arbitration Proceedings

The Company 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, the Company 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 SE’s financial position or profitability.

Regarding the Company’s provisions policy, the Company 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 the Company, (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 the Company believes that adequate provisions have been made to cover current or contemplated general and specific litigation and regulatory risks, no assurance can be provided that such provisions will be sufficient. For the amount of provisions for litigation and claims, please refer to the “— Notes to the IFRS Consolidated Financial Statements — Note 22: Provisions, Contingent Assets and Contingent Liabilities”.

WTO

Although the Company is not a party, the Company is supporting the European Commission in litigation before the WTO. Following its unilateral withdrawal from the 1992 EU-US Agreement on Trade in Large Civil Aircraft, the US lodged a request on 6 October 2004 to initiate proceedings before the WTO. On the same day, the EU launched a parallel WTO case against the US in relation to its subsidies to Boeing. On 19 December 2014, the European Union requested WTO consultations on the extension until the end of 2040 of subsidies originally granted by the State of Washington to Boeing and other US aerospace firms until 2024.

On 1 June 2011, the WTO adopted the Appellate Body’s final report in the case brought by the US assessing funding to Airbus from European Governments. On 1 December 2011, the EU informed the WTO that it had taken appropriate steps to bring its measures fully into conformity with its WTO obligations, and to comply with the WTO’s recommendations and rulings. Because the US did not agree, the matter was referred to the WTO for further review pursuant to WTO rules. A decision was published in May 2018 in which the WTO clarified that the EU and the Company have achieved compliance in respect of the majority of the subsidies at issue but considered that some remaining obligations required minor adjustments, which have since been addressed by the EU. Because the US did not agree on the EU compliance efforts, the US requested the resumption of Article 22.6 arbitration proceedings to quantify the amount of countermeasures against the EU. In September 2018, the US requested an annual amount of countermeasures of US$11.2 billion. The Company considers the US’ request unjustified given the measures taken to comply with the Appellate Body decision of May 2018. The Company has worked with the European Commission and the Member State governments to fully implement the WTO findings in the Appellate Body’s decision and asserts that the new measures taken render the sanctions request moot.

On 23 March 2012, the WTO adopted the Appellate Body’s final report in the case brought by the EU assessing funding to Boeing from the US. On 23 September 2012, the US informed the WTO that it had taken appropriate steps to bring its measures fully
into conformity with its WTO obligations, and to comply with the WTO’s recommendations and rulings. Because the EU did not agree, the matter is now under WTO review pursuant to WTO rules.

Exact timing of further steps in the WTO litigation process is subject to further rulings and to negotiations between the US and the EU. Unless a settlement, which is currently not under discussion, is reached between the parties, the litigation is expected to continue for several years.

**GPT**

In August 2012, the UK Serious Fraud Office (“SFO”) announced that it had opened a formal criminal investigation in relation to GPT Special Project Management Ltd (“GPT”), a subsidiary operating in Saudi Arabia that the Company acquired in 2007. The investigation relates to issues initially raised by a whistleblower concerning contractual arrangements originating prior to GPT’s acquisition and continuing thereafter. The Company has engaged with the SFO throughout and continues to actively cooperate with the investigation.

**Eurofighter Austria**

In February 2017, the Austrian Federal Ministry of Defence raised criminal allegations against Airbus Defence and Space GmbH and Eurofighter Jagdflugzeug GmbH for wilful deception and fraud in the context of the sale of the Eurofighter aircraft to Austria and respective damage claims. After the Austrian Federal Ministry of Defence raised its criminal allegations, the Austrian public prosecutor opened an investigation against Airbus Defence and Space GmbH, Eurofighter Jagdflugzeug GmbH and former and current employees of the two entities. The Company has filed several submissions to the Vienna Public Prosecutor in response to the allegations of deception in the procurement of Eurofighter combat aircraft made by the Austrian Defence Minister. The Company is cooperating fully with the authorities.

**Investigation by the UK SFO and France’s PNF and Related Commercial Litigation**

In the context of review and enhancement of its internal compliance improvement programme, the Company discovered misstatements and omissions relating to information provided in respect of third party consultants in certain applications for export credit financing for the Company’s customers. In early 2016, the Company informed the UK, German and French Export Credit Agencies (“ECAs”) of the irregularities it had discovered. The Company made a similar disclosure to the UK Serious Fraud Office (“SFO”). In August 2016, the SFO informed the Company that it had opened an investigation into allegations of fraud, bribery and corruption in the civil aviation business of Airbus relating to irregularities concerning third party consultants (business partners). In March 2017, France’s Parquet National Financier (“PNF”) informed the Company that it had also opened a preliminary investigation into the same subject and that the two authorities would act in coordination going forward. The Company is cooperating fully with both authorities including in respect of potential issues across the Company’s business. As part of the Company’s engagement with the US authorities, the latter have requested information relating to conduct forming part of the SFO/PNF investigation that could fall within US jurisdiction. The Company is cooperating with the US authorities in close coordination with the SFO and PNF. The investigations and any penalties potentially levied as a result could have negative consequences for the Company. The potential imposition of any monetary penalty (and the amount thereof) or other sanction including tax liability arising from the investigations will depend on the ultimate factual and legal findings of the investigation, and could have a material impact on the financial statements, business and operations of the Company. However, at this stage it is too early to determine the likelihood or extent of any such possible consequence. Investigations of this nature could also result in (i) civil claims or claims by shareholders against the Company (ii) adverse consequences on the Company’s ability to obtain or continue financing for current or future projects (iii) limitations on the eligibility of group companies for certain public sector contracts and/or (iv) damage to the Company’s business or reputation via negative publicity adversely affecting the Company’s prospects in the commercial market place.

In light of these investigations, the Company enhanced certain of its policies, procedures and practices, including ethics and compliance and export control. The Company has revised and implemented improved procedures, including those with respect to its engagement of consultants and other third parties, in particular in respect of sales support activities. The Company believes that these enhancements to its controls and practices will best position it for the future, particularly in light of advancements in regulatory standards. Several consultants and other third parties have initiated commercial litigation and arbitration against the Company seeking relief. The enhancement of its controls and practices has led to additional commercial litigation and arbitration against the Company and may lead to other civil law or criminal law consequences in the future, which could have a material impact on the financial statements, however at this stage it is too early to determine the likelihood or extent of any liability.

**ECA Financing**

The Company and the ECAs reached agreement on a process under which it is able to resume making applications for ECA-backed financing for its customers across the Company on a case-by-case basis for a limited number of transactions.

**Other Investigations**

The Company is cooperating fully with the authorities in a judicial investigation in France related to Kazakhstan. In this spirit, the Company asked to be interviewed by the investigating magistrates and has been granted the status of “assisted witness” in the investigation.

The Company is cooperating with French judicial authorities pursuant to a request for mutual legal assistance made by the government of Tunisia in connection with historical aircraft sales. Following a review of its US regulatory compliance procedures, the Company discovered and subsequently informed relevant US authorities of its findings concerning certain inaccuracies in filings made with the US Department of State pursuant to Part 130 of the US International Traffic in Arms Regulations (“ITAR”) (a US export control regulation). The Company is cooperating with the US authorities. The Company is unable to reasonably estimate the time it may take to resolve the matter or the amount or range of potential loss, penalty or other government action, if any, that may be incurred in connection with this matter.
Other Disputes
In May 2013, the Company was notified of a commercial dispute following the decision taken by the Company to cease a partnership for sales support activities in some local markets abroad. The Company believes it has solid grounds to legally object to the alleged breach of a commercial agreement. However, the consequences of this dispute and the outcome of the proceedings cannot be fully assessed at this stage. The arbitration will not be completed until 2020 at the earliest.

1.1.8 Non-Financial Information

1.1.8.1 The Company’s Approach to Responsibility & Sustainability

The Company and its Main Stakeholders
Airbus is an industrial company operating in businesses with long product lifecycles and corresponding returns on investment. There are significant costs and risks in programme development and cyclical markets. These features define the Company and shape its relationships with all stakeholders. For a description of the Company’s business model, see “— 1.1.1 Overview”.

The Company is engaged in stakeholder dialogue at various levels. The responsibility for stakeholder engagement is decentralised at the Company and employees are encouraged to initiate, develop and maintain relationships with their respective stakeholders. The Company often seeks a sectorial approach in order to strengthen the impact.

The Company’s main purpose, its missions and the objectives resulting from them, are defined in relation to these stakeholders. The Company has defined the following objectives:
- generate long-term value by developing a sustainably profitable portfolio of aeronautics, helicopter, defence and space businesses. For its shareholders, lenders and other financial counterparts, the Company must meet its obligations and foster its standing of creditworthiness and profitability;
- be a provider of choice, offering superior value-for-money products and services to customers;
- engage employees to share its goals and rise to its challenges. Within the confines of applicable laws and regulations, the Company must respond to their expectations about development, people management and values;
- build sustainable relationships with its suppliers based on mutual interest to satisfy its customers to encourage responsible practices. The Company promotes the Supplier Code of Conduct as standards consistent with its own code of conduct, and also develops and implements adequate mechanisms to monitor supplier performance;
- Play a key role in society and towards local communities. The Company is committed to responsible business practices in terms of respect for human rights, labour, the environment and anti-corruption. In addition, the Company encourages initiatives that contribute to tackling societal challenges whether through its products and services, skills and resources or via key partnerships.

Materiality Assessment
In order to prioritise its responsible and sustainable efforts, the Company performed a materiality assessment in 2017. The Company approached a set of stakeholders through qualitative interviews. A list of top issues for the Company was developed, consolidated and ranked by the Company’s Responsibility & Sustainability Network. The network gathers a group of experts advising on Airbus’ Responsibility & Sustainability (“R&S”) strategy, monitoring progress in their respective areas of responsibility, sharing knowledge and best practices throughout the entire Company. It is trans-functional, trans-national and trans-divisional and meets on a regular basis.

You will find these issues covered within the following sections of this chapter:
- Responsible Manufacturer: 1.1.8.2(a) Aviation and Product Safety (“product responsibility” in the matrix), 1.1.8.2(b) Research and Technology (“technology and innovation” in the matrix), 1.1.8.2(c) Environment (“environmentally responsible products” and “environmental management of operations” in the matrix), 1.1.8.2(d) Responsible Defence and Space products (“security” and “product responsibility” in the matrix);
- Responsible Employer: 1.1.8.3(a) Workforce and 1.1.8.3(b) Human Capital Management, Labour Relations and Human Rights (“responsible employer” in the matrix), 1.1.8.3(c) Health and Safety (same in the matrix), 1.1.8.3(d) Inclusion and Diversity (“business culture and leadership” in the matrix);
- Responsible Business: 1.1.8.4(a) Ethical business practices (“business culture and leadership” in the matrix), 1.1.8.4(b) Responsible Suppliers (“responsible supply chains” in the matrix), 1.1.8.4(c) Community Engagement (“community impact” in the matrix).