

– **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 targeted international markets.

Market

Airbus Defence and Space is mainly active in governmental, institutional and commercial 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 FCAS, the European “MALE” (Medium Altitude Long Endurance) drone and the Future Maritime Airborne Warfare Systems (“FMAWS”). 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 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 combat aircraft, military transport and mission aircraft along with 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 lasts for 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. During the Franco-German Defence and Security Council in October 2019, France and Germany committed to strengthen their cooperation and agreed to contract the demonstrator phase for FCAS early next year.

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 dedicated 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 players in the world market is very limited.

The main competitors in military transport and mission aircraft include Boeing, Embraer, Lockheed Martin, Northrop Grumman, 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. Eurofighter is a key asset which for customers will act as a capability bridge to FCAS, in which it will also be seamlessly integrated.

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 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 future European defence capabilities. During the Franco-German Defence and Security Council in October 2019, France and Germany agreed to contract the demonstrator phase for FCAS in 2020. For the latest update, see section 1.3 below.

Space Systems

Governmental 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 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 Alenia 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 (a subsidiary of ArianeGroup)

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 a constellation of satellites for its unique customer OneWeb. 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 allowed validation of the design.

Connected Intelligence

The Connected Intelligence programme line delivers satellite and terrestrial communication systems, information and security solutions like Skynet5. It also manages intelligence services from radar and optical data imageries, and provides cyber defence support, cipher solutions and training to its institutional and commercial customers

This programme line is divided into five programme units: Intelligence, Secure Communications, Cyber Security, Security Solutions and Secure Land Communications.

Through **Intelligence**, Airbus Defence and Space provides commercial satellite imagery, Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems and related services. Intelligence is amongst the largest players in the satellite imagery (optical and radar) market. The programme unit provides both optical and radar-based geo-information services to customers including international corporations, governments and authorities around the world. 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** programme unit, Airbus Defence and Space is also a leader in governmental satellite communications. The programme unit 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. It provides armed forces and governments in the UK, Germany, France and Abu Dhabi with secure satellite communications.

Airbus CyberSecurity: 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: 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 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). As the European leader and a key international player, Secure Land Communications has customers in more than 80 countries.

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 (MALE) UAS. After Airbus Defence and Space and its partners finalised the two-year definition study of the system end of 2018, a EuroMale proposal (including options) has been submitted in 2019. Contract negotiations are ongoing.

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 by providing different capabilities. Tactical (short to medium range airlifter capability with short, soft and austere field operating performance), strategic transport (longer range missions for outsized loads) and 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 were achieved

in 2013. Since then, 88 units have been delivered to six nations as of 31 December 2019. The A400M is already deployed in operations since 2014. In 2019, a contract amendment was signed with launch customers on the Global Rebaselining of the A400M programme, under which all parties have agreed to update the production plan and revise the capability roadmap. The programme is now delivering in line with the revised schedule.

Multi-role tanker transport – A330 MRTT. The A330 MRTT, a derivative of the Airbus A330-200 family, offers military strategic air transport as well as air-to-air refueling capabilities at the same time. Its large fuel tank capacity (111t) inherited from the commercial platform, allows to dispense fuel in flight to many receiver aircraft without the need for any additional fuel tanks. This allows the entire lower deck cargo bay compartment to be available for freight (up to 37t), with the possibility to transport up to 27 standard civil LD3 containers, or up to eight 436L military pallets as well as at the same time the capacity to transport up to 300 troops in the upper deck cabin compartment, with the high level of comfort of a civil airliner. The A330 MRTT is equipped with state of the art refueling systems, including an Aerial Refueling Boom System (ARBS) and under-wing refueling pods and in the upcoming months with the Automatic Air-To-Air Refuelling (A3R) capability. At the end of 2019, 60 A330 MRTT have been ordered by thirteen 13 Nations (more than 94% market share over the past 10 years, excluding the US), with 42 platforms already delivered and operating worldwide, accumulating more than 200,000 flight hours in operation.

Eurofighter combat aircraft. The Eurofighter 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 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, Spanish and Austrian 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 2019, 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 570 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 operational environments and have been used for humanitarian missions. The aircraft are also offered as a dedicated mission aircraft with configurations beyond the traditional airlifter version, for example maritime patrol and anti-submarine warfare, airborne early warning and control, firefighting and intelligence surveillance reconnaissance