2.1 Operating segments

In early 2013, the Group set up a matrix organisation based on:

- six Global Business Units, divided into three operating segments: Aerospace (Avionics, Space), Transport (Ground Transportation Systems) and Defence & Security (Secure Communications and Information Systems, Land and Air Systems, and Defence Mission Systems);
- an international organisation split into the major industrial countries in which the Group is present (France, Germany, the Netherlands, the UK, Canada, the United States and Australia & New Zealand), other European countries and emerging markets.

2.1.1 AEROSPACE SEGMENT

The Aerospace segment includes the Avionics and Space Global Business Units.

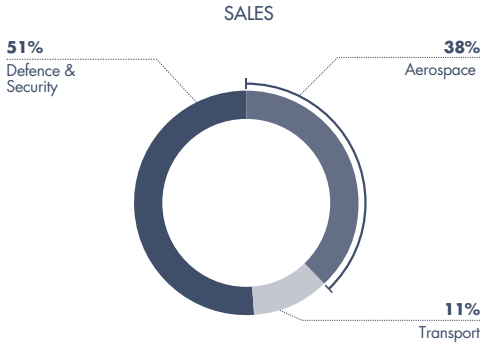
The **Avionics** Global Business Unit offers a large array of equipment and functions for piloting, navigation and aircraft control systems, electrical generation and conversion, and in-flight entertainment and connectivity systems. This activity also includes simulation and training solutions for military aircraft and civil and military helicopters as well as microwave or imaging subsystems. As a partner with the major aircraft manufacturers and airlines, Thales is a player in the entire value-added chain for the aviation sector, in addition to its space and air traffic management business.

The **Space** Global Business Unit provides spatial systems and solutions, particularly in the fields of telecommunications, radar and optical observation of the Earth, satellite navigation and exploration of the universe. The strategic partnership in the space sector between Thales and Finmeccanica – the Space Alliance – responds to the significant environmental, scientific, security and information society development challenges and is based on the complementary solutions offered by Thales Alenia Space (67% owned by Thales, 33% owned by Finmeccanica) in satellite systems and by Telespazio (33% owned by Thales, 67% owned by Finmeccanica) in related services.

2.1.1.1 KEY DATA

	2015	2014
Order book at 31 December	9,766	8,687
Order intake	6,279	5,024
Sales	5,381	5,014
EBIT[(a)]	518	505
Employees under Group management	17,960	17,951

(a) Non-GAAP indicator. See definition in the section entitled "Presentation of Financial Information" in the management report on page 8.



2.1.1.2 AVIONICS

2.1.1.2.1 General overview

Thales manufactures flight avionics systems, passenger cabin equipment and systems and flight simulators for helicopters and military aircraft. The Group also offers microwave (tubes and power amplifiers) and imaging subsystems.

The portfolio of flight avionics systems and equipment comprises on-board electronics systems, including helmet display, for aircraft navigation and handling for civil and military fixed-wing and rotary-wing aircraft.

Thales also supplies electrical generation and power conversion equipment.

In the cabin systems market, Thales's offer is focused on the in-flight entertainment and passenger connectivity segment. In addition, the Group offers lighting and aircraft interior systems through the Diehl Aerospace joint venture.

In simulation and training, Thales provides flight simulators for several European defence programmes and provides training for pilots, particularly for helicopters, via the Helisim joint venture.

Microwave subsystems are aimed at the space and defence markets and also have some telecommunications and civil industrial applications, whereas imaging subsystems are aimed at the medical radiology market.

2.1.1.2.2 Competitive position

As one of the leading players in the avionics market, Thales is a supplier for the civilian and military aircraft manufacturers AgustaWestland, Airbus Group, ATR, Bell, Boeing, Bombardier, Dassault Aviation, Embraer, Gulfstream, NHIndustries, Sikorsky and Sukhoi. The growth of this business therefore correlates directly to the change in production rates of aircraft manufacturers. The other major players in this field are the US companies Honeywell and Rockwell Collins.

In the passenger cabin systems segment, Thales is one of the world's top two players, with Panasonic Avionics.

There are numerous competitors in the simulation solutions market, particularly US defence companies such as Lockheed Martin, Raytheon and L3Com.

Thales continues to be a global market leader in microwave and imaging subsystems.

2.1.1.2.3 Significant events in 2015

In **civil avionics,** Thales supported the increased production of the Airbus A350, the first of which was delivered in late 2014, followed by 14 additional models in 2015. In addition, the Group signed a contract with ATR at the Paris Air Show to strengthen their partnership through collaborative incremental development of the avionics system used in the ATR-600.

A significant milestone was also reached with the laying of the first stone for the new Thales site in Bordeaux, the future global headquarters for the Group's avionics activities.

In **training and simulation,** 2015 was marked by the launch, in cooperation with Rheinmetall Defence Electronics (RDE), of a programme to refurbish and upgrade 20 Tiger combat helicopter simulators to be used by French and German armed forces for the OCCAR (Organisation for Joint Armament Cooperation). Thales, together with Sogitec, was also asked to provide Rafale simulators for the French and Egyptian forces. At the end of the year, Thales won the tender to provide the education and training service for the new H160 from Airbus Helicopters, through its subsidiary Helisim.

In terms of **in-flight entertainment** business, Thales InFlyt Experience was launched at the Aircraft Interiors in Hamburg, marking the consolidation of in-flight entertainment and connectivity activities. For the first time, the AVANT system was incorporated into the A350 XWB delivered to Qatar Airways and into Vietnam Airlines' Boeing B787-9, and was selected to equip the first class cabins of British Airways' B787. 2015 also marked the first anniversary of the acquisition of LiveTV, whose activities have complemented Thales's offering. More than 400 aircraft are now equipped with a Ka-band connectivity offering.

In **helicopter avionics,** after announcing the signing of a MoU (Memorandum of Understanding) in late 2014, Thales and Shanghai AVIC (SAVIC) worked together to develop their partnership in order to provide joint solutions to the Chinese market. Thales and Turbomeca extended their cooperation in the field of engine management (FADEC D) for future engine projects.

In **military avionics,** the year was marked in particular by the initial success of Rafale exports. Furthermore, the first two modernised Mirage 2000s were delivered to the Indian authorities and an A400M was delivered to the Royal Malaysian Air Force.

In **electrical systems,** Thales signed two major contracts with Chinese aircraft manufacturer AVIC for the supply of electrical generation solutions for AC312 and H425 helicopters. This year also marked the maiden flight of the Antonov 178 military aircraft, which was equipped with Thales solutions.

In **airline support,** Thales was included in the list of the top ten Airbus support providers for the ninth consecutive year. Thales also announced the development of a new flight application called "Electronic Flight Bag" (EFB). The first customer will be Air France, whose ultimate aim is to equip its entire fleet. Thales also announced the signing of several key contracts for the supply of head-up displays (collimators), in particular to China Southern Airlines and Etihad.

In **microwave and imaging sub-systems,** Thales successfully launched its new flat panel detector for radiography. In the space market, the tubes supplied by Thales have contributed to the recent successes of both the Rosetta and the New Horizons scientific missions. Thales was also present on many commercial satellites and has won a major contract with Boeing for Ka-band coverage.

2.1.1.3 SPACE

2.1.1.3.1 General overview

Thales Alenia Space is a joint venture between Thales (67%) and Finmeccanica (33%) and is a partner in the Space Alliance along with Telespazio, which is also owned by Thales (33%) and Finmeccanica (67%).

Thales Alenia Space has more than 40 years of experience in the design, integration, testing, operation and commissioning of innovative space systems. These cutting-edge systems meet the needs of commercial, government, scientific, defence and security customers from around the world. The satellites and payloads designed by Thales Alenia Space have become the global standard for space systems that provide communications and navigation services, monitor our environment and the oceans, help us better understand climate change and drive scientific progress. Thales Alenia Space is also a leading supplier to the International Space Station, and a pivotal player in space systems designed to explore the Universe.

Thales Alenia Space is one of the world's leading designers of **telecommunications satellites,** platforms and payloads – a market that accounts for 50% of its business. The Company offers a wide range of solutions, from the supply of high-performance equipment to turnkey systems. The Spacebus NEO family of geostationary platforms meets the needs of operators from around the world. The payloads designed by Thales Alenia Space have proven their performance, reliability and competitiveness on satellites made by all the leading space industry manufacturers. Thales Alenia Space has confirmed its expertise as a leading global player in the field of low/medium earth orbit mobile communications constellations with the Globalstar, Iridium NEXT, O3b and Leosat projects.

In the **military segment**, Thales Alenia Space operates in the design and production of highly secure telecommunications systems and observation systems and high-resolution radar and optical payloads. It offers space and ground telecommunications and observation segments, as well as dual civil and military systems. Notably, it is a supplier to the French Ministry of Defence and is at the heart of the Franco-Italian cooperation with the Sicral and Athena Fidus programmes.

In **Earth observation,** Thales Alenia Space is a leader in high- and very high-resolution optical and radar payloads for military, civilian or dual missions such as information gathering, target designation, map-making and crisis management, meteorology, oceanography and climatology, etc.

For the past three decades, the European Space Agency (ESA) and the European Organisation for the Exploitation of Meteorological Satellites (Eumetsat) have awarded Thales Alenia Space the contract for Europe's meteorological satellites (Meteosat satellites), as well as environmental missions in the Copernicus programme and spatial altimetry, an activity in which Thales Alenia Space's radars set the global standard for ocean and ice surveillance.

Today, Thales Alenia Space is the prime contractor for the flagship ExoMars programme, which is ESA's most ambitious Mars mission and will touch down on the red planet in 2016. The Company is also the prime contractor for EUCLID – one of ESA's scientific satellites that aims to

understand dark matter. It also led the success of the IXV, a mini European Shuttle that has validated technologies for atmospheric re-entry for future manned flights. On the ground, it deployed radioastronomy antennae on the Atacama Plateau in Chile as part of the ALMA programme for the European Southern Observatory (ESO).

Thales Alenia Space is also at the origin of satellite navigation in Europe as prime contractor for Egnos, the precursor to Galileo, and has a major role in its development with Galileo system support, participation in the in-orbit validation phase, which consists of manufacturing the first four satellites of the constellation, and especially in the deployment of the ground-based mission segment (Galileo Mission Segment) for the full constellation.

In manned flights, Thales Alenia Space is a major contributor to the International Space Station (ISS), supplying more than 50% of its pressurised volume. It has significant involvement with the vehicles which have and which will resupply the ISS: ATV (Automated Transfer Vehicle) for ESA, Cygnus for NASA, and soon the Orion spacecraft for NASA.

Thales Alenia Space also contributes to the European policy on access to space by supplying the on-board electronics for the Ariane rocket, the on-board backup system for Soyuz in Guyana and soon that of the Ariane 6.

2.1.1.3.2 Competitive position

The satellite market is dynamic and highly competitive. In the commercial satellite segment, Thales Alenia Space's main competitors are Space Systems/Loral, Airbus Group, Orbital ATK, Boeing and Lockheed Martin. Going forward, the commercial challenge focuses on the ability to offer satellite solutions with electric-only propulsion. It is important to note the gradual arrival in the commercial market of new international players (from Russia, China, India, Israel, Japan, etc.) in the fields of telecommunications and observation. The arrival of GAFA (Google, Apple, Facebook, Amazon) has also changed the commercial landscape with the emergence of new needs in terms of mega-constellations. Space X in particular is proposing to set up its own constellation.

The leading competitors in the institutional market in Europe, which depends to a large extent on the budgetary situation of governments, are Airbus Group and OHB, which may also be partners depending on the programme.

2.1.1.3.3 Significant events in 2015

In telecommunications, Thales Alenia Space signed the contract for the C/D phase of the Neosat programme with the ESA and won a contract with Eutelsat to supply a broadband satellite for Africa. This is a defining contract for the company as it is the first commercial use of its new product line, the all-electric Spacebus NEO. In addition, contracts were signed with Bangladesh for the Bangabandhu satellite and with Argentina for the ARSAT-3 payload. In constellations, Thales Alenia Space continues to work with LEOSAT on the feasibility and definition of its constellation of 80–120 satellites which are intended to provide broadband internet solutions, and it has also signed a contract to build 8 additional satellites for the O3b Network. Finally, in defence, Thales Alenia Space signed a 65% partnership agreement for the Comsat NG French military satellite communications programme. The Comsat NG contract involves the construction of two military communication satellites for the French Armed Forces to replace the Syracuse 3A and Syracuse 3B satellites, which were launched in 2005 and 2006 respectively.

In the field of Earth observation, 2015 saw Thales Alenia Space's leadership in terms of space altimetry dedicated to oceanography being demonstrated once again through the signing of the agreement to build the SWOT (Surface Water Ocean Topography) satellite for CNES (the French space agency), the installation of the Poseidon-4 altimeter on the Sentinel 6, and the selection of the Poseidon-3C altimeter for the SWOT satellite.

In high-resolution optical observation, Thales Alenia Space signed a contract for a feasibility study regarding the successor to the Pleiades and CSO satellites. Meanwhile, in radars, the Company signed the COSMO-SkyMed Second Generation contract for the Italian Space Agency and the Italian Ministry of Defence and a ground segment contract for processing data generated by the COSMO-SkyMed satellites for the Polish Ministry of Defence.

Finally, Thales Alenia Space signed a contract with ESA and the European Union to build the C and D models of the Sentinel 1 environmental monitoring satellites as part of the Copernicus programme.

In exploration and science, Thales Alenia Space signed a contract for the phase B study of the scientific satellite PLATO (PLAnetary Transits and Oscillation of stars) for ESA, as well as the contract with Airbus Defence and Space to produce the thermomechanical systems for the European Service Module (ESM) of NASA's Orion spacecraft.

In 2015, Thales Alenia Space participated in 9 launches, including that of the IXV with the success of the mission of the European atmospheric re-entry module, and that of the Sicral 2 which complements the French-Italian cooperation in the defence field following the 2014 launch of Athena-Fidus. It should also be noted that Thales Alenia Space supplied three climate satellites: MSG4, a meteorological satellite launched in July 2015, Jason 3, an oceanographic satellite launched in January 2016, and Sentinel 3A, an environmental satellite,launched from Pletzesk on 16 February 2016.

Also of note in 2015 was the formation of strategic partnerships with Nanyang Technological University in Singapore and the signing of an agreement with the University of Warsaw in Poland.

From an industrial perspective, 2015 saw the introduction of robots, collaborative robots and 3D printing technology in the manufacturing process; 3D parts have already flown on Arabsat 6B and Turkmenspace and will fly on Koreasat. A 3D printer was also delivered to the astronauts on-board the ISS.

Thales Alenia Space's international growth continued in 2015 with the opening of a new subsidiary in Poland and a technology centre in Brazil. In 2015, Thales Alenia Space also inaugurated a new building on the Cannes site for the integration and testing of high-resolution optical observation instruments in order to meet the needs of export markets.

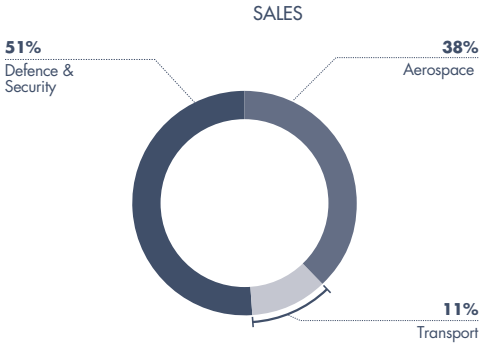
2.1.2 TRANSPORT SEGMENT

Thales provides ground transportation infrastructure operators and managers with systems and services to leverage their investments to best effect by optimising their operational performance, offering the best passenger experience, and managing the growing complexity of transport systems. Thales solutions help increase the capacity of transport infrastructures and promote the highest safety in the transport of people and goods, rapidly and cost effectively.

2.1.2.1 KEY DATA

	2015	2014
Order book at 31 December	4,842	3,615
Order intake	2,826	1,652
Sales	1,519	1,402
EBIT[(a)]	(37)	32
Employees under Group management	6,289	6,331

(a) Non-GAAP indicator. See definition in the section entitled "Presentation of Financial Information" in the management report on page 8.



2.1.2.2 GROUND TRANSPORTATION SYSTEMS

2.1.2.2.1 General overview

The Group is one of the foremost global players in railway signalling and the control/monitoring of urban transport networks and mainlines. It also offers electronic ticketing solutions.

In rail signalling, Thales provides systems for conventional and high speed long distance networks, in addition to metro, tram and suburban networks. Thales capitalises on its expertise in the field of critical information and cybersecurity systems to offer transport network operators integrated and protected solutions to effectively supervise and control their operations and satisfy their passengers with increased service quality, while helping to improve passengers, staff and infrastructures security.

Thales is also a global player in passenger payment collection solutions, in particular for urban transit operators, and has vast experience with multimodal and multi-operator ticketing systems.

2.1.2.2.2 Competitive position

Thales offers to ground transportation operators, whose growth is linked to a great extent to urban planning, a portfolio of automation and services solutions dedicated to the efficient operation, security and safety of rail infrastructures. Specialised in intelligent critical systems and services, Thales sets itself apart from its "generalist" competitors, who offer ranges of products dominated by rolling stock. These capabilities and skills make Thales a recognised leading player with strong positions in these markets.

The competitive landscape varies significantly depending on the segment targeted by Thales. In signalling, Thales is a major player, its main competitors being Siemens, Alstom, Ansaldo STS and Bombardier. In ticketing, the Group's main competitors are Cubic, Parkeon, Scheidt & Bachmann and Xerox.

2.1.2.2.3 Significant events in 2015

2015 was a record year in terms of order intake for Thales's **urban signalling activity,** with several very significant contracts being won.

In London, spurred on by the success of the modernisation of the Jubilee and Northern lines, Transport for London awarded Thales the contract to modernise the Circle, District, Metropolitan and Hammersmith & City lines, which make up almost 40% of its network. Upon completion of the project in 2023, the overall capacity on these lines is expected to increase by 30% due to an increased number of trains running at peak times.

In Hong Kong, MTR Corporation, the metro operator, has awarded Thales a major contract for the modernisation of seven lines that will be equipped with CBTC (Communication-Based Train Control) technology from Thales. This will increase capacity, improve reliability and make it easier to maintain the system and the existing infrastructure.

In New York, Thales was selected to supply the signalling for part of the Queens Boulevard subway line which connects Manhattan to Queens. The part of the line covered by CBTC equipment from Thales will be interoperable with other parts of the line that are covered by equipment from other suppliers.

In China, Thales's SAIC Transportation System joint venture won several contracts for new metro lines (in Qingdao, Nanchang, Wuhan and Shijiazhuang) and tramways (in Shanghai).

Thales will also provide signalling, communications and the line control centre for the tramline in Danhai, Taiwan.

In Australia, Thales was chosen to equip the Sydney metro network, Australia's first fully automated rail system.

In Qatar, Thales won the contract to supply signalling and ticketing systems for the new metro in Doha.

In **mainline signalling,** Thales continued to roll out its ETCS (European Train Control System) technology on high-speed lines in Spain. In France, the SNCF has extended Thales's contract to replace the signal control point at Vitry-sur-Seine. The mainline activity is also supported by framework agreements to supply signalling systems in several European countries, including Germany, Austria, Switzerland and Norway.

In **ticketing,** June 2015 saw Thales launch its TransCity™ solution during the International Association of Public Transport conference in Milan. This solution enables passengers to pay directly at the ticket barrier (by contactless bank card, mobile phone or travel card). Among other things, this "cloud-ready" ticketing solution allows operators to analyse the data generated, which simplifies their management. The new solution had its first two export successes with the fitting out of the regional express network in Johannesburg and the modernisation of two lines of the Cairo metro.

2.1.3 DEFENCE & SECURITY SEGMENT

Thales is a long-standing partner to military and security forces around the world, providing support on the ground to increase operational effectiveness as well as ensuring the highest levels of protection.

Thales designs systems for all sectors: land, air, naval, space and cyberspace (digital networks). These systems detect and assess threats, manage information, support rapid command decisions and control engagements, through to threat neutralisation, with maximum reliability. By facilitating the coordination of joint or coalition forces operations, they contribute to the decision-making superiority of the forces.

As new risks emerge, defence alone cannot protect against new threats such as trafficking, terrorism, organised crime, cyber-attacks, natural disasters, etc.

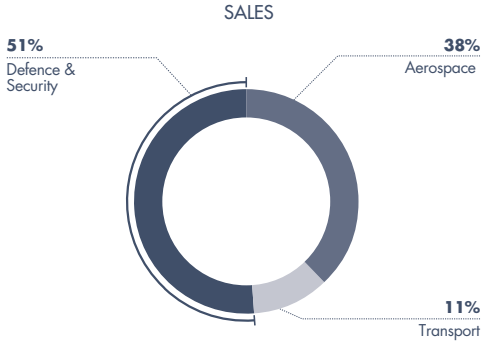
This convergence of defence and security requires new solutions and technologies to be implemented to facilitate the sharing of existing information and communication systems, as well as the protection of networks and infrastructure.

The Defence & Security segment, where the customer base is primarily governments, consolidates Thales's expertise in these various fields, organised around three Global Business Units: Secure Communications and Information Systems (Section 2.1.3.2), Land and Air Systems (Section 2.1.3.3) and Defence Mission Systems (Section 2.1.3.4).

2.1.3.1 KEY DATA

	2015	2014
Order book at 31 December	17,611	14,915
Order intake	9,704	7,608
Sales	7,084	6,480
EBIT[a]	760	620
Employees under Group management	32,207	31,599

(a) Non-GAAP indicator. See definition in the section entitled "Presentation of Financial Information" in the management report on page 8.



2.1.3.2 SECURE COMMUNICATIONS AND INFORMATION SYSTEMS

2.1.3.2.1 General overview

At the heart of the defence-security continuum, Thales offers interoperable and secure information and telecommunications systems for military forces, security forces and essential operators. These activities, which include radio communications, networks, protection systems, and critical information systems, and cybersecurity respond to the needs of markets in which the use of new digital technologies such as 4G mobile communications, cloud computing and big data are of the utmost importance. Thales is present throughout the value chain, from equipment to systems and systems of systems, logistical support and related services.

These activities are developed around four segments:

- **Radio communication products.** Thales designs radios and embedded and tactical communications systems for all three sectors (land, air and sea), friend or foe identification systems, (IFF) radio navigation systems and electronic warfare communications solutions. The armed forces of more than 50 countries around the world are equipped with Thales solutions. The Group is a major player in the development of interoperable, secure Software-Defined Radio (SDR) solutions. Thales is the prime contractor for the CONTACT programme which, from 2018, must deliver the first software defined radio solutions for the French armed forces. It is also present at European level with the ESSOR programme and in the United States with the Rifleman programme.
- **Network and Infrastructure Systems.** Ensuring the security, integrity, service continuity and resilience of deployable or mobile infrastructure and telecommunications networks are major challenges for governments, armed forces and "essential" businesses (healthcare, water, energy, communications, etc.). In this area, Thales offers solutions ranging up to the operation and management of secure networks for the armed forces, even in theatres of operations (for instance, for the ISAF[1] in Afghanistan or EUNAM in the Central African Republic). In France, the Group operates the information, communication and security systems of the Hexagone Balard, the new French Ministry of Defence.
- **Protection Systems.** Thales develops information, command and intelligence systems for armed forces (military functions summarised under the abbreviation C4ISR). The Group also responds to the growing safety needs of nations (identity management systems, border control and surveillance), of cities (urban security, smart cities, crisis management, security for large events) and of critical infrastructure (protection of airports, of public transportation, of sensitive sites, and of energy sites). These systems are intended to facilitate rapid decision-making by the operators of the command and control centres or in mobile situations, and by providing users with relevant, clear and immediate information about their environment.

(1) International Security Assistance Force (ISAF). The ISAF is the military component of the coalition that been operating in Afghanistan since 2001 under the authority of NATO and a UN mandate.

- **Critical Information Systems and Cybersecurity.** Thales is a major player in cybersecurity in Europe and has both civilian and military customers. Through its network, cloud and mobile equipment protection products, and data security solutions, Thales offers solutions to protect information systems and its customers' critical data. Thales also helps its customers to detect and prevent cyber-attacks by devising secure architectures from the design stage. Thales oversees these architectures and ensures that they are kept in secure working order. Finally, the Group secures the digital transformation programmes of companies and governments alike, to ensure that they benefit from technological advances in mobility, cloud computing and collaborative models while ensuring the protection of their critical data.

2.1.3.2.2 Competitive position

Thales has a variety of competitors, both at the sector and geographic levels, depending on the business.

In defence applications – radiocommunications, networks, and command and control – the main competitors are American: Harris, General Dynamics and Raytheon. The Israeli company Elbit Systems is also a competitor. Airbus Group is a competitor in Europe, as is Rohde & Schwarz, particularly in the areas of naval communications and electronic war, and in Turkey, there is competition from Aselsan, particularly in radiocommunications.

In security, Thales's competitors are primarily in the aeronautic and defence sector (Boeing, Northrop Grumman, Honeywell, Airbus Group, etc.) or in the information systems sector (IBM, Atos, Capgemini, etc.). The latter are also competitors of Thales in critical information systems.

Finally, in cybersecurity, Thales is in competition with companies like RSA or Gemalto in the civil arena and BAE Systems, Ultra Electronics, Airbus Group and Secunet in defence.

2.1.3.2.3 Significant events in 2015

In **radio communications products,** Thales's developments in the field of software-defined radio reached a major milestone in 2015 with the ESSOR interoperability testing[1] that was conducted within a European framework in 6 countries. In France, Thales is continuing with the Contact programme, which from 2018 will deliver the first Software-Defined Radio (SDR) solutions for ground, aeronautic and naval armed forces. In exports, Thales received several orders for radios in Egypt where the Group will deliver long-range tactical radio equipment, radio equipment for the Rafale, a communications network and radio equipment for the FREMM frigates.

In the United States, Thales was awarded a contract in 2015 for multiple deliveries of Rifleman radios. The Group was also selected to supply the ground terminals for the future Iridium Next satellite constellation. Lastly, Thales was chosen to manufacture tactical satellite terminals for the US Army.

In aeronautics, Thales was selected to provide a full suite of communications, navigation and identification equipment for the French MRTT[2] tanker programme.

Thales was also selected to supply various electronic warfare systems, including the detection system for OPV[3] buildings in a Middle Eastern country and a major jamming system for a European country.

Network and Infrastructure Systems. Thales successfully took an important step towards completing the satellite military communications system designed for ground and naval forces in Qatar, with the deployment of an initial operational capability.

In France, Thales played a major role in the overall design of the defence engineering for *Hexagone Balard*, the new headquarters of the French Ministry of Defence opened in November 2015. The Group will oversee the operation and maintenance of information and communication systems at this strategic site of 9,300 people over a 30-year period, as well as its security systems.

Also in France, Thales supplied additional ground terminals for the Syracuse III[4]. Equipped with Thales's "on-the-move" satellite communications, these terminals allow the command to operate while on the move in the theatre of operations.

Lastly, Thales was selected by Qatar and Oman to supply TETRA communication solutions as part of critical infrastructure security projects.

Protection systems. In 2015, Thales recorded numerous successes, in particular in critical infrastructure protection. Thales was selected to secure the new commercial port in Doha, Qatar. This port project is one of the largest ever developed in the world, and also one of the most cutting-edge. In Oman, Thales was selected to supply advanced technologies to Muscat and Salalah airports in order to protect their passengers and infrastructure.

In on-board vehicle electronics ("vetronics"), Thales was notified of a new tranche of the Scorpion contract for developing and launching the production of support equipment for information systems and for battlefield digitisation. In particular, Thales is responsible for the electronic architecture of the vehicles.

Thales consolidated its position as a supplier of C4I[5] defence systems, with the Land Command Support System (LCSS) programme in Canada, the Command and Intelligence Systems Support Office (CISSO) programme in Australia, and the SIA (*Système d'Information des Armées* – Army Information System) in France.

In **critical information systems, and cybersecurity** Thales commissioned a new cybersecurity monitoring centre in the Netherlands to serve the local market and Continental Europe.

Furthermore, Thales announced a final agreement to acquire Vormetric, a leading provider of protection solutions for data stored on physical or virtual infrastructure, or in the cloud. The completion of the transaction is subject to customary closing conditions and is expected to be finalised during the first quarter of 2016. This investment will complement the portfolio of solutions from Thales e-Security, a leading player in hardware security modules (HSM), and strengthen Thales's position in this fast-growing strategic segment.

In France, Thales received PASSI accreditation (for audit service providers) from the French agency for information systems security (ANSSI), positioning the Group as a certified trusted partner. The Group also won the secured outsourcing contract from the Ramsay Générale de Santé group, the leading operator of private hospitals in France.

(1) *ESSOR: European Secure SOftware defined Radio.*

(2) *MRTT: Multi Role Tanker Transport.*

(3) *OPV: Offshore Patrol Vessel.*

(4) *Syracuse III stands for **SY**stème de **RA**dio**C**ommunications **U**tilisant un **S**atelli**E** (radio communications system using satellites).*

(5) *C4I: Command, Control, Communications, Computer & Intelligence.*

2.1.3.3 LAND AND AIR SYSTEMS

2.1.3.3.1 General overview

Thales systems and equipment help to make the airspace safer and more secure. In civil **air traffic control,** Thales's portfolio ranges from conventional navigational aids to radar and air traffic control centres, surveillance systems, satellite navigation and airport management solutions.

Thales plays a key role as architect and integrator for the air traffic management of the future, mainly through initiatives such as ICAO's[1] Aviation System Block Upgrades in Europe and the NextGen programme in the United States. Thales remains the leading Industrial Partner of the SESAR[2] project in Europe.

In the military domain, Thales owns 50% of **Thales Raytheon Systems,** a leading international air defence company. Since its creation in 2001, Thales Raytheon Systems has sold air defence radars, including the GM200 and GM400 built by Thales, and command and control centres for military airspace throughout the world, ensuring the protection and security of forces and resources deployed in over 60 countries. Thales Raytheon Systems is notably the prime contractor for NATO's Air Command and Control System (ACCS).

Moreover, Thales offers on all continents one of the broadest lines of civil and military ground-based and naval **radars** on the market, for surveillance, air traffic management and fire control.

Thales offers a wide range of **weapon systems** for medium-range (SAMP/T), short-range (Crotale and RAPIDDefender) and very short-range markets (RAPIDFire cannon and RAPIDRanger missile system). The Group also specialises in multirole weapon systems based on the new lightweight multirole missile (LMM) family, which includes a guided, free-fall variant. Thales is also a major player in the munitions sector: rocket mortar systems, metric precision munitions, missile and bomb fuzing systems, vehicle close protection systems, soldier systems and battlefield protection systems.

In **optronics,** the combination of optical and electronic systems, Thales designs and manufactures components and systems for day and night surveillance, reconnaissance, protection, threat detection and target acquisition on all types of land, sea (surface and subsurface) or air platforms for defence and security customers worldwide. Thales's expertise in optics is also applicable to the commercial fields of zoom lenses for film-making and lasers.

Thales designs, manufactures and supports **armoured military vehicles** including the Hawkei and the Bushmaster. Thales provides integrated capability solutions at all levels of the value chain, from subsystem supplier to system integrator, mission systems design authority and prime contractor. The open architecture systems of vehicles provides highly standardised "plug and play" capability for on-board sub-systems and products, increasing vehicle capability and performance whilst reducing size, weight and operator workload and whole life system costs.

2.1.3.3.2 Competitive position

Thales's expertise in all aspects of air traffic control (automation, navigation, surveillance and satellite communication) is widely recognised by the world's civil aviation authorities. With over 40% of the world's airspace controlled by TopSky-ATC, Thales is at the forefront of air traffic control systems and civilian radars.

Other major players in the civil sector are the US companies Lockheed Martin and Raytheon, European companies Indra and Finmeccanica (Selex), and in some niche areas, Saab, Frequentis and Exelis.

In the military segment, Thales's main competitors are the US companies Lockheed Martin, Northrop Grumman, and Raytheon, and Finmeccanica, Airbus Group, BAE Systems, Indra and Saab in Europe.

Thales is one of Europe's leading suppliers of medium-range, short-range and very short-range missiles and weapon systems. Other principal players in this field in Europe (MBDA) and the US (Raytheon and Lockheed Martin) are also major customers of Thales's missile electronics and key partners in weapon systems.

Thales is one of Europe's foremost optronics suppliers facing competition in this segment from US suppliers (Raytheon and Flir Systems) and from Israeli suppliers (primarily Elbit). The protected vehicles systems market segment is dominated, on an international level, by BAE Systems, General Dynamics, Rheinmetall, Krauss-Maffei Wegmann and Nexter, with Thales operating in Europe as an independent integrator both for its own and other suppliers' equipment within complex mission systems.

2.1.3.3.3 Significant events in 2015

Throughout the year, the company signed many contracts for air traffic management radars and control systems. These contracts were mostly in Europe, Africa (ASECNA and Democratic Republic of Congo) and in Asia (China, Indonesia). Major navaids contracts were won in Africa, Europe and the Middle East. During the Paris Air Show, Thales introduced its next generation Air Traffic Management radar, the STAR NG, which is the successor to the market leading STAR 2000 radar.

Thales delivered 18 **radars** from the Ground Master family to several air forces and Thales-Raytheon Systems signed its first contract with Georgia and reaffirmed its relationships with Kazakhstan with a second GM400 contract.

The NATO Air Command and Control system (ACCS) went into operational service in Italy. By the end of 2016, it will be operational in the other 3 major NATO sites in Belgium, France, and Germany, as well as in ten other countries (replication sites). Additionally, Thales-Raytheon Systems signed a contract with the NATO communications and information agency for the ballistic missile defence capacity upgrade.

The US Missile Defence Agency bestowed the «Technology Pioneer Award» to the French and Italian extended air defence teams, for the successful firing against a target representing a tactical ballistic missile.

(1) International Civil Aviation Organization (ICAO).

(2) Single European Sky ATM Research.

In the area of **advanced weapons systems,** two major contracts were won in 2015, confirming the recognition of Thales as provider of systems of systems. Armasuisse, Switzerland's Defence and Procurement agency, mandated Thales as prime contractor for the procurement preparations phase for the BODLUV 2020 medium range ground-based air defence system.

Thales signed a contract for the ForceSHIELD Integrated Air Defence system and STARStreak missiles for the Malaysian Armed Forces, integrating radars, communications, engagement and fire control systems, launchers and missiles to meet front line users' needs. Thales also signed a contract for the supply of STARStreak missiles to the Royal Thai Army.

The new generation version of the Lightweight Multiple Launcher was introduced on the market, offering swift deployment of either STARStreak or the Lightweight Multi-role munition.

In October 2015, a Royal Netherlands Navy ship using the Thales SMART-L Early Warning Capability radar and a Thales Active Phased Array multi-function radar (APAR) successfully tracked and intercepted a Ballistic Missile in space while at the same time intercepting two targets with its own Standard Missile (SM-2) and Evolved SeaSparrow Missile (ESSM).

In 2015, several export optronics contracts were won, in particular in the Middle East and in Asia. The activity also benefited from the Rafale export sales, signing the first export contract for its laser designator TALIOS. In France, Optrolead (a joint company between Thales and Safran) received the contract for the renovation of the Scorpion programme optronics suite. In the UK, Thales won the contract for the sights of the SCOUT SV armoured vehicles, and received continuous support and improvement contracts for periscopes for the UK, Australian and Canadian Navy. Thales also confirmed the successful launch of its long range turret thermal imager Kate with more than 1,200 units ordered.

In the field of **armoured vehicles,** Thales won the contract to build 1,100 Hawkei 4x4 vehicles for the Australian Defence forces. The Hawkei is the company's next generation protected mobility vehicle following the life-saving success of the larger Bushmaster vehicle, which has protected Australian and other military troops in some of the most challenging combat environments on earth.

2.1.3.4 DEFENCE MISSION SYSTEMS

2.1.3.4.1 General overview

Thales manufactures electronic systems for airborne combat, intelligence, surveillance and reconnaissance, as well as naval surface and underwater combat systems.

For **airborne combat missions,** Thales produces, in cooperation with Dassault Aviation, radar systems and equipment for the Rafale, the Mirage 2000 and future combat UAVs, as well as electronic warfare radar systems, designed to detect threats and to protect platforms.

For **airborne intelligence, surveillance and reconnaissance missions,** Thales designs naval patrol and surveillance, ground and air surveillance solutions, including a range of electromagnetic-based intelligence-gathering sensors. These systems, installed on airborne platforms, incorporate surveillance radars, acoustic sub-systems, electromagnetic measuring equipment, and data links. Thales also designs complete UAV systems with intelligence, surveillance, target acquisition and reconnaissance capabilities.

In **surface naval warfare,** the Thales offering covers all combat systems with the integration of equipment (radar, electronic warfare, infrared sensors, etc.), weapons systems, communications and command equipment, as well as naval platform engineering capabilities.

In **underwater warfare,** the Group offers a broad range of products including the submarine sonar suite, hull-mounted and towed array sonar for surface ships, anti-mine systems incorporating multiple sonars, including the use of unmanned underwater vehicles, as well as torpedo acoustic heads.

2.1.3.4.2 Competitive position

In electronic combat systems, Thales is one of the leading European players, competing with Finmeccanica (Selex), BAE Systems, Lockheed Martin, Raytheon and Northrop Grumman in addition to Airbus Group, General Atomics and Elbit in intelligence, surveillance and reconnaissance systems.

In surface naval systems, Thales is one of the principal European players, alongside Finmeccanica (Selex), Saab and BAE, and competes with Lockheed Martin. In underwater warfare, Thales is one of the principal European players along with Atlas Elektronik and Ultra Electronics, and is in competition with US companies Lockheed Martin, Raytheon and L3.

2.1.3.4.3 Significant events in 2015

Electronic combat systems. The first four modernised Mirage 2000 systems for the Indian Air Force were delivered. Egypt signed the first export contract for Rafale aircraft to equip its Air Force; the first three aircraft of a total of 24 have already been delivered. Qatar also signed a contract to acquire 24 Rafales; these aircraft will be delivered from 2018. The French defence procurement agency successfully fired the first guided long-range air-air Meteor missile, which will be utilised to the full extent of its capabilities thanks to the Rafale's RBE2 active electronically scanned array radar.

Airborne surveillance and intelligence systems. The Jordanian Government selected a new batch of tactical surveillance I-Master radars to equip its Royal Air Force. The French defence procurement agency awarded Thales and its co-prime contractor, Airbus Defence and Space, the contract for the French Ministry of Defence's future electromagnetic space-based signals intelligence system. The British Royal Navy selected the Searchwater radar and the Cerberus mission system for its new surveillance helicopters. The "Watchkeeper" drone flew successfully in civil controlled airspace alongside manned aircraft for the first time. This is the only certified platform of its kind with the ability to fly under these conditions.

Surface naval systems. The Dutch Ministry of Defence and Thales have formed a partnership to support four Smart-L EWC early warning radars that will equip the Royal Navy, as well as supplying and supporting two additional Smart-L EWC radars for the Royal Air Force. In October 2015, during the "At Sea Demonstration 2015" allied exercise, a Royal Netherlands Navy ship (*HNLMS De Zeven Provinciën*) equipped with Smart-L EWC and multifunction radars guided an SM-3 missile launched from a US Navy ship (USS Roth) to successfully intercept a ballistic threat. This was a first in European waters, and it demonstrated the effectiveness and interoperability of NATO forces' systems and equipment.

Underwater warfare systems. Through OCCAr (*Organisme Conjoint de Coopération en matière d'Armement*, Organisation for Joint Armament Cooperation), the French defence procurement agency and the UK Ministry of Defence awarded Thales and BAE Systems the anti-sea mine MMCM (Maritime Mine Counter Measures) contract. This programme helps develop a system with autonomous vehicles designed to detect and neutralise marine mines and underwater improvised explosive devices (UWIED). A modernised version of variable depth sonar for mine hunters was launched.

2.2 Research and innovation

Thales needs to acquire increasingly sophisticated technologies, particularly in detection, analysis and decision-making fields, in order to design and develop critical information systems. These innovative solutions serve customers in the aeronautics, space, ground transportation, defence and security markets.

Thales bases its vision of innovation on openness and partnership across multiple dimensions:

- a technological dimension, by collaborating with academic laboratories;
- an entrepreneurial dimension, the development of closer tries with SMEs and start-ups;
- a "market" dimension, by co-innovating usage with customers and their ecosystem.

2.2.1 RESEARCH AND DEVELOPMENT – THE KEY TO COMPETITIVENESS AND GROWTH

Some 25,000 Thales employees, over 70% of them engineers, are involved in the Group's technical operations, ranging from research to engineering. In 2015, Thales spent €707 million (approx. 5% of sales) purely on self-funded R&D, an essential lever to remain competitive.

A significant part of this budget is devoted to upstream research, conducted both at Thales Research & Technology (TRT) laboratories and the Group's centres of expertise, in order to develop:

- new technologies;
- new system and product concepts;
- new engineering tools and methods for critical information systems.

2.2.2 FOUR KEY TECHNICAL DOMAINS

Governance of research and development for key technologies is split into four domains:

- **hardware technologies:** electronics, electromagnetism, optronics, acoustics, radiofrequency techniques and management of thermal constraints;
- **software technology:** processing computers, real-time on-board systems, distributed systems, service-oriented architectures, model-driven engineering, and information systems safety and security;
- **information and cognitive sciences:** data fusion, data mining, autonomous systems, synthetic environments, and human factors;
- **systems:** focused on architectural system design, this area provides support for methodology, processes and expertise.

FOCUS 1

REINVIGORATE BY USING FLEDGLING BUSINESSES

Thales is continuing its active partnership policy and its open approach to innovation with start-ups, which create a particularly dynamic and innovative ecosystem.

By staying in touch with innovative businesses, the Group can identify emerging new technologies or new services and business models. These start-ups are potential partners and suppliers, and may also be of interest with regard to a stake in the capital.

To further strengthen its access to fledgling businesses, Thales is a founding member of Starburst, a Paris-based start-up incubator specialising in aerospace. Thales is also a strategic partner of the MIT Media Lab in the US.

In 2015, almost 120 start-ups were approached and 18 concrete projects were launched with Thales operating units, in particular in avionics, optronics and cybersecurity.

2.2.3 THALES AT THE HEART OF INNOVATION ECOSYSTEMS

Wherever it has an industrial presence, Thales seeks to build partnerships within innovation ecosystems, with academic partners, design centres, innovative businesses and industrial groups for joint innovation on applications, business models and technologies.

To develop the technologies it needs, the Group relies heavily on cooperation between its research teams and the academic world. Thales Research & Technology (TRT), an international network of corporate laboratories, is responsible for building relationships with academic partners.

TRT has facilities in France, the UK, the Netherlands, Singapore and Canada. In France, the Palaiseau laboratory, located on the École Polytechnique campus, is heavily involved in the programme to build up the world-class science and technology complex in Saclay.

Similarly, Thales's research centre in the Netherlands is located at Delft University, while the Singapore centre has partnered with Nanyang Technological University and with France's national research institute CNRS, in one of the few joint international research units with an industrial partner.

In France, Thales has numerous strategic partnerships, for example, with the CNRS, École Polytechnique, Telecom Paris Tech, Université Pierre et Marie Curie (UPMC-Paris VI) and Université Paul Sabatier (Toulouse III), to name but a few.

The most advanced form of partnership is the joint laboratory operated by Thales with the CNRS for physics, with CEA-LETI in the 3-5 Lab (an EIG whose members are Alcatel-Lucent, Thales and CEA-LETI), with CEA-LIST for artificial vision and the implementation of formal approaches in critical software, and with UPMC in data mining, etc.

Thales is positioned as a major player in numerous high-tech clusters (including System@tic Paris-Région, Aerospace Valley in southwest France, the Maritime clusters in Brittany and Provence-Alpes-Côte d'Azur, the *Images et Réseaux* – images and networks – telecommunications cluster in the Brittany region, etc.) and the IRT *(Institut de Recherche Technologique Saint-Exupéry)*, of which it is a founding member.

In the United Kingdom, TRT has direct links to several major universities, including Cambridge, Bristol and Southampton. Thales is an active member of a number of centres of excellence: the MVCE (Mobile Virtual Centre of Excellence) in mobile communications; the CSIT (Centre for Secure Information Technologies) based at Queen's University Belfast; the IVHM (Integrated Vehicle Health Management) at Cranfield University, the CSIC (Centre for Smart Infrastructure and Construction) based at Cambridge University and the Defense Academic Pathway (DAP) alongside several industrial and academic partners. In the UK, Thales also participates in various think tanks: the Engineering and Physical Science Research Council (EPSRC), the Inter Company Academic Relations Group (ICARG), and lastly the National Centre for Universities and Business (NCUB).

In Canada, the Group regularly works with research networks and institutions such as CRIAQ *(Consortium de Recherche et Innovation en Aérospatiale au Québec)*, the University of Toronto, McGill University, the *École Polytechnique de Montréal* and Laval University, with which Thales concluded an agreement for a joint research unit in urban sciences.

In emerging countries, Thales is looking to spur its growth by establishing innovation platforms locally, using the tried and tested principles of joint innovation with local players, and in that way building close long-term relationships.

Lastly, in early 2015, the Group developed a number of more specific actions aimed at several of the best performing start-up ecosystems. In France, Thales approached various incubators and accelerators set up by public and private initiatives. Thales is also a founding member of the Paris-based Starburst accelerator, which specialises in aerospace. In the US, links are in place with innovation ecosystems in Boston (centred on MIT) and the Silicon Valley. (See Focus 1)

Training also forms part of this overall strategy of linking the Group with the academic world. The Group supports around 200 Ph.D. students worldwide. They work on subjects directly connected with the technical issues facing Thales, which thus reinforces its appeal to young scientists. Thales also supports around ten teaching chairs in line with its technical guidelines. In 2015, Thales announced the creation of the ARISE (*ARchitecture et Ingénierie des Systèmes Embarqués* – architecture and engineering for embedded systems) chair for the period 2016-2020 in conjunction with ISAE-SUPAERO.

FOCUS 2

REINVIGORATING RAILWAY SIGNALLING: AN "ILLUMINATING" MEASUREMENT INSTRUMENT FOR TRAIN POSITIONS

Traditionally, accurate detection of train positions is based on magnetic or electrical sensors counting the axles as they cross the reference areas located on the tracks.

In partnership with an innovative SME, Thales has recently developed a new optical-based approach. The light is transmitted by an optical fibre and its wavelength is changed when the rail is subject to pressure consistent with a train axle passing over it. Detecting and counting these changes in wavelength performs the same function as counting axles.

This breakthrough technology has been patent protected and makes a big difference in terms of equipment cost (heavy copper wiring is no longer required), ease of installation (thanks to its compactness) and environmental footprint (thanks to reduced power consumption).

2.2.4 A DYNAMIC APPROACH TO INTELLECTUAL PROPERTY MANAGEMENT

Thales supports its R&D activities with a dynamic approach to intellectual property management.

Thales filed almost 400 new patent applications in 2015. The continued large number of patent applications in recent years reflects the Company's commitment to innovation and its ability to translate research results into competitive advantages. Once again in 2015, Thales was included in the Thomson Reuters Top 100 Global Innovators ranking, with the Group standing out for the volume, success and influence of its patents, underlining its commitment to innovation, protection of ideas and commercialisation of inventions.

The Thales portfolio included more than 16,500 patents and patent applications at the end of 2015 and is regularly adapted to operational requirements, particularly to protect Thales's market share.

FOCUS 3

DIGITAL REVOLUTION IN AVIATION

In 2015, the Group inaugurated its xPlor innovation hub in Boston (USA). One of this laboratory's areas of innovation concerns big data analytics in the aviation market. This sector generates extremely large data streams, and analysis of these streams can lead to opportunities for creating value for airlines, airports and navigation services.

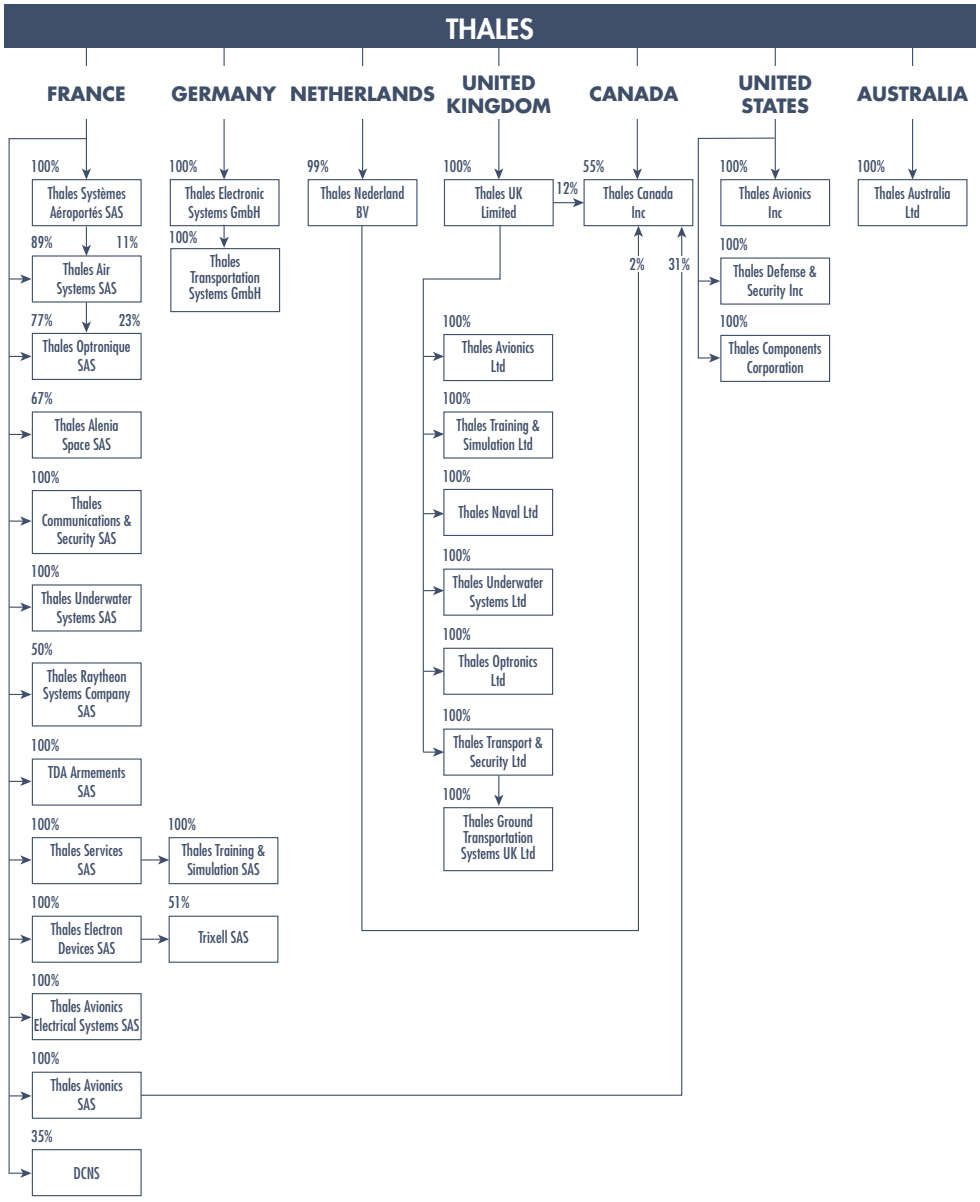
Algorithmic technology for data mining, learning processes, predictive analysis and smart visualisation provide decision-making support based solely on the analysis of this data, helping to optimise and create revenue from customer operations, detect anomalies and predict events linked to traffic or maintenance. The first demonstrations were successfully carried out on the predictive maintenance of on-board multimedia equipment and on correctly predicting flight arrival times.

2.3 Relations between Thales and its subsidiaries

2.3.1 SIMPLIFIED ORGANISATIONAL CHART AT 31 DECEMBER 2015

This simplified organisational chart includes fully consolidated companies that account for more than 0.5% of consolidated sales, in the main countries in which the Group operates.

The companies consolidated under the equity method are not included in this chart (with the exception of DCNS).



2.3.2 ROLE OF THE PARENT COMPANY WITHIN THE GROUP

The parent company acts as a holding company for the Group:

- it holds shares in the Group's major subsidiaries;
- it manages central functions such as Group strategy, trading policy, legal and financial policy, operational monitoring, human resources policy and communications;
- it provides subsidiaries with specialist assistance, including legal, tax and financial expertise, for which the subsidiaries pay a fee;
- it provides financing, cash pooling and, where necessary, guarantees.

In addition to these functions, the parent company conducts its own research, described on page 122 *et seq.* of this document.

A list of the main consolidated companies can be found in section 2.4.1, page 127.

2.3.3 FINANCIAL FLOWS BETWEEN THE PARENT COMPANY AND ITS SUBSIDIARIES

The parent company receives dividends from its subsidiaries, as approved by their respective General Meetings of Shareholders, and in accordance with the applicable legislation and regulations in their countries of operation.

In addition to these dividends and the payment of fees for shared services, the main financial flows between the Thales parent company and its subsidiaries relate to cash pooling.

As a rule, the cash surpluses of subsidiaries are transferred to the parent company under a centralisation system known as cash pooling. In return, the parent company meets the cash flow requirements of the subsidiaries. The parent company conducts operations in financial markets to arrange the necessary investments and loans, in the context of cash pooling, to meet its own requirements and those of its subsidiaries. Except in special cases, this system applies to all subsidiaries in which Thales has majority control.

2.4 Information about major operational subsidiaries and manufacturing sites

2.4.1 LIST OF MAIN CONSOLIDATED COMPANIES

The materiality criteria used to prepare these tables have also been applied to the list of the main consolidated companies in Note 17 to the consolidated financial statements.

Company name	Country	% of capital held by Thales	% of voting rights held
1. Controlled companies (fully consolidated)			
TDA Armements SAS	France	100%	100%
Thales Alenia Space SAS	France	67%	67%
Thales Alenia Space Italia SpA	Italy	67%	67%
Thales Air Systems SAS	France	100%	100%
Thales Australia Ltd	Australia	100%	100%
Thales Austria GmbH	Austria	100%	100%
Thales Avionics SAS	France	100%	100%
Thales Avionics Inc	United States	100%	100%
Thales Avionics Electrical Systems SAS	France	100%	100%
Thales Canada Inc	Canada	100%	100%
Thales Communications & Security SAS	France	100%	100%
Thales Components Corporation	United States	100%	100%
Thales Defense & Security Inc	United States	100%	100%
Thales Electronic Systems GmbH	Germany	100%	100%
Thales e-Security, Inc	United States	100%	100%
Thales Espana Grp SAU	Spain	100%	100%
Thales Electron Devices SAS	France	100%	100%
Thales Italia SpA	Italy	100%	100%
Thales Nederland BV	Netherlands	99%	99%
Thales Norway AS	Norway	100%	100%
Thales Optronique SAS	France	100%	100%
Thales Polska Sp. z.o.o.	Poland	100%	100%
Thales Transportation Systems GmbH	Germany	100%	100%
Thales Ground Transportation Systems UK Ltd	United Kingdom	100%	100%
Thales Rail Signalling Solutions AG	Switzerland	100%	100%
Thales-Raytheon Systems Company SAS	France	50%	50%
Thales Security Solutions & Services Company	Saudi Arabia	100%	100%
Thales Services SAS	France	100%	100%
Thales Solutions Asia Pte Ltd	Singapore	100%	100%
Thales Systèmes Aéroportés SAS	France	100%	100%
Thales Transport & Security (Hong-Kong) Ltd	Hong Kong	100%	100%
Thales Transport & Security Ltd	United Kingdom	100%	100%
Thales Training & Simulation SAS	France	100%	100%
Trixell SAS	France	51%	51%
Thales Underwater Systems SAS	France	100%	100%
Thales UK Ltd	United Kingdom	100%	100%

Company name	Country	% of capital held by Thales	% of voting rights held
2. Joint ventures (under equity method)			
Thales-Raytheon Systems Air and Missile Defense Command and Control SAS	France	50%	50%
Citylink Telecommunications Holdings Ltd	United Kingdom	33%	33%
DCNS	France	35%	35%
Diehl Aerospace GmbH	Germany	49%	49%
Hanwha Thales Co., Ltd (formerly, Samsung Thales Co., Ltd.)	South Korea	50%	50%
Sofradir SAS	France	50%	50%
3. Associated companies (under equity method)			
Aviation Communications & Surveillance Systems	United States	30%	30%
Air Tanker Holdings Ltd	United Kingdom	13%	13%
Elettronica SpA	Italy	33%	33%
Thales-Raytheon Systems Company LLC	United States	50%	50%
Telespazio SpA	Italy	33%	33%

2.4.2 MAJOR MANUFACTURING SITES

As of the end of 2015, there were 14 sites employing more than 1,000 staff.

At 31 December 2015	Headcount	Owned	Size (m^2)
France			
Bordeaux (South-west)	2,100	Leased (Le Haillan), and Owned (Pessac)	59,000
Brest (Brittany)	1,423	Leased	56,000
Cannes (Provence)	1,128	Owned-Leased	83,000
Cholet (Pays de la Loire)	1,886	Leased	51,000
Gennevilliers (Île-de-France)	3,432	Leased	86,000
Élancourt (Île-de-France)	3,067	Leased	104,000
Massy (Île-de-France)	1,078	Leased	26,000
Rungis (Île-de-France)	1,066	Leased	31,000
Toulouse (South-west)	3,830	Owned-Leased	142,000
Vélizy (Île-de-France)	4,440	Leased	130,000
United Kingdom			
Crawley	1,712	Leased	34,000
Netherlands			
Hengelo	1,291	Owned	87,000
Australia			
Sydney	1,075	Leased	60,000
Germany			
Stuttgart	1,520	Leased	59,000

JOINT SHAREHOLDING BETWEEN THE FRENCH STATE AND DASSAULT AVIATION

THREE AGREEMENTS

Shareholders' agreement	Agreement on the protection of national interests	Specific agreement

PRINCIPAL PROVISIONS:

- Definition of corporate governance and composition of Thales corporate governing bodies
- Veto right and commitments of Dassault Aviation (the "Industrial Partner") to the French State (the "Public Sector")
- Restrictions concerning the transfer or disposal of "strategic interests"
- A shareholders' agreement valid until December 2016, tacitly renewable for periods of five years

BOARD OF DIRECTORS AT 31 DECEMBER 2015

- 16 members, including 14 elected by the General Shareholders' Meeting, including 1 employee shareholder representative, and 2 representatives elected by employees
- 4 independent members, 6 women on the Board of Directors (including one employee representative)
- Reduction in the length of director terms to 4 years, approved by the General Shareholders' Meeting of 24 May 2013
- Board met 9 times in 2015, with an attendance rate of 96%

THREE COMMITTEES:

- Strategic Committee (4 meetings in 2015 with an attendance rate of 100%)
- Audit & Accounts Committee (6 meetings in 2015 with an attendance rate of 100%)
- Governance & Remuneration Committee (5 meetings in 2015 with an attendance rate of 100%)

EXECUTIVE COMMITTEE