

**UNIVERSAL
REGISTRATION
DOCUMENT 2019**

including the Annual Financial Report

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2019 UNIVERSAL REGISTRATION DOCUMENT

INCLUDING THE ANNUAL
FINANCIAL REPORT



This Universal Registration Document has been filed on 8 April 2020 with the AMF, as competent authority under Regulation (EU) 2017-1129, without prior approval pursuant to Article 9 of the said regulation.

The Universal Registration Document may be used for the purposes of an offer to the public of securities or admission of securities to trading on a regulated market if completed by a securities note and, if applicable, a summary and any amendments to the Universal Registration Document. The whole is approved by the AMF in accordance with Regulation (EU) 2017-1129.

CHAIRMAN'S FOREWORD



2019: a milestone
in Thales's development

Patrice Caine

Chairman & Chief Executive Officer

Thanks to the commitment of its 80,000 employees, the Group booked 21 orders over €100 million in 2019, 14 of which are in the military sector, including high - profile contracts such as the major strategic airborne electromagnetic intelligence programme of the French armed forces ("ARCHANGE"), supplying combat management systems for British Type 31 frigates, and designing the next generation of sonar systems for the British Royal Navy's Dreadnought submarines.

Thales has also had remarkable commercial successes in the civil telecommunications satellite market, with the announcement of four satellite orders, and in transport, with the extension of the Sydney Metro. The marked increase in orders during the fourth quarter of 2019 helped us exceed our annual order intake objective by a significant margin. After recording growth above 5% in the past three years, sales slowed down due to the commercial space market downturn and an exceptionally high comparison basis in transport. EBIT and adjusted net income once again grew strongly.

This strong financial performance led the Board of Directors to initially ask the Annual General Meeting in May 2020 to approve the payment of a dividend of €2.65, an increase of 27% compared with 2018. Early April, in a spirit of responsibility *vis-à-vis* all Group stakeholders, and in order to preserve funding capacity if the Covid-19 crisis were to last, the Board of Directors finally decided to limit the dividend to the interim amount of €0.60 already paid in December 2019.

At the beginning of April 2019, we also saw the completion of the transformative acquisition of Gemalto, which is now the Group's seventh Global Business Unit, called "Digital Identity & Security". This Business Unit is already the global leader in the rapidly expanding markets of digital identity and security, which are key challenges in the digital transformation of our customers' intelligent systems. Across the Group, our teams have identified several potential commercial synergies with this new Business Unit that will generate hundreds of millions of euros in revenue by 2023.

To strengthen the Group's cohesion after integrating 15,000 new Gemalto employees, I decided to initiate a collective reflection about our fundamental purpose: what the true aims of our business are and what we are striving to do-not just for our customers, but for the world as a whole.

This process of reflection, which involved more than 35,000 employees in 40 countries, led in December 2019 to the setting of an ambition goal: "building a future we can all trust". In the months ahead, we will transform this statement into concrete action for our customers, employees and all our stakeholders.

In a global environment at the start of 2020 deeply affected by the Coronavirus crisis, the Thales business model, both resilient and balanced, is more than ever able to create value.

THE GROUP'S BUSINESS MODEL



GROUP PROFILE	6
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GROUP PROFILE

KEY FIGURES 2019

REVENUES
€18.4 bn
+0.8% organic growth⁽¹⁾

EBIT⁽²⁾
€2,008 m
10.9% of revenues

FREE OPERATING
CASH FLOW⁽²⁾
€1,372 m

A WORLDWIDE PRESENCE (breakdown of revenues by geographic area)



TOTAL SHAREHOLDER RETURN, OVER 5 YEARS (TSR) (as at 12/31/2019)

+128%
Thales share

+65%
CAC 40

+115%
European Aerospace
and Defence Industry

ORDER INTAKE
€19.1 bn

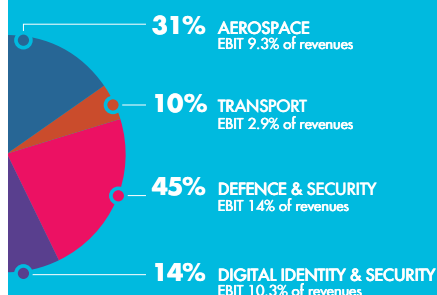
NUMBER OF
EMPLOYEES
82,600

SELF-FUNDED R&D⁽²⁾
€1,097 m

DIRECT OPERATIONAL
EMISSIONS OF CO₂⁽³⁾
-30%
in 10 years

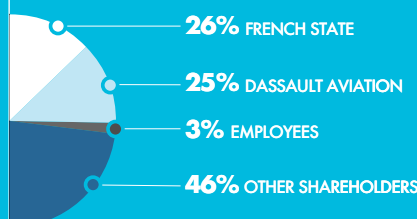
4 OPERATING SEGMENTS

(breakdown of revenues by operating segment)



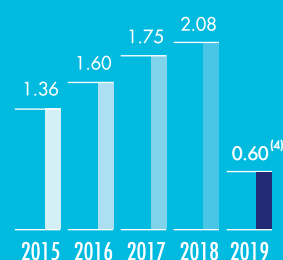
SHAREHOLDER STRUCTURE

(as at 12/31/2019 in shares)



DIVIDENDS

(in euros)



(1) Organic: at constant scope and exchange rates.
(2) Non-GAAP financial indicators. See definitions on page 33.
(3) Emissions in Scopes 1, 2 and 3 (business travel).
(4) Put to the General Meeting on 6 May 2020.

OUR PURPOSE

BUILDING A FUTURE WE CAN ALL TRUST

Trust is essential for societies to flourish. Trust in our institutions. Trust in our systems. Trust in technology. Trust in each other.

At a time when progress offers huge opportunities – and faces serious challenges – it is essential that the people we all rely on are trusted.

That's why we strive to turn leading-edge technologies into solutions that are both **imaginative** and **resilient, human-centred** and **sustainable**.

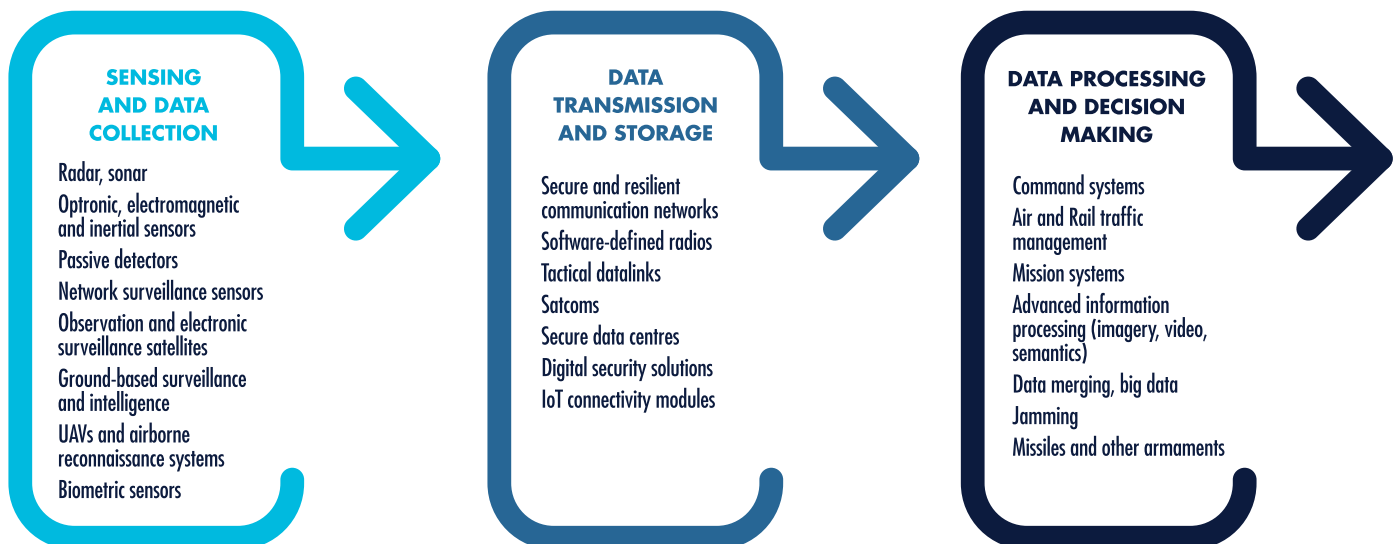
So those we serve, our customers, can navigate uncertainty with confidence and new frontiers with optimism.

And together, we harness the extraordinary power of technology to build a future we can all trust.

OUR MISSION

At Thales we develop solutions which are increasingly sustainable and that help our customers think smarter and act faster – mastering ever greater complexity at every decisive moment along the way.

DATA IN THE CRITICAL DECISION-MAKING CHAIN



THALES FOUR STRATEGIC ASSETS

> EXCEPTIONAL R&D AT THE HEART OF A GLOBAL INNOVATION ECOSYSTEM

Thales dedicates 20% of its revenue to R&D; one third of its employees work in this area. The Group builds on an innovation ecosystem that has been co-developed with its customers, based on academic and entrepreneurial partnerships.

> A UNIQUE PORTFOLIO OF DIGITAL COMPETENCIES

Thanks to the exceptional expertise of its teams and targeted external growth strategy, Thales builds its digital expertise around four major technologies which play a key role in critical decision-making chains: connectivity and mobility, big data, artificial intelligence and cybersecurity.

> AN IN-DEPTH KNOWLEDGE OF ITS MARKETS

The resilience of Thales's economic model is based on five large markets which use the same technologies and know-how but have different business cycles. In virtually all its business activities, Thales is in the top 3 worldwide or ranks number 1 in Europe.

> A GLOBAL FOOTPRINT

Thales operates in 68 countries and has customers in more than 100 different countries. Its close proximity to its customers, its longstanding experience of international markets and complex partnerships are proving to be key commercial assets.



Discover all of our expertise on pages 18 to 28.



AEROSPACE

→ AERONAUTICS

Electronic equipment to increase security and reliability of flights, civil and military aircraft simulators, connectivity and in-flight entertainment. Onboard equipment and functions for aircraft piloting, navigation and control.

GROWTH DRIVERS

- Long-term growth of international air traffic. (+3.6% per year until 2036 according to the *International Air Transport Association (IATA)*).
- High demand for connectivity and increased expectations in terms of operational and environmental efficiency.

AREAS OF EXPERTISE

- The only global aerospace industrial company with leadership positions in both onboard and ground equipment.
- Present in all types of civil and military aircrafts and all major new aerospace programmes.

**CIVIL/
MILITARY**



**COMPETITIVE
POSITION**

**NO.2
WORLDWIDE**
(cabin multimedia
and connectivity)

**NO.3
WORLDWIDE**
(flight avionics)

→ SPACE

Equipment, payloads, satellites, systems and services for space programmes.

GROWTH DRIVERS

- Unique positioning of space systems to meet new communication and observation requirements.
- Military space: a growing priority for many countries.

AREAS OF EXPERTISE

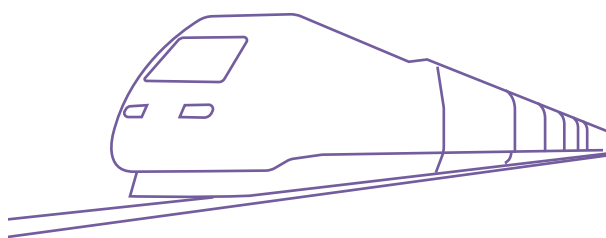
- Global leader in construction of commercial telecommunications satellites.

**CIVIL/
MILITARY**



**COMPETITIVE
POSITION**

NO.2 WORLDWIDE
(civilian satellites)



GROUND TRANSPORTATION

Rail signalling, control and supervision of urban and mainline rail transport networks.

Ticketing solutions.

GROWTH DRIVERS

- 60% of the world's population will be living in towns or cities by 2030 (UN-Habitat).
- Public transports are recognised for their efficiency and climate impact..
- Strong trend towards more automated or even autonomous transport solutions.
- Renovation of signalling systems: a major lever in increasing the efficiency of existing infrastructures.

AREAS OF EXPERTISE

- Signalling solutions implemented for more than 85 underground lines in 45 cities.
- Inventor of standards for the rail sector: CBTC (Communication-Based Train Control) for metros and ETCS (European Train Control System) for mainline rail.
- Leader in driverless underground signalling.

CIVIL



**COMPETITIVE
POSITION**

NO.2 WORLDWIDE
(rail signalling and supervision)

LEADER IN AEROSPACE, TRANSPORT, DEFENCE AND SECURITY

1

DEFENCE & SECURITY



Sensors and mission systems.

Communications, command and control systems, networks and infrastructure systems, security and cybersecurity solutions for countries, cities and critical infrastructures.

GROWTH DRIVERS

- Increasing defence budgets.
- Rapid digitalisation of the armed forces.
- High demand for cybersecurity.

AREAS OF EXPERTISE

- Long-standing partner of the armed forces, throughout all of the value chain.
- World leader in radar and sonar technologies.
- Expert in secure communication networks, at the heart of collaborative combat solutions.
- Mastery of the new differentiating digital technologies.
- The air traffic control centres equipped by Thales cover more than 40% of the earth's surface.

**CIVIL/
MILITARY**



**COMPETITIVE
POSITION**

**NO.1
IN EUROPE**
(defence electronics)

**NO.2
WORLDWIDE**
(Military
communications)

**NO.2
WORLDWIDE**
(management of
air traffic control)



DIGITAL IDENTITY AND SECURITY

Digital identity and security solutions.

Identity management and control, data protection and encryption, biometrics, securing connected devices, subscription management and client authentication for mobile operators, bank cards.

GROWTH DRIVERS

- Fast-growing markets (data protection, connected devices, biometrics, etc.).
- More than 1,000 billion connected devices forecasted by 2035.
- Increasing dematerialisation in the cloud: authentication and data protection requirements.
- An offer that is very complementary to other Thales activities.

AREAS OF EXPERTISE

- No. 1 worldwide on data protection markets, secure identity documents, bank payment cards, physical SIM cards.
- Partner with more than 3,000 financial institutions, 450 mobile operators and 30,000 companies.
- Involved in more than 200 government securitisation and identification programmes.

CIVIL



**COMPETITIVE
POSITION**

NO.1 WORLDWIDE

OUR STRATEGIC PRIORITIES AND AMBITIONS



The **AMBITION** plan is in line with our expectations. We continue to implement operational performance initiatives while at the same time accelerating our R&D investments.



Patrice Caine, Chairman & Chief Executive Officer

IMPLEMENT POWERFUL OPERATIONAL PERFORMANCE LEVERS

Reinforce customer-centric organisation and culture

The customer culture has been reinforced in recent years thanks to new commercial and marketing initiatives which have increased the proximity of Thales's sales teams to their customers worldwide.

Strong trade momentum in 2019 and 2020 will support the acceleration of growth expected in 2021.

Progress in 2019

An exceptional order intake in the 4th quarter. A 30% market share in commercial telecommunications satellites.

Significant commercial success in the Defence industry in Europe and in emerging markets.

At the end of 2019, 72% of the 1,452 customers surveyed said they were satisfied or very satisfied with Thales.

Priorities for 2020

Accelerate the sales transformation project.

Streamline the organisation of international development.

Implement a new management model for key accounts.

Pay increased attention to opportunities in the support and maintenance of installed bases.

Relentlessly optimise operational performance

Thales continues to focus its operational attention on four main areas of competitiveness

Purchasing Performance

- New organisation integrated globally.
- Target to ensure that all new suppliers have signed the new Purchasing and Corporate Responsibility Charter by 2023.

Efficiency of the support functions

- Implement standard and fully digitalised organisations worldwide.
- Steady decrease in the amount of administrative costs as a percentage of sales.

Competitive engineering

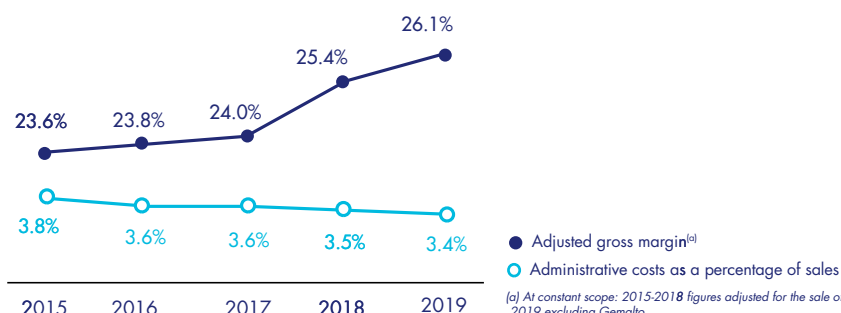
- Deploy the best digital engineering practices.
- Develop standard tools facilitating the design of complex systems.

- Maintain the skills of 30,000 engineering and R&D employees at the highest level.

Operational excellence

- Continuous improvement of operational excellence in bid management as well as project delivery, in a context of sustained business growth.
- Ambitious environmental policy: 20% decrease in direct operational emissions of greenhouse gases by 2023.

Significant improvement of gross margin and administrative costs since 2015



Accelerate investments in R&D

Research and Development is a central function for the Group and a key differentiating and competitive factor. Almost 40% of employees works in this area.

Thales invested €1,097 million in self-funded R&D in 2019, i.e. 6% of its revenue in order to remain a key player in the great transformations of its markets.

The Group plans to significantly increase its investments in self-funded R&D by 2023.

Moreover, in support of the Ambition 10 strategic plan, Thales implements a policy of targeted acquisitions to consolidate its technology portfolio and increase its growth potential.

Progress in 2019

The acquisition of Gemalto has allowed the company to increase its R&D investment capacity by more than 20%.

In 2019 Thales has once again been included in the prestigious Nature Index Annual Tables in the category of «institutions making the biggest impact and contribution to science». It ranks European N°. 1 and N°. 12 worldwide in the field of physical sciences.

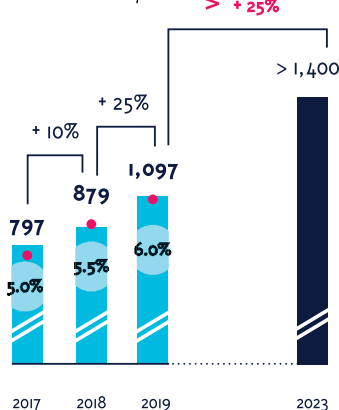
Priorities for 2020

Reinforcement of R&D spending focused on the development of transverse digital skills (cybersecurity, artificial intelligence, big data analytics, implementation of the Digital Factory).

In the forthcoming years, the Group plans to continue to increase its spending on self-funded R&D, which are expected to exceed €1.4 billion by 2023.

More than €5 billion invested in R&D over the next 5 years

(in million of euro)



Lead in digital transformation of markets

Thales has all the assets to play a key role in the ongoing digital transformation, thanks to:

- its position centred around critical decision-making chains, which by nature are increasingly digital;
- a network of Digital Factories (Paris, Montreal, Singapore) to develop new solutions in a flexible way;
- a number of partnerships formed within innovation ecosystems, with academic partners, innovative enterprises and companies to innovate together in terms of use, business models and technologies ;
- active interaction with start-ups for more than 5 years. Such actions have seen the development of more than 120 proofs of concept.

4 FIELDS OF DIGITAL EXPERTISE

Connectivity



Big Data



Artificial intelligence



Cybersecurity



Progress in 2019

More than €5 billion allocated to acquisitions since 2017.

Signature of the AI manifesto for the industry promoting the development of trustworthy AI, which is a source of growth and employment.

In the framework of cortAlx, the Group's research center dedicated to AI in Canada, the Group is a pioneer in research on the certification of AI embedded on planes.

Priorities for 2020

Continue to support our customers towards a trustable digital transformation of trust based on ever-increasing resilient, explainable and secure technologies.

Moving forward on "frugal" solutions in energy and data to better meet to current environmental issues.

Execute on transformative acquisition of Gemalto

A major boost to Thales's digital strategy, Gemalto acquisition will further differentiate the Group's portfolio of activities by incorporating unique expertise in 3 key technological fields linked to digital security: biometrics and digital identity, secure connectivity for the Internet of Things (IoT) and data protection and encryption.

With the acquisition of Gemalto, Thales becomes the leader of the identity, digital security and cybersecurity markets, the only company in the world capable of offering complete solutions to secure the entire critical decision-making chain.

In the first few months following the integration, the teams identified opportunities for applications within a number of the Group's products lines in the military and civil fields.

These new markets offer high growth prospects, in the range of +10% per year by 2023; these will be achieved by developing digital solutions and services.

Progress in 2019

Creation of Thales's 7th Global Business Unit, called «Digital Identity and Security» which regroups Gemalto and certain digital activities previously allocated to the Defence & Security segment.

Successful integration of the Gemalto teams within Thales, led by a dedicated project management team with the aim of maximising synergies as soon as possible after the acquisition is complete.

Cost synergies of €25 million in 2019.

Revenue synergies: more than 20 projects won in 2019.

Priorities for 2020

Pursue the development of revenue synergies, with the objective of generating €300-500 million in additional revenue by 2023.

Generate €60 million in cost synergies in 2020 (€120 million from 2022).

OUR VALUE CREATION PROCESS

ADDRESSING KEY SOCIETAL, ENVIRONMENTAL AND TECHNOLOGY TRENDS

Exponential growth of data produced

Growth and urbanisation of the world population

Energy transition and climate emergency

Our resources



INTELLECTUAL CAPITAL

€1,097 million in self-funded R&D.

A portfolio of **more than 21,000 patents**.

One-third of the workforce in R&D.

6 Innovation Hubs.

3 Digital Factories.

Over 50 academic partnerships.



HUMAN CAPITAL

82,600 employees.

More than **31,000** employee shareholders.

€7,388 million in payroll.

16 hours of training per employee per year.



ENVIRONMENTAL CAPITAL

Launch of the **low-carbon future strategy** aligned on the 2°C trajectory.

Renewal of our commitment supporting the **French Business Pledge**.



SOCIETAL CAPITAL

A business ecosystem built on **long-term relationships**.

A strong **ethics policy**.

Purchases accounting for **46%** of revenue.

Launch of the **Thales Solidarity** programme.



FINANCIAL CAPITAL

A very limited debt: **€3.3 billion** at 31 December 2019

(**€1.6 billion** excluding leasing debt)

€1,372 million in free operating cash-flow in 2019.

Solid investment grade credit profile, S&P rating: A-.

4 fundamentals

ATTRACTION AND RETENTION OF TALENTS

RIGOROUS RESPONSIBLE APPROACH

CONTROLLED RISKS

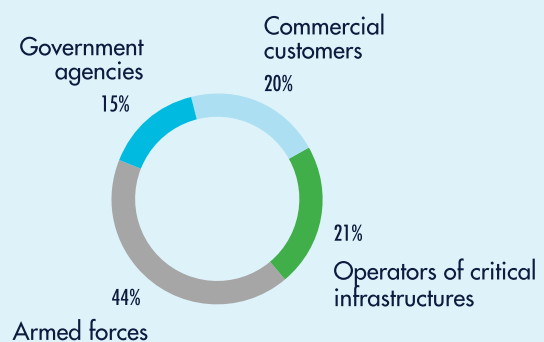
OPERATIONAL EXCELLENCE

Our purpose

“Building a future we can all trust.”

Thales strives to turn leading-edge technologies into solutions that are both **imaginative** and **resilient, human-centred** and **sustainable**.

A resilient model built on a wide



Mobile connectivity and
multiplication of cyber threats

Increase in the impact
of artificial intelligence

Global competition
for talent

4 strategic assets

Exceptional R&D at the heart
of a global innovation ecosystem

A unique portfolio of digital
competencies

An in-depth knowledge
of its markets

A global footprint

An ethical and responsible business

Solid governance that is adapted
to current and future challenges

Ethics, integrity and responsible conduct
are central to our model

Solutions to contribute
to ecological transition

variety of clients and markets

Markets sharing many technologies



Aeronautics



Defence



Security



Ground
transportation



Space

Our achievements in 2019



INTELLECTUAL CAPITAL

Almost **450 new patents** applied for in 2019, of which 25% in key digital technologies.

6% of revenues invested in self-funded R&D, +25% compared to 2018.

Thales once again ranked in the **Top 100** most innovative companies in the world by Clarivate Analytics.



HUMAN CAPITAL

10,906 new recruits, including **7,832** permanent jobs.

94% full-time contracts.

2.56% absenteeism rate worldwide.

56% women on the Board of Directors.

The Group has operations in **68 countries**.

Ranked 3rd in businesses preferred by engineers (Universum France 2019).



ENVIRONMENTAL CAPITAL

4.6% reduction in energy intensity (toe/hours worked) since 2018.

Rated B by the Carbon Disclosure Project.

60% of non-hazardous waste is recycled (excluding one-offs).



SOCIETAL CAPITAL

72% of purchases made with EU suppliers, including 41% with suppliers in France.

€454 million in tax (average rate of taxation: 26.3%).

€286 million invested in the Social Outreach Economy by more than 20,000 employees who are members of the Thales Group savings scheme and the collective retirement savings plan.

At the close of 2019, **9,920** employees had completed online anti-corruption training.

Advanced Level of the United Nations Global Compact for the last 8 years.

Ranked among the leaders in the «Aerospace and Defence» category by the DJSI for the 3rd year running.

Largest French corporate contributor to microDON's "Round Off Your Pay" initiative (in terms of amount raised and number of donors).



FINANCIAL CAPITAL

(2019 versus 2018)

Growth in revenues: **+16.1%**

EBIT growth: **+19%**

SHARED VALUE CREATION WITH OUR STAKEHOLDERS



WE SUPPORT
THE GLOBAL COMPACT

OUR CONTRIBUTION TO THE UN'S SUSTAINABLE DEVELOPMENT GOALS

As a member of the Global Compact, Thales contributes to the achievement of the UN's sustainable development goals through its activities and CSR strategy.

REVENUES IN 2019

€18.4bn

SUPPLIERS PURCHASES IN 2019

€8.3bn

EMPLOYEE COMPENSATION PAID IN 2019

€7.4bn

GOVERNMENTS INCOME TAX 2019⁽¹⁾

€454m

SHAREHOLDERS DIVIDENDS PAID IN 2019

€463m

CAPACITY TO FINANCE FUTURE GROWTH

SELF-FUNDED R&D IN 2019

€1.1bn
+25% compared to 2018

TOTAL ACQUISITION 2017-2019

€5.2bn

BUSINESS PRIORITIES



- Increase our R&D investments and our public partnerships.
- Contribute to sustainable and responsible industry.
- Develop our team's know-how and capacity for innovation.



- Reduce the impact of our activities and products on climate change.
- Anticipate the impact of climate change on our markets.
- Take part in the COP21 commitments.



- Promote diversity and inclusion across the Group.
- Develop best practices in terms of female recruitment and careers.
- Fight against gender stereotypes.



- Combat corruption, place human rights at the centre of our value chain.
- Support the creation of resilient and transparent institutions.

DEVELOPMENTS

- More than 40% of the Group's employees work in R&D-related roles.
- Thales supports more than 200 doctoral students worldwide.
- In 2019, Thales allocated €1,097 million to self-funded R&D and each Thales employee completed 16 hours of training on average.

- In 2019, Thales committed to reducing its direct greenhouse gas emissions by 40%, and its indirect emissions by 15% by 2030.

- In 2019, women accounted for 32% of recruitment worldwide, 32.6% in Europe and 34.7% in France.
- At the end of 2019, 46 local networks were created to promote diversity. These networks bring together 3,200 men and women.

- In 2019, Thales reviewed and reinforced its processes for fighting against corruption and influence peddling. A total of 9,920 employees received training on these subjects.
- The Human Rights policy was also consolidated with the development of new due diligence procedures.

⁽¹⁾ Income tax shown on adjusted income statement. See page 33.

OUR MEDIUM-TERM OBJECTIVES

FINANCIAL OBJECTIVES

GROUP

		2019 RESULTS
Organic growth in revenues ⁽¹⁾	+3 to +5% on average between 2019 and 2023	+0.8%
EBIT margin ⁽²⁾	11.5% to 12% by 2023	10.9%⁽³⁾
ACQUISITION OF GEMALTO		
Annual cost synergies	€120 million starting in 2022	€25 million
Accretion of adjusted EPS ⁽²⁾	15 to 20% as of the first year	+16%⁽⁴⁾
Return on capital employed for the transaction including synergies	Exceeding Thales's cost of capital 3 years after completion of the transaction	Not applicable

(1) Organic: with constant scope and exchange rates. See definition on page 33.

(2) Non-GAAP financial indicators. See definition on page 33.

(3) 10.6%, when adding Gemalto's first quarter 2019 figures.

(4) On a 12-months basis including Gemalto's Q1 2019 EBIT (€10 m) and applying to Gemalto an effective tax rate of 22%.

NON-FINANCIAL OBJECTIVES

Percentage of new suppliers committed to the principles of the new Purchasing charter	100% by 2023	Not applicable The new charter was deployed in the middle of 2019
Frequency rate of accidents at work with time off from work (Thales employees)	-30% by 2023*	+4.5% (Thales scope, including DIS)
Change in energy intensity (toe/hours worked)	-3% in 2019*	-4.6%
Reduction in direct operational CO ₂ emissions (internal operations and mobility)	-20% in 2023* (in absolute terms) -40% in 2030 (in absolute terms)	-0.1%
Reduction in indirect CO ₂ emissions (purchases and use of Thales equipments)	-7% in 2023* (in absolute terms) -15% in 2030 (in absolute terms)	-1.7%
Non-hazardous waste recycling rate (excluding one-offs)	> 75% by 2023	60%
Percentage of women among new hires (long-term target)	40%	33%
Percentage of women in top positions (long-term target)	30%	17%
Percentage of Management committees ⁽²⁾ with at least 3 women (long-term target)	100%	50%

* reference year 2018

"IN ACCORDANCE WITH ITS VALUES AND CSR STRATEGY, THALES HAS REINFORCED ITS COMMITMENT TO A LOW-CARBON FUTURE, THUS REAFFIRMING THE DECLARATIONS MADE IN ITS BUSINESS PROPOSALS FOR COP21 IN 2015, AND LATER IN THE FRENCH BUSINESS CLIMATE PLEDGE IN 2017 AND 2019."

Patrice Caine, Chairman & Chief Executive Officer

BUSINESS REVIEW



2.1	OPERATING SEGMENTS	18
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2.1 OPERATING SEGMENTS

2.1.1 Aerospace segment

2.1.1.1 Key figures

(In € millions)	2019	2018
Order book at 31 December	7,306	7,985
Order intake	4,829	5,346
Sales	5,595	5,780
EBIT ^(a)	521	580
Consolidated number of employees	18,559	18,497

(a) Non-GAAP indicator. See definition on page 33.

2.1.1.2 Aerospace

2.1.1.2.1 General overview

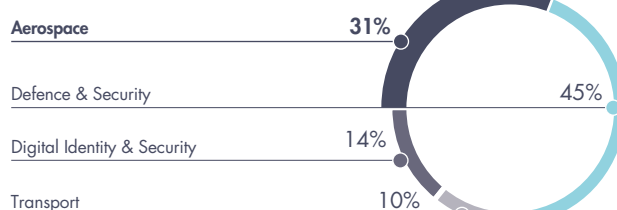
Thales supports aircraft manufacturers, armed forces, airlines, operators, pilots, crews and passengers in making improvements to flight efficiency, safety and comfort. The secure, natively connected systems that Thales designs allow aircraft to fly under all conditions and to interface with all parts of the aeronautical ecosystem, on the ground or in flight.

The range of avionics equipment, systems and applications covers four main domains:

- **Piloting and control of the aircraft:** certified or open-source electronics and information solutions that ensure the secure and optimised flight of aircraft in skies that are becoming more dense, connected and automated.
- **Support and services:** Thales offers equipment and aircraft maintenance services, supports pilots' missions and optimises operations thanks to cutting-edge digital solutions that allow civil and military operators to optimise operating costs and guarantee increased aircraft availability.
- **Passenger experience:** airlines call on Thales to personalise the services they offer to their passengers through next-generation on-board multimedia systems paired with high-speed connectivity. Thales also makes use of the latest technology in data analytics to enable airlines to tap into new sources of revenue generated through specific applications offered to passengers depending on their profiles.
- **Simulation and training:** simulator training for armies, navies and air forces to help them prepare more effectively for missions while reducing training costs. Thales supplies the flight simulators for many European and Australian defence programmes, as well as providing training and instruction.

Thales also provides electrical power generation and conversion solutions, electric motors, and power amplification and X-ray imaging solutions for the space and defence industries and the medical segment.

Sales by segment



2.1.1.2.2 Competitive position

As one of the leading players in the avionics market alongside Honeywell and Collins Aerospace (UTC Group), Thales supplies the commercial and military aircraft manufacturers Airbus, ATR, Bell, Boeing, Bombardier, Dassault Aviation, Embraer, Gulfstream, Leonardo, NHIndustries, Sikorsky, Sukhoi and Textron Aviation.

Thales is also one of the leading players in the in-flight entertainment and connectivity segment, along with Global Eagle Entertainment, Gogo, Panasonic Avionics and Zodiac Inflight Innovations (Safran Group).

The Group has numerous competitors in the simulation solutions market, including North American defence companies such as CAE, L3Harris, Lockheed Martin, and Raytheon.

Thales continues to be a global market leader in microwave and imaging subsystems, and its main competitors in these markets are Varian Medical Systems, CPI and L3Harris.

2.1.1.2.3 Significant events in 2019

In the **commercial avionics segment**, Thales finalised a nine-year maintenance agreement with JetBlue, which also selected it to supply avionics systems for its 85 future Airbus A321neo aircraft. The year was also marked by the unveiling of Bell Helicopter's future flying taxi, Nexus, for which Thales is supplying the flight controls.

For the thirteenth year running, Thales confirmed its position among the top ten best suppliers supporting airlines in the annual Airbus rankings.

In **military avionics**, the FlytX cockpit suite was selected by the French Ministry of the Armed Forces to equip the H160M Guépard joint light helicopter supplied by Airbus Helicopters. Thales was also notified by the French government armaments agency about its OMEGA 2 programme, an operation to modernise the French army's GNSS equipment.

For **in-flight entertainment**, 2019 was the year JetBlue's modernised Airbus A320s were put in service. These aircraft are equipped with Thales's AVANT TV system, and JetBlue also selected AVANT for its future Airbus A220-300 fleet. In partnership with SES, Hughes, Thinkom and Thales Alenia Space, Thales successfully tested uninterrupted access to high-throughput broadband applications over a platform supporting seamless switching between geostationary (GEO) and medium earth orbit (MEO) satellite beams.

In the area of **training and simulation**, Thales won an operational condition maintenance contract from Airbus Australia Pacific for its training resources for the Tiger ARH for the Australian Army. The Group also finalised the contract for the French-German OCCAR programme to modernise the training equipment on the TIGER helicopter. In the United Kingdom, the human training centrifuge (HTC) supplied by Thales for the new RAF High-G Training and Test Capability facility was accepted on site. Finally, the acquisition of the American company Psibernetix is significant because it will accelerate the integration of artificial intelligence into the synthetic tactical environment for training.

In **electrical systems**, Thales signed a contract with Russian Helicopters to supply electrical generation equipment for the first models of the Ka-226T, a cooperative project between Russia and India. 2019 was also marked by the development of a backup propulsion engine for Airbus Helicopters, a contract with the company PBS to supply 1000e starter-generators for the Saphir APU, as well as additional support agreements.

In **imaging and microwave sub-systems**, Thales signed a contract with European Spallation Source (ESS) to produce high-power scientific-grade klystrons and a contract in India to supply microwave tubes for ISRO/SAC satellites. In radiology, Thales strengthened its collaboration with Canon Medical Systems Corporation to supply sensors and image processing solutions.

2.1.1.3 Space

2.1.1.3.1 General overview

Thales Alenia Space, a joint venture between Thales (67%) and Leonardo (33%), forms the *Space Alliance* with Telespazio to offer a full range of solutions, including services. Combining more than 40 years of experience and a unique diversity of expertise, talent and cultures, Thales Alenia Space architects design and deliver innovative solutions for telecommunications, navigation, Earth observation, environmental management, exploration, science and orbital infrastructure. Governments, institutions and companies rely on Thales Alenia Space to design, produce and deliver satellite systems that help them geolocate and connect anyone or anything anywhere in the world, observe the planet, and optimise the use of the resources of the Earth and the solar system.

A range of telecommunications solutions that covers all market needs

With its all-electric Spacebus NEO platform that combines high performance, strength, and modularity and offers perfect adaptability to the capacity payloads of very high throughput satellites (VHTS), Thales Alenia Space perfectly meets the connectivity and mobility needs expected by the market. Seven satellites based on this platform have already been ordered: KONNECT, SES 17, SYRACUSE IV, KONNECT VHTS, SATRIA, EUTELSAT 10B, and AMAZONAS-6. In addition, Thales Alenia Space was the first company in the world to offer fully digital payload processing up to terabit class. Thales Alenia Space is also the only satellite manufacturer to equip its payloads with a powerful, 5th-generation digital processor. The flexible and fully digital Space Inspire (Instant Space In-orbit Reconfiguration) product line rounds out Thales Alenia Space's range and leadership in operational constellations (Globalstar, O3B, Iridium NEXT) and ensures the complementary nature of needs for medium or low orbits.

Participant in programs focused on the environmental challenges of our planet

Thales Alenia Space's renowned expertise in high-resolution (sub-metric) optical and radar payloads for military, civilian or dual missions covers a wide range of uses, including information gathering, target designation, meteorology, altimetry, oceanography, climatology, carbon cycle studies, mapping and crisis management. Thales Alenia Space satellites help provide a better understanding of Earth and how to protect it. In this market segment, alternative solutions are beginning to emerge comprising low-orbit, high-revisit constellations and products that complement satellites such as HAPS (high-altitude platforms). There is also increasing focus on the use of hyperspectral sensors. In addition to its involvement in the continuity of the European Copernicus programme and its Sentinel missions, for *Meteosat* Third Generation, Thales Alenia Space and Telespazio (acting as part of the Space Alliance) invested in high-revisit solutions (BlackSky constellation) and in space surveillance from space (Northstar).

At the forefront of the origins of the Universe and deep space exploration

The International Space Station (ISS) has generated new needs in terms of resupplying the astronauts on board. Future projects beyond Earth are under consideration, especially the development of a space station in orbit around the Moon. Thales Alenia Space is an expert in key technologies for the ISS: 50% of its pressurised module, along with the Cygnus and ATV resupply cargo spacecraft. Future vehicles such as Space Rider and soon the Orion spacecraft are pushing the teams towards new challenges. Thales Alenia Space also plays a central role in the exciting field of future scientific missions through the ExoMars 2020, Solar Orbiter, Bepi Colombo, Juice, Euclid, NEXT-Step-2, Mars Sample Return and FLEX programmes.

To improve the effectiveness of space exploration missions, Thales Alenia Space works on the development of detectors and sensors that will be used in the robotic systems of tomorrow. This work also supports the In-Orbit Servicing offering, especially the multi-mission SpaceStart vehicle, which will also address the management of space debris.

At the forefront of geolocation and navigation systems

Thales Alenia Space remains at the forefront of satellite navigation systems (EGNOS, Galileo) and a leader in geolocation solutions with:

- the Argos NEO instrument, which is one of the jewels of the French and European space industry in the area of miniaturised nanosatellite technologies. Argos NEO is the precursor of the Kinéis constellation, which is intended for connected objects and for which Thales Alenia Space is the system architect;
- its MEOLUT Next station dedicated to "Search and Rescue" services.

At the cutting-edge of innovation and digital transformation

Thales Alenia Space is developing the Stratobus™, an autonomous geostationary stratospheric airship that complements satellite solutions and is designed for regional telecommunications, surveillance and environmental applications.

The company is fully embedded at the centre of the digital transformation, especially with its fully processed flexible payloads and its digital twin, a virtual satellite that allows for prior validation of a mission with the customer.

Services for European launchers

Thales Alenia Space has been contributing to the European launcher industry for more than 40 years as a key supplier of many electronic systems developed in Belgium for the entire Ariane family (Ariane 1 to 6), the Italian Vega launcher and the Russian Soyuz launcher, which are launched from French Guiana.

2.1.1.3.2 Competitive position

The geostationary telecommunications market seems to have started recovering after a slowdown in orders over the past two years. Operator needs have evolved to include high-speed internet access and mobility-focused connectivity (aircraft, trains, ships). Satellite manufacturers must meet demands to provide high speeds at the lowest cost, transparency of connectivity for objects moving around the world, and increased flexibility in terms of mission and coverage. The complementarity of solutions is still very much a topic of interest, with constellations and HAPS (High Altitude Platform Station) that remain adapted to new services, such as Internet of Things (IoT), In-Orbit Servicing (IOS), Space Situational Awareness (SSA), and high-revisit observation, etc. or to regional needs.

In the commercial satellite segment, Thales Alenia Space's main competitors are Airbus Group, Boeing, Lockheed Martin, Maxar, and Northrop Grumman. It is also important to expect the gradual arrival of new international players on the commercial market (from Russia, China, India, Israel, Japan, etc.) in the telecommunications and observation sectors.

In the institutional and military markets, whose changes depend largely on government and space agency budgets, Thales Alenia Space's main European rivals are Airbus Group and OHB, which can also be partners on some programmes, and Boeing and Lockheed Martin for export contracts.

2.1.1.3.3 Significant events in 2019

In telecommunications, Thales Alenia Space signed two contracts for all-electric satellites based on the Spacebus NEO platform: SATRIA, for the Indonesian operator PSN (Pasifik Satelit Nusantara), to provide broadband connectivity services, and EUTELSAT 10B for the operator Eutelsat, designed for connectivity services for the aviation and maritime sectors. Thales Alenia Space will also build the Nilesat 301 satellite intended for digital radio-broadcasting and connectivity services across Egypt. Working as part of the Space Alliance, Thales Alenia Space and Telespazio will also develop the ItalgovSatCom satellite system for the Italian Space Agency. Moreover, the company will develop the two payloads for the Spainsat NG Spanish government satellites. Thales Alenia Space delivered the first satellite based on the Spacebus NEO platform to its Eutelsat KONNECT launch site. Finally, in addition to its range of capacitive, very high throughput, geostationary telecommunications satellites, Thales Alenia Space launched its new product line of flexible satellites, Space Inspire, which offer full in-orbit reconfiguration capabilities.

In the field of science, the European Space Agency (ESA) selected Thales Alenia Space to lead the Fluorescence Explorer (FLEX) mission to map the fluorescence of land vegetation in order to quantify photosynthetic activity, which is essential information to measure the health of plants and their interaction in the carbon and water cycles.

In navigation, Thales Alenia Space is conducting the preliminary study of the future satellite navigation services system in Africa for ASECNA (Agency for Air Navigation Safety in Africa and Madagascar). The company also signed an agreement with the German Space Agency (DLR) to maintain the ground segment of mission Galileo (GMS), and a contract with the European Space Agency (ESA) to upgrade the European navigation system EGNOS.

In 2019, Thales Alenia Space took part in seven launches that sent 19 satellites into orbit and two Cygnus cargo vessels going to the International Space Station: three telecommunications satellites (Yamal-601, Inmarsat GX5, and TIBA-1), two observation satellites (COSMO-SkyMed Second Generation, ANGELS), four satellites in the O3b satellite constellation and ten satellites in the Iridium NEXT constellation, which has been fully deployed and is operational in orbit.

Thales Alenia Space continued to develop strategic partnership to meet the new needs of the market, particularly with the signing of a partnership agreement with Héméria to target the nanosatellite market.

In 2019, LeoStella, a joint venture between Thales Alenia Space and SpaceFlight Industries, opened its new small satellite production facility in Seattle, in the United States, where it began the integration of the BlackSky constellation for low-orbit Earth observation with a high revisit rate. Thales Alenia Space also opened its new automated production site for assembling photovoltaic cells on satellite solar panels in Hasselt, Belgium.

Thales Alenia Space's innovation was recognised twice. Thales Alenia Space's Innovation Cluster won the Innovation Team Best Practices 2019 Award in the Innovation Strategies and Management category, and the I3DS robotics project, which is being coordinated by Thales Alenia Space, won the Étoiles de l'Europe 2019 award. The new plant also gave the engineer manager award to the Director of Telecommunications Strategy and Products of Thales Alenia Space for his major contribution to the launch of the Space Inspire product line.

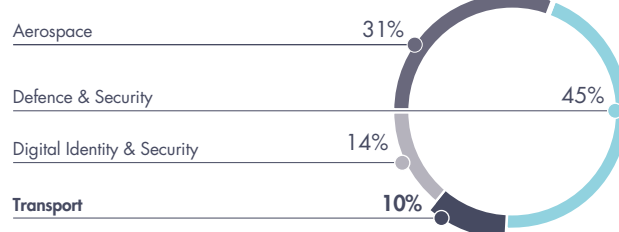
2.1.2 Transport segment

2.1.2.1 Key figures

(In € millions)	2019	2018
Order book at 31 December	4,076	4,144
Order intake	1,751	1,858
Sales	1,910	2,001
EBIT ^(a)	56	88
Consolidated number of employees	7,724	7,753

(a) Non-GAAP indicator. See definition on page 33.

Sales by segment



2.1.2.2 Ground Transportation Systems

2.1.2.2.1 General overview

The Group is one of the foremost global players in rail control, telecommunications and supervision systems. It also offers fare collection and mobility solutions.

Thales provides systems for urban transport networks (metros and trams) and mainline networks (conventional, high-speed and freight) throughout the entire life of the network, either for existing infrastructures or new lines. Thales capitalizes on its expertise in the field of critical information systems and cybersecurity, Big Data, IoT and AI, to offer to transport network operators integrated and protected solutions to effectively supervise and control their operations. The systems provided by Thales also contribute to increasing the safety and the security of its customers' passengers, staff and infrastructure.

2.1.2.2.2 Competitive position

Specialised in intelligent critical systems and services, Thales is a pure rail control player and sets itself apart from its main competitors, who offer product ranges dominated by rolling stock. The rapid digital transformation of railway transport products, solutions and operations has made Thales a recognized leading player with a unique position in these markets. The acquisition of Cubris, a leader in Driver Advisory Systems (DAS) for Main Line Rail customers, now fully integrated within Thales, reinforces its position and paves the way for the future autonomous trains and ATO.

In signalling, Thales is facing global and integrated player such as Siemens, Alstom, Hitachi Rail, Bombardier Transport, which have gone through external growth operations in the past few years: acquisition of Invensys by Siemens, General Electric Signalling by Alstom, Ansaldo STS by Hitachi Rail and also local ones in specific market segments.

The communications and supervision market segment is addressed by railway signaling players but also by networks and security specialists such as Nokia, Huawei, Icomera. Benefitting from its traditional businesses, Thales is a recognised supplier for communications onboard trains.

To enable the ticketing and road tolls activities and to allow them to focus on developing the business and on repositioning it as a leader in this market, Thales has decided to stop looking for outside partners and to search for strategic partners. Thales is a recognized supplier on this very fragmented market segment, facing historical competitors such as Cubic, Conduent, Vix, and newcomers such as ATOS, Cap Gemini, IBM, T-Systems, coming from IT.

2.1.2.2.3 Significant events in 2019

For **urban** integrated signalling, communications, security, monitoring and fare collection **activities**:

In the UK, Thales has signed two new contracts to support London's Docklands Light Railway's (DLR) rolling stock replacement programme, which will help deliver more frequent and reliable journeys in East London from 2023. Thales continues to deliver on 4UM, with 3 sections now in revenue. Thales commissioned into full operational service the countries first Traffic Management System based on the ARAMIS product on two regional routes in Anglia and Wales, this enables the customer to respond proactively to potential and real network delays. Thales also commissioned into service the TIRIS Digital Analytics tool, providing real time data on the performance of Thales' AzLM Axle counters on part of the Anglia route.

In Australia, Thales has delivered the Control Center and Communication System for Sydney Metro North West, the first stage of Sydney fully-automated new metro rail system and consequently won Sydney Metro City & Southwest (SMCSW) project, extending the new metro network from Chatswood to Sydney Harbor and from Sydney's CBD to Sydenham – a total of 66km of rail and 31 stations.

In North America, Thales continues its expansion with two new contracts in Canada. Thales will deliver SelTrac™ Communications Based Train Control (CBTC) system for the City of Ottawa's Stage 2 O-Train Confederation Line Extension project and for The Greater Toronto area, the Finch West LRT. Since May 2019, The Flushing Line, one of New York City's busiest line, has been running exclusively on the Thales SelTrac™ CBTC signaling system. Thales continues to work with the city of New-York to modernize its network.

In China, through its Thales SEC Transportation System (TST) joint venture, Thales won Qindao Line 4 project, a metro line with a total length of 30.908km and 25 stops. Thales is committed to supporting the future of Chinese cities with their Fast Forward plan and TST put 8 lines in revenue including: Shanghai Metro Line 5, fully equipped with Thales CBTC; Shenzhen Metro Line 9 Phase II (West Extension); Guangzhou Line 21 Stage 2; and Ningbo Line 3 Phase 1, the first project worldwide using multiply-carrying LTE technology to transmit both safety critical Signalling and non-safety related Communication in metro system with one wireless network.

In Qatar, Thales put in revenue the Red, Gold and Green Lines of Doha Metro – a total of 110 fully-automated trains travelling over 85 km – including full train control system through SelTrac™ CBTC, driverless signalling, the Operational Control Centre, passenger information and announcement systems, video surveillance for passenger traffic management and security, and automatic fare collection.

In Thailand, Thales will design, deliver and install the European Train Control System (ETCS) Level 1 automatic train Protection system on four sections of track across 48 stations around Bangkok. Thales also put in service the automatic fare collection system for section 2 of MRTA Blue Line extension.

In Central America and South America, Thales put in operation the second metro line of Panama after a record time of 43 months of work (21 km, 16 stations) and the second driverless metro line of the Chilean capital Santiago (Line 3, 21.7 km, 18 stations).

For **mainline** integrated signalling, communications, security, monitoring and fare collection **activities**:

In Spain, Thales won a major contract for the deployment of the signalling and telecommunications systems on the high-speed and conventional networks at the Encina-Xàtiva-Valencia hub, improving travellers experience on 221 km of the Mediterranean rail corridor that presents 55% of the goods transported in Spain. Recently awarded of a 20-year maintenance contract, Thales is responsible for the maintenance of more than 2,400 km of the Spanish high-speed rail network. Thales has also put into revenue the 122 km railway segment between Antequera and Granada. Around 3,000 people per day will be able to benefit from the new high-speed train ticket offer that connects Granada to Madrid and Catalonia.

In Portugal, Thales won the renewal of the existing signalling systems in 3 lines/sections of its network: Caíde-Régua section of Douro Line, Pampilhosa station in North Line and the complete Beira Alta Line (Pampilhosa-Vilar Formoso), including Mealhada junction. Also included in this project is the signalling of Évora-Elvas-Border in Évora and East Lines, comprising both existing and new lines. Covering a total of 380 km of conventional lines, it is the first implementation of ETCS level 2 railway safety technology for automatic train protection in Portugal.

In Eastern Europe, Thales reinforces its presence with the upgrade of the Linz central station – one of the most important stations in Austria – to the latest interlocking system technology. In Hungary, Thales will equip another 110 km of track with ETCS, further boosting a competitive rail transport focused on international freight transport. This new project is located along the main line connecting the country's largest cities Budapest and Debrecen.

In Germany, Thales continues to develop the German network and operated a driverless train controlled remotely via a 5G mobile network with Vodafone.

In France, Thales partnered with SNCF carrying out the very first tests of a remote-controlled train with the objective stated by the French railway group to circulate prototypes within 5 years. Thales also unveiled new range of car park solutions, with the launch of the new 400 range, already in service in Strasbourg/Porte de Versailles, and Yield management services with Interparking.

In the Netherlands, for Hoekse Lijn, the line between Hoek van Holland and Schiedam Centrum that has been converted from train to metro line, Thales has supplied state of the art chip-card gates, together with the validators on the platforms and ticket vending machines, strengthening the position of Thales as a reliable partner.

2.1.2.2.4 Synergies with the new integrated GBU DIS

During 2019, DIS and GTS teams collaborated and identified revenue synergies in the different applications of Rail transportation, such as partnering in the Revenue collection market with virtual payment. Thanks to DIS cutting edge biometrics solutions, a new Proof of Concept of check-in gates with facial recognition captured our customers' full attention.

DIS IoT products and cybersecurity solutions will provide GTS the capability to increase the trust level of digital services and solutions. DIS highly scalable solutions fit particularly well with GTS distributed systems.

2.1.3 Defence & Security segment

2.1.3.1 Key figures

(In € millions)	2019	2018
Order book at 31 December	21,774	20,012
Order intake	9,906	8,570
Sales	8,265	7,828
EBIT ^(a)	1,153	992
Consolidated number of employees	30,894	34,677

(a) Non-GAAP indicator. See definition on page 33.

2.1.3.2 Secure communications and information systems

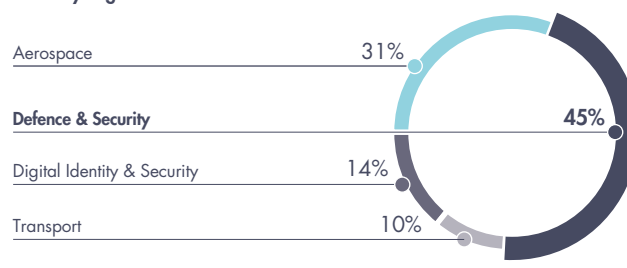
2.1.3.2.1 General overview

Armed forces, security forces and essential operators rely on Thales for their interoperable and secure information and telecommunications systems. Positioned at the heart of the defence and security continuum, the Group is involved in every link of the value chain, from equipment and systems to logistics support and related services. The solutions it provides meet the needs of markets where the use of new digital technologies, such as 4G networks, cryptography, cloud computing, artificial intelligence and big data, is crucial. The Group is developing new digital platforms and new service models, making full use of digital technologies.

These activities are developed around four segments:

- **radio communications products:** Thales designs embedded and tactical radio communications systems for land, air and sea, identification friend or foe (IFF) systems, aeronautical radio navigation systems and solutions for communications electronic warfare. 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 and is the prime contractor for the French Army's CONTACT programme;

Sales by segment



- **network and infrastructure systems:** Thales designs, supplies, deploys, supports and operates fixed and mobile communications networks for defence and security forces, international agencies and organisations, and critical infrastructure operators. Its resilient, secure systems draw on a full range of military and commercial technology. In France, Thales is responsible for upgrading defence communications systems through the Descartes programme, upgrading the French government's strategic communication networks, and providing support for the information system of the French Ministry of the Armed Forces. In addition, the Group operates communications systems in theatres of operation in Afghanistan, Mali and the Central African Republic, and secure communications infrastructure for major European organisations. Thales also offers satellite communication ground systems in France, through the Syracuse programme, and for export;
- **protection systems:** the European leader in the digitised battlefield, Thales develops collaborative combat systems and information, command and intelligence systems for armed forces (Computerized Command, Control, Communications, Intelligence, Surveillance, Reconnaissance, or C4ISR). Using this technology developed for its military customers (France, NATO, export), the Group also responds to growing security needs for cities, critical infrastructure, airports and other particularly sensitive sites. All of these systems are intended to help make better and faster decisions, whether these decisions are automatic or made by operators;

- **critical information systems and cybersecurity:** Thales's expertise in critical information systems makes it a major player in Europe. It helps its customers work toward the digital transformation by:
 - advising them on their cybersecurity strategies, either pre-emptively or in the event of a crisis, and training their teams to deal with cyber risk,
 - enabling them to better anticipate, detect and respond to cyber threats through in-depth and continuously updated information about attacks gathered through cyber threat intelligence,
 - designing natively secure information systems through its software development and integration services, including in the field of IoT, and outsourcing these systems, particularly as part of cloud hybridisation projects,
 - operating information systems securely through five cybersecurity monitoring centres around the world and protecting networks and data, especially sensitive or classified data, using high-grade cybersecurity products.

2.1.3.2.2 Competitive position

Thales has a variety of competitors depending on the business and market concerned.

In defence applications (radio communications, networks, and command and control) the main competitors are predominantly American: L3 Harris Technologies, General Dynamics, Raytheon and Collins Aerospace. Israel-based Rafael and Elbit Systems are also competitors in integrated command and communication solutions, as are software solution providers like Danish company Systematic and generalist information systems integrators such as Atos and Sopra Steria. In Europe, the Group's main competitors are Airbus Group and, in the radio communications sector, Rohde & Schwarz, Leonardo, Bittium from Finland and Aselsan from Turkey.

In security, Thales's competitors come primarily from the aeronautic and defence segment (Boeing, Northrop Grumman, Honeywell, Airbus Group, etc.), the equipment segment (such as Siemens and Johnson-Tyco), or from services (INEO, etc.) and information systems (including IBM, Atos and Capgemini). These last few companies also compete with Thales in the critical information systems segment.

Finally, in cybersecurity, Thales competes with companies such as Orange Cyberdefence in the commercial sector, BAE Systems, Ultra Electronics, Airbus Group and Secunet in the defence sector, and Atos, Sopra Steria and Capgemini in the digital services sector.

2.1.3.2.3 Significant events in 2019

In **radio communications products**, the French software-defined radio programme CONTACT for the French army, air force and navy is continuing with the development of the first version of an aeronautical system and the corresponding equipment. The CONTACT system will integrate the upcoming standards for the Rafale F4 combat aircraft, the Tiger attack helicopter and MRTT refuelling tanker aircraft. Meanwhile, Thales continues to develop SYNAPS, the export version of CONTACT, and recorded its first orders in Europe and abroad. To meet the needs related to CONTACT and SYNAPS, Thales has set up a new production line that will be able to produce several thousand of the various radios per year.

At the end of 2019, Thales won the contract for ARCHANGE (Avion de Renseignement à CHarge utile de Nouvelle GÉnération, meaning intelligence aircraft with new-generation payload), which aims to strengthen electromagnetic intelligence capabilities. This strategic programme is upgrading French intelligence capabilities by developing the replacement for the Transall Gabriel.

Thales had number of international successes in 2019, including Thales naval communications systems chosen to equip Type 31 frigates in the United Kingdom and the Mode 5 IFF interrogator systems sold to South Korea in partnership with local manufacturers that will handle production.

An official partner for the connectivity of IMOCA class single-hull vessels through 2021, Thales provided VesselINK systems that scored their first wins in 2019. These systems provide access to the Iridium Certus® network, the number-one highly reliable satellite broadband internet service, allowing skippers to communicate and navigate safely under extreme navigation conditions.

In the services sector, Thales won an operational condition maintenance contract for the French Army's embedded information systems. The Group also launched a digital platform dedicated solely to services.

In **infrastructure networks and systems**, Thales was awarded a major contract to design and build the ground segment of the Syracuse IV (Système de Radio Communication Utilisant un SatelliteE) programme, a next-generation satellite communications system for the French Armed Forces. As from 2023, the French army will have increased interoperable communications capabilities in terms of speed, availability, threat resistance and end-to-end connectivity. Thales also won a contract to modernise the French army's navigational equipment as part of the OMEGA 2 programme. This programme includes secure geolocation services of the European GALILEO constellation, a system currently being deployed by the European Union.

Thales continued to invest in digital technologies and is deploying a secure 4G system at a sensitive site in France. Thales also continued to develop its Defence cloud offering in 2019, which it had launched the previous year. This offering covers the specific needs of operators and users in France's domestic defence sector and its theatres of operations and capitalises on strategic partnerships with major players in the civilian cloud space. In addition, Thales was selected to conduct a preliminary study of a quantum communications network for the European Union.

With regard to resilient networks, a first capacity phase was completed for the French MTBA airbase transmission network, a key component of civil and military airspace security and surveillance in France.

In services, 2019 saw the creation of the IVEN marketplace, a digital platform that promises to revolutionise the aeronautics supply chain. Also in services, in a continuation of the SEQUOIA contract signed in 2012, the French Ministry of Justice reaffirmed its confidence in Thales in 2019 for its SAPHIR electronic surveillance programme. Amendments were also made to some of the service agreements with the European Union, the UN and NATO.

With regard to **protection systems**, Thales's solutions address both the defence and security markets. In the area of defence, Thales was approved for phase 2 of the Artemis programme, designed to improve the big data processing platform delivered in 2018. Thales also delivered the first "Griffon" multi-role armoured vehicles to the French Army as part of the Scorpion programme. In the export segment, Belgium reaffirmed its trust in the Group with the approval of the CaMo contract to deliver Scorpion vehicles to the Belgian army and the digitisation of its existing Pandur vehicles, which will ensure better operability.

Finally, the Swiss Army chose Thales to supply an image intelligence system that allows for better use of the image and video sources coming from the Swiss armed forces' existing and future sensors.

In the security field, Thales launched a new offering to optimise and strengthen the capabilities of its customers. Thales is now offering security operators a new digital AI-based security platform open to third-party solutions that integrates Gemalto's facial recognition technology. This veritable digital command centre brings together an extremely large set of sensors and harnesses their data flows using algorithms to allow operators to focus on their added value and make

better decisions to guarantee the highest level of security for sensitive sites, cities and major events. This new digital security platform is already being offered in response to tenders in France and abroad.

In airport operations, in 2019 Thales won a contract to supply a centralised supervision system to the Geneva airport in Switzerland. This system is designed to analyse operational data and detect any anomalies in real time.

In the area of critical information systems and cybersecurity, Thales boosted its global presence in 2019 by signing new contracts and contract renewals for cybersecurity monitoring and by contributing to large-scale projects, especially in France through the Galileo programme and in Australia with the OneSky programme, a major project to transform air traffic management.

Thales was also won its first major contracts in the cybersecurity of operations technology (OT) systems by signing a partnership with GE Power in this area in 2019.

Its cybersecurity consulting business grew during the year and is still thriving.

Thanks to existing strategic partnerships with Verint, Nettitude, Sequoia, Threat Quotient and ESET, Thales has built a powerful cyber threat intelligence ecosystem. In 2019, a new, advanced, AI-based attack detection platform (Cybels Analytics), as well as new high added-value detection services, some of which are provided in partnership with Airbus and Verodin, strengthened the overall cyber threat detection offering. Moreover, France's National Cybersecurity Agency (ANSSI) granted two new security Visas to Thales: one that approves its sovereign intrusion detection probe, Cybels Sensor (one of the only two qualified probes on the French market) and the other that qualifies it as an external cybersecurity incident detection provider (prestataire de détection d'incidents de sécurité, PDIS). Thanks to these Visas, which certify the high level of quality and security of the solutions offered, Thales is establishing itself as a trusted player for operators of critical national infrastructure (OIVs), which are required to use qualified solutions in accordance with the provisions of the French law on military planning to detect cyber threats.

The year was also marked by the development of a training and testing facility (Cyber Range) in collaboration with local institutional players. Thales designed and launched this new cyberacademy with local authorities in Oman that opened in early 2020, in partnership with the National Digital Exploitation Centre (NDEC), created by Thales and the Welsh government. This brings the total number of facilities of this type opened by Thales to 10.

In France, Thales continues to be a major partner in digital transformation and Cloud hybridisation projects, particularly for the French government and operators of critical national infrastructure. For example, Thales won several contracts from the French Postal Service and was selected by the Ministry of the Armed Forces to set up a digital services base as part of the "Platform Defence" project.

Finally, by integrating Ecom, a company specialising in secure communications, and Suneris, which offers intelligence solutions, in 2019, Thales strengthened its offering in these areas.

2.1.3.3 Land and air systems

2.1.3.3.1 General overview

The systems and equipment offered by Thales on the civilian market help safely increase the circulation of travellers and goods. In **air traffic control and management**, Thales's offering ranges from conventional navigation assistance equipment to radars and air traffic control centres and also includes satellite surveillance and navigation systems as well as airport management solutions. Thales has the largest installed base of equipment in the world. In addition, the Group has lead the digital transformation that has taken place in the air traffic segment. Thales is developing solutions designed to integrate new vehicles, such as drones, into air traffic management to optimise flows and protect sensitive infrastructure from malevolent drones.

Thales plays a key role as an architect and integrator of the air traffic management system of tomorrow, particularly through the OACI's⁽⁴⁾ "Global Air Navigation Plan – Aviation System Block Upgrades" initiative. Thales is the main industrial partner of the SESAR⁽⁵⁾ project in Europe and a key player in the NextGen programme in the United States.

Across all continents, Thales offers one of the broadest lines of commercial and military ground-based and naval radars for surveillance, air traffic management and fire control. 1,300 Thales radars are in service across the globe and the Group equips over 70 countries with commercial radars and more than 45 countries with military radars.

In the military sector, Thales specialises in command and control systems for air operations, radar systems and integrated air defence systems in more than 45 countries. As a mission systems integrator, Thales actively contributes to major international military programmes, such as NATO's Air Command and Control System (ACCS), the French Army's Aerospace Operations Command and Control System (SCCOA), and the Swiss Air Force's airspace surveillance and air operations system (FLORAKO). Thales excels in the domains of systems integration, complex programme management, real-time and non-real time software, human-machine interfaces and service-oriented architecture.

Thales owns 50% of ThalesRaytheonSystems, a joint venture that specialises in Integrated Air and Ballistic Missile Defence (IAMD) and Command and Control (C2) Systems. ThalesRaytheonSystems provides NATO and its members states with IAMD solutions for the Air Command and Control System (ACCS).

Thales offers a broad range of **air defence weapons systems**: medium range (SAMP/T), short range (Crotale and RAPIDDefender) and very short range RAPIDFire air defence cannon, and ForceSHIELD or EagleSHIELD for countering drones). The Group also supplies a range of lightweight multi-role missiles (LWM).

In the field of **optronics**, which combines 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 also applies to the civilian markets of high-end optics for the film industry and ultra high-power laser for scientific and industrial applications.

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 supplying sub-systems to integrating systems as well as designing mission systems and prime contractor services. 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.

(1) ACOSS: French central agency for social security organisations.

(2) IGN: French National Institute of Geographic and Forest Information.

(3) CNRS: French National Centre for Scientific Research.

(4) International Civil Aviation Organization.

(5) Single European Sky ATM Research.

2.1.3.3.2 Competitive position

With over 40% of the world's airspace controlled by the ATC TopSky system and 8,000 nav aids installed worldwide, Thales is a leader in the air traffic control system and civilian radar markets.

Other major players in the commercial sector are the US companies Leidos and Raytheon, European companies Indra and Leonardo (Selex), and, in some niche areas, Saab, Frequentis and Harris.

In the military sector, Thales's main competitors for surface radars are the American groups Lockheed Martin, Northrop Grumman, and Raytheon and in Europe, its competitors are Leonardo, Hensoldt (formerly Airbus), BAE Systems, Indra, Saab and Elta.

Thales is one of Europe's leading suppliers of medium-range, short-range and very short-range missiles and weapon systems. The other main players in this area in Europe (MBDA) and the United States (Raytheon and Lockheed Martin) are also major customers of Thales's missile electronics and key partners in weapon systems.

Thales is the top European supplier of multi-domain optronics, without European competition in the area of airborne targeting pods used for combat. In this sector, its competitors are Lockheed Martin and Rafael. Thales has targeting pod expertise in both land and naval applications. In these segments, its main competitors are suppliers in North America (Raytheon, Lockheed Martin and Flir Systems) and Israel (primarily Elbit), as well as SAFRAN and Hensoldt. The protected vehicles systems market segment is dominated, on an international level, by BAE Systems, General Dynamics, Rheinmetall, Krauss-Maffei Wegmann and Nexter. Thales operates 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 2019

In 2019, the Air Traffic Management (ATM) business line changed its name to Airspace Mobility Solutions to reflect profound market changes. This business line won several contracts covering all the technologies in its portfolio. For example, it signed a contract in the nav aid sector for DVORs with NavCanada and a contract to equip the airport of the futuristic Saudi Arabian city of Neom. In the area of air control systems, Thales signed an agreement with the Air Navigation Service Provider (ANSP) Estonian Air Navigation Services (EANS) and ANS Finland to supply an ATC system shared by both countries. Thales is also expanding its presence in China and will provide TopSky – ATC and Maestro ATM systems for the Beijing airports. It is also expanding in the Caribbean with the installation of a TopSky AMHS system in Haiti. Thales has also signed a number partnership agreements. A first agreement was signed with the FAA to integrate drones into the FAA's air traffic management systems. Other agreements were also signed, including one with our Singapore customer CAAS on open architecture research work and to open an innovation research laboratory, and an MOA with Aircon to use ADS-B data in the Thales ECOSystem system.

The Air Operations and Weapons systems (AOW) business line changed its name to IAS (Integrated Air Space protection systems). This new name better reflects its mission to protect air space from all types of threats. As part of NATO's ACCS programme, ThalesRaytheonSystems and Leonardo signed a partnership agreement to strengthen their cooperation and crossed new milestones in the deployment of the Addendum 3 contract. In terms of exports, Switzerland selected Skyview 4.0 to monitor and protect its air space, new batteries for the ForceSHIELD system were installed in Indonesia, and after celebrating its 30th anniversary at the Le Bourget Air Show, the Thales-MBDA

consortium made major advances in the Bodluc competition for the medium-range surface-to-air system (SAMP/T) in Switzerland. In October, the IAS BL won its first contract to protect an airport in an undisclosed country with EagleSHIELD, a new integrated anti-drone solution for protecting sensitive sites. In France in late November, the BL inaugurated the Ruche, an agile facility dedicated to the joint innovation of cybersecurity for air systems with the French defence procurement agency (DGA). The facility already has 40 employees at its site in Rennes. This inauguration, organised in close collaboration with the SIX GBU, was an opportunity to highlight Thales's investment in cyberdefence and in the Rennes region.

For the Surface Radars (SRA) business line, in the area of air surveillance, the Moroccan Air Force ordered two Ground Master 400 systems. The Kazakh MOD also approved an order for three of this same radar system at the end of the year, bringing the total number of GM 400 systems purchased by Kazakhstan to 11. In the Netherlands, the Dutch Ministry of Defence selected Thales for the development and production of nine new GM 200 multi-mission compact radars from the Ground Master line that are capable of detecting the starting points and points of impact of artillery munitions. Business was also steady in the naval export segment, with a nice order from Naval Group for surveillance radar systems (NS 106) and fire control radars (STIR) that will equip corvettes for Romania and the United Arab Emirates. Gamekeeper, a radar system specialised in drone detection developed by Thales subsidiary Aveillant to protect airports and infrastructure, has also made progress. Gamekeeper is now deployed at four major international airports, including Paris CDG and Auckland.

In maritime surveillance, the Jamaican coast guard has entrusted Thales with the deployment of a complete system built around its Coast Watcher 100 radar systems, two of which have already been successfully deployed in France for the DGA's rocket testing facility.

The development of Sea Fire 500, a new fixed-panel multi-function radar system, intended to equip the five medium-sized frigates (FTI) of the French Navy, continued as contractually scheduled: the first two panels are now deployed at the testing facility along the coast near Toulon. Meanwhile, the French Ministry of the Armed Forces decided to launch the development of a rotating ground radar, the Ground Fire 300, based on the same technology as the Sea Fire 500. This radar will replace the Arabel radar used by the French Air Force's ground-to-air medium range system by 2025.

In the Optronics and Missile Electronics (OME) business line, the United Kingdom signed an important contract for optronic masts for new generations of submarines. Meanwhile, in airborne optronics, France approved the TALIOS (Targeting Long-range Identification Optronic System) targeting pod and ordered new optronics capabilities under the standard F4 contract for the Rafale. In the field of scientific lasers, the most powerful laser system in the world, developed by Thales and ELI-NP, hit a world record of 10 petawatts in 2019. Thales, Peking University, and École Polytechnique also signed a strategic agreement for future scientific cooperation last year.

The Vehicles and Tactical Systems (VTS) business line qualified the production line for the Hawkei protected vehicle at the Bendigo facility in Australia. Thales also acquired the Austrian company Steyr Motors, which manufactures the engine for this vehicle. On the munitions side, an important programme was agreed to in Asia that will ensure sales for several years for the business line's industrial activity in Belgium. Moreover, the DGA notified the Group of a risk reduction agreement to integrate a guided weapon on the Patroller, the French Army's new drone.

2.1.3.4 Defence mission systems

2.1.3.4.1 General overview

Thales manufactures electronic combat, intelligence, surveillance and reconnaissance systems, 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 and the Mirage 2000 fighter aircraft and for future unmanned combat aerial vehicles (UCAVs), as well as electronic warfare radar systems, designed to detect threats and protect platforms.

For **intelligence, surveillance and reconnaissance missions**, Thales designs naval, ground and air patrol and surveillance solutions, including a range of electromagnetic-based information-gathering sensors. These systems – which are installed on aircraft or naval platforms – incorporate surveillance radars, acoustic sub-systems and measurement and data linking equipment. Thales also designs complete UAV systems with intelligence, surveillance, reconnaissance and target acquisition capabilities.

In **naval surface warfare**, Thales offers comprehensive combat systems that integrate on-board sensors (radar, sonar, electronic warfare, infrared sensors, etc.), weapon systems and communications and command equipment. Thales also has naval platform engineering and support capabilities.

In **underwater warfare**, Thales offers a broad range of solutions, including an entire sonar suite for submarines, hull-mounted and towed array sonar for surface ships, anti-mine systems (including the use of naval drones), as well as acoustical sensors for submarine guidance.

2.1.3.4.2 Competitive position

Thales is one of the leading European players in electronic combat systems, competing with Leonardo, Saab, Hensoldt and Indra, and US companies Raytheon, Northrop Grumman, BAE Systems and L3/Harris.

In intelligence, surveillance and reconnaissance systems, its main competitors are Airbus, Leonardo, Hensoldt, Saab, Indra, Elbit, IAI, L3/Harris, Safran and the China Aerospace Science and Technology Corporation.

In surface naval systems, Thales is one of the main European players, alongside Saab, Leonardo, Lockheed Martin, Hanwha and Terna.

In underwater warfare, Thales is one of Europe's main players along with Atlas Elektronik, Ultra Electronics and newcomers Elbit, ECA and Kraken. Thales competes with Lockheed Martin, Raytheon, Northrop Grumman and L3/Harris in the United States.

2.1.3.4.3 Significant events in 2019

Electronic combat systems

In business related to the Rafale, developments were launched relating to changes in the radar and electronic warfare systems for the new Rafale F4 standard, ordered by France in late 2018. The last Rafale aircraft was delivered to Egypt in July. 22 Rafales were delivered to Qatar. India accepted delivery of its first Rafale in October, followed by two others in November. In 2019, a total of 26 Rafale aircraft were delivered during the year.

In the area of combat aircraft modernisation, a contract was signed in November to renovate some of the equipment on the United Arab Emirates's Mirage 2000-9 fighters.

In the support segment, Thales signed the RAVEL contract in May for the Operational Condition Maintenance (OCM) of the Rafale aircraft of the French Air Force over a period of nine years. This contract is the first so-called "verticalised" contract with Dassault Aviation as the prime contractor for all support services. Greece awarded an OCM contract for its Mirage 2000-5 aircraft for a period of seven years.

Airborne surveillance and intelligence systems

In France, two modernised ATL2 aircraft were delivered. Standard 6 of the Atlantique 2 combat system was accepted by the DGA. This major milestone caps five years of work to develop and qualify a next-generation combat system. It will allow the French Navy's 18 Atlantique 2 aircraft to continue their mission of sea patrol and coastal and land surveillance until 2030.

The Archange contract approved by the DGA authorises Thales to install a universal electronic warfare capability on the three strategic intelligence aircraft that will replace the French Air Force's two Transall C-160 Gabriels beginning in 2025. This programme, along with the future lightweight surveillance and reconnaissance aircraft (ALSR) or the electromagnetic listening satellite CERES, is a priority established in France's 2019-2025 Military Planning law.

In the United Kingdom, the Watchkeeper aerial drone was delivered and deployed for operation by the British Army. A through-life support contract was also signed.

In the Netherlands, the Defence Materiel Organisation (DMO) selected the Vigile D radar to provide the electronic warfare capability for the three ships in the Royal Netherlands Navy, as well as two Portuguese frigates being modernised in the Netherlands.

Launched in 2018 by Canada's PAL Aerospace and Thales, the Force Multiplier aircraft for sea and land surveillance won its first service agreement.

Surface naval systems

The Dutch Defence Materiel Organisation (DMO) selected Thales to provide the AWWWS, or above-water warfare system, for the Royal Netherlands Navy and the Belgian Navy. The contract covers the replacement of the M-frigates with next-generation ships for anti-submarine, air and surface combat. The future generation of ships will replace the two Dutch frigates and their Belgian counterparts beginning in 2024. After nearly a century of partnership, the Royal Netherlands Navy renewed its trust in Thales with this contract, the most important in the Group's history in the Netherlands.

Team 31, led by Babcock in partnership with Thales, was selected as a preferred bidder by the British Ministry of Defence (MOD) to develop the new class of Type 31 general purpose frigates. The Arrowhead platform selected means Thales will supply the mission system, including the TACTICOS combat management system, radar and electro-optical sensors, communications and navigation systems, as well as the integrated bridge. The first delivery is scheduled for 2023.

The new POLA ocean patrol vessel was delivered to the Mexican Navy with its CAPTAS 2 on-board sonar, the SMART-S Mk2 Air and Surface Surveillance Radar, the STIR 1.2 EO Mk2 Radar and the Gatekeeper electro-optical security system, all integrated into the CIC command centre with its 10 flexible consoles.

The ORP Slazak was delivered to Poland with the TACTICOS combat management system and a full array of equipment: the SMART-S Mk2 Air and Surface Surveillance Radar, the Sting-EO Mk2 Fire Control Radar, the MIRADOR electro-optical system for observation and target tracking, the LINK 11/16 tactical data link system, the NDDS navigation data distribution system, the warship automatic identification system (VVAIS), and CCTV, all integrated in the combat management system. The FOCON-IP and TACAN systems are also installed on the vessel.

Underwater warfare systems

The development of the Franco-British MMCM programme's remotely-operated and autonomous anti-mine system is coming to a close. The acceptance tests were satisfactory and the delivery of the two demonstrators is planned in 2020. The British Ministry of Defence also demonstrated its continued trust by approving an additional order for long lead supplies. A maritime autonomy centre was also opened at Turnchapel.

The Royal Navy selected Thales for its Oceanographic Reconnaissance Combat Architecture (ORCA) programme to modernise its Hunt and Sandown mine hunters by 2030. The M-Cube multi-mission system will guide the transition between current anti-mine capabilities and the latest autonomous technologies, which are used in the MMCM programme. The contract also provides for the training of British operators, in-service support for five years, and an onshore testing facility.

The Spanish Navy selected Thales's integrated sonar suite to equip its five new multi-mission F110 frigates. Spanish industry partners will supply a portion of this equipment thanks to a decisive transfer of technology programme.

In the United Arab Emirates, the launch of an Underwater Training Centre (UWTC) for the UAE Navy will provide local capacity on how to operate the UAE Navy's sonar systems. Thales will supply the most advanced simulators on the market, integrating key digital technologies.

In Australia, Thales signed a new service support agreement for the Collins submarines.

Thales Australia also received two mine sweeping contracts for the Indian and South Korean Navies.

In France, the Suffren, the first in a series of six Barracuda nuclear attack subs, was put in the water and inaugurated with Thales equipment on board, including the sonar suite.

Thales signed a major contract with Naval Group for a Navy in the Middle East. This contract is for supplying anti-submarine warfare and anti-air warfare capacity to Gowind 2500-class vessels.

The end of the year was marked by the signing of a contract for the Royal Navy's new nuclear attack submarines.

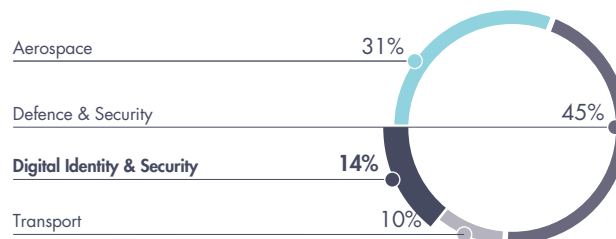
2.1.4 Digital Identity and Security Segment

2.1.4.1 Key figures

(In € millions)	2019	2018
Order book at 31 December	588	119
Order intake	2,573	205
Sales	2,552	192
EBIT ^(a)	264	15
Consolidated number of employees	15,347	n.s.

(a) Non-GAAP indicator. See definition on page 33.

Sales by segment



2.1.4.2 Digital Identity and Security

2.1.4.2.1 General overview

Over 30,000 organisations already count on Thales's digital identity and security (DIS) solutions to verify the identities of persons and things, authorise access to digital services, analyse vast quantities of data and encrypt data.

Our solutions include certification of physical and digital identities, various authentication methods (including biometrics), IoT connectivity and data encryption. These technologies help organisations protect the entire life cycle of their digital services, from enrolment to deregistration. Our customers include some of the world's largest corporations, as well as government, which count on us to authenticate billions of identities and protect trillions of data exchanges every day.

Our offering consists of several sub-segments:

- data and IoT analysis solutions: connectivity and security for the IoT and mega-data analysis;
- banking and payment services: payment solutions for electronic and physical transactions and online banking security;
- cloud protection and software licenses: access management, data encryption, and software license distribution solutions;
- identity and biometrics solutions: national identity programmes including secure identity documents. Identification solutions supported by our expertise in biometrics;
- mobile connectivity solutions: authentication of users and devices with mobile networks.

2.1.4.2.2 Competitive position

Thales is a leader in the €22 billion Digital Identity and Security (DIS) market, which combines secure identities and cybersecurity. 75% of our annual sales in 2018 came from our offering in markets where we are the market leader: data protection, secure identity documents, payment cards, removable SIM cards and management of eSIM subscriptions. We are also one of the top three companies in IoT cellular connectivity modules, identity verification, eSIM cards, and crime-preventing biometrics.

Thales is the world leader in the Digital Identity and Security market. Its primary competitors are Idemia, Broadcom, Giesecke+Devrient and HID. However, it also has a few smaller rivals in certain niche markets.

Thales has the largest product portfolio that combines identity management and data protection and protects each step in the digital service life cycle. Our solutions secure devices and the cloud as well as the networks that connect them, while our competitors serve only a portion of the global market. This unique expertise is based on decades of experience, substantial investments in R&D and more than 5,000 patents.

2.1.4.2.3 Significant events in 2019

Thales won a contract as part of a consortium in Thailand to supply 15 million electronic passports to Thai citizens over the next seven years. In addition to the design and development of new electronic passports using the latest physical and digital security technologies, the project also includes the creation of a complete infrastructure for the registration of citizens and the processing of passport requests using the capture of their biometric data. Thales also planned for the creation of two new production facilities, which it will manage during the term of the contract.

In Canada, the Department of National Defence selected Thales to provide the first Automated Fingerprint Identification System (AFIS) intended to increase the security and reliability of fingerprint collection and verification. This solution allows faster and more accurate forensic and civil identity verification.

In the Philippines, the Electoral Commission (COMELEC) selected Thales's biometrics solution to guarantee quick and secure voter authentication. Thales supplied some 30,000 biometric tablets to reduce fraud by verifying the identities of voters using their fingerprints.

In the United States, AT&T chose Thales IoT technology to simplify and secure how machines and objects connect to its network. By creating an all-in-one eSIM and IoT module, this solution simplifies subscription services, improves security levels, and allows for updates throughout the life of the IoT solutions.

In India, Jio, the largest global supplier of mobile data network services, chose the AI-based data analysis tool from Guavus, a Thales company. The services provided include real-time customer experience analysis, predictive analysis to automate network troubleshooting, and the communication of essential marketing information. The ultimate goal is to improve network performance using intelligent automation while offering a number of personalised services to Jio customers.

In Bahrain, VIVA, the leading mobile telephone operator in the kingdom, selected a Thales solution to manage eSIM subscriptions. Customers will benefit from a perfect user experience when connected to their eSIM-compatible devices, such as tablets and connected objects, as soon as they are turned on.

FinTech Treezor in France (a member of the Société Générale Group) selected the Thales Cloud Hardware Security Modules (HSMs) for solid data security controls to protect personal financial information and other sensitive data. In opting for the Thales cloud security solution, Treezor was able to achieve compliance with several regulations while reducing its capital expenditures.

In the United Kingdom, NatWest and RBS conducted a pilot test of the Thales EMV biometric payment card. Customers using the card, which has an integrated sensor, can make their purchases using their fingerprints, rather than a PIN, even for contactless transactions over the current limit of GBP 30.

In Chile, Thales received a prize from Banco Santander for its innovative solution for issuing payment cards. Thales worked closely with the bank to modernise the issuance of secure EMV cards by creating 1,750 instantaneous issue locations around the country to issue and activate the bank cards in-branch.

2.2 RESEARCH AND INNOVATION

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

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

- a technological dimension thanks to collaboration with academic laboratories;
- an entrepreneurial dimension through work with SMEs and start-ups;
- a “market” dimension through co-innovation of use with customers and their ecosystems.

2.2.1 Research and development, the key to competitiveness and growth

Some 30,000 people are involved in the Group’s technical operations, from research to engineering. In purely self-funded R&D alone, an essential factor of competitiveness, Thales spent €1,097 million in 2019, representing 6.0% of its sales.

A significant portion of the R&D budget is devoted to upstream research work, performed both in the Thales Research & Technology (TRT) laboratories and in the Group’s competence centres in order to discover and bring to maturity:

- innovations across the Group’s entire technological spectrum;
- new concepts for systems and products;
- new tools and engineering 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, quantum technologies, optronics, acoustics, radiofrequency techniques, and thermal constraint management;
- **software technologies:** processing computers, real-time on-board systems, distributed systems, cloud computing, digital platforms, model-driven engineering and cybersecurity;
- **information and cognitive sciences:** artificial intelligence, autonomous systems, synthetic environments and human factors;
- **systems:** focused on the functional and architectural design of systems, this area provides support for methodology, processes and expertise.

FOCUS 1

Moving forward towards the “second quantum revolution”

Thales is actively participating in research on the second quantum revolution, which uses the quantum properties of material at the scale of a single atom. This race toward a new generation of electronics addresses the entire critical decision chain: sensors, computers and communications.

Quantum sensors make it possible to take very fine measurements of magnetic and electromagnetic dimensions, gravity and time; quantum computers handle ultra-complex calculations; quantum communications allow for the best distribution of quantum sensors and quantum computers. The overall combination will help create new architectures of critical information systems. In the area of quantum sensors, in 2019 Thales conducted a first series of tests on real signals from a spectrum analyser based on a quantum technology. Using the ability of rare earth atoms included in a crystal to selectively and instantaneously modify the different electromagnetic signals received, this device has already demonstrated superior operational performances over traditional systems.

2.2.3 Thales at the forefront of innovation ecosystems

Wherever it is doing business, Thales seeks to build partnerships within innovation ecosystems, academic partners, innovative businesses and industrial groups for joint innovation on applications, business models and technologies.

In 2019, Thales was once again ranked by the prestigious journal *Nature* in the category of “institutions making the biggest impact and contribution to science” and was recognised as the 1st company in Europe and 12th in the world in the field of physics. This international recognition of Thales’s research and innovation underscores the excellence of the Group’s research teams. It is also the result of the close collaboration among Thales teams and research and innovation ecosystems around the world (in North America, Latin America, Europe, India, China and the Middle East).

Thales Research & Technology (TRT), an international network of corporate laboratories, is responsible for building relationships with academic partners.

The Singapore centre has partnered with Nanyang Technological University and with France’s national research institute (CNRS) on one of the few joint international research units with an industrial partner.

In France, Thales has numerous strategic partnerships, for example, with the CNRS, the CEA, École Polytechnique, Telecom Paris Tech, and Sorbonne University.

The most successful form of collaboration has been the joint laboratory, which is what Thales currently has with CNRS in the field of semi-conductors, with CEA-LETI as part of the III-V Lab (an EIG, the members of which are Nokia, Thales and CEA-LETI), with CEA-LIST for artificial vision and formal methods for the development of critical software, and with Sorbonne University for artificial intelligence, etc.

FOCUS 2

The open hardware era

Open source approaches have profoundly changed the software world. Today, they are revolutionising hardware design, from the most embedded systems to data centres. This wave is affecting not only hardware components, but every associated ecosystem as well: design tools, testing methodologies and embedded software.

This new paradigm offers a framework that allows for the combination of security, safety and energy use constraints into a high performance system. Through its participation in the RISC-V, OCP and OpenHW Group, Thales is actively contributing to the growth and adoption of the open-source hardware concepts. Among other initiatives, Thales is currently working in collaboration with IIT Madras on the development of a secure, deterministic and high-performance “System-on-Chip”.

In the United Kingdom, Thales is directly affiliated with several major British universities through the TRT-UK research laboratory, with strategic partnerships with the universities of Southampton and Bristol, among others, and a long-term relationship with Cranfield University. It also has strong relationships in AI and autonomy, most notably with Digital Catapult and the Alan Turing Institute, leveraging some of the UK government’s funding in this field. In the cyber domain, Thales UK has established a number of partnerships, including with the Centre for Secure Information Technologies (CSIT), based at Queen’s University Belfast, and the London Office of Rapid Cybersecurity Advancement (LORCA).

In Canada, the Group regularly works with research networks and institutions such as IVADO (the Institute for Data Valorization), University of Toronto, McGill University, École Polytechnique de Montréal, and Université Laval, with which, along with other industrial partners such as Ericsson and Ciena, Thales formed the ENCQOR consortium, a 5G innovation platform.

In 2019, Thales used cortAlx, its artificial intelligence laboratory with around 50 researchers, to develop the use of AI in Thales systems to host the DEEL (DEpendable EXplainable Learning) collaboration tool backed by the Institut de Recherche Technologique St-Exupéry, which set up a team at the cortAlx facility, in partnership with IVADO and CRIAQ (Consortium for Research and Innovation in Aerospace in Quebec). DEEL’s mission is to explore the development and validation technologies and practices necessary to certify aircraft-embedded AI.

FOCUS 3

Payments at your fingertips

An important innovation in electronic payments is the biometric card. This innovation improves your debit or credit card by equipping it with a digital fingerprint sensor.

Currently, card payments require the provision of a secret code as proof of identity. This is a safe method, but it is running up against the proliferation of codes and passwords in our daily lives. Consumers like contactless payment because no code is required, but such payments remain limited to small amounts.

By simply holding the card with a finger on the print sensor, the biometric card ensures that the holder of the card is indeed the person authorised to pay with that card. Contactless payment can then be made above the normal limit with complete confidence. Forgetting the secret code is no longer a problem for completing a purchase. It is a solution that combines ease of use and maximum security.

In high-growth countries, Thales is developing research programmes to complement its engineering presence. In India, the Group chose to actively collaborate with the prestigious Indian Institute of Technology in Madras in the emerging field of open hardware architecture.

For the past five years, Thales has effectively coordinated its actions toward start-ups. During this period, over 1,000 start-ups have been approved by Thales, with more than 120 proofs of concept completed. Thales is also involved in the acceleration ecosystem as a founding member of Starburst, a specialised incubator in the aeronautics and space field, and the cybersecurity adviser to Station F.

Training also a part of the overall strategy linking the Group with the academic world. The Group supports more than 200 doctoral students worldwide. They work on subjects directly connected with the technical issues facing Thales, which therefore reinforces its appeal to young scientists.

FOCUS 4

Thales, the face of artificial intelligence in service of industry

In the context of the French government's "AI for Humanity" strategy, Thales, with the support of the French Ministry of the Economy and Finance, was the impetus behind an alliance around artificial intelligence formed by 15 French manufacturers from different sectors working on a global scale. This initiative, which aims to promote a common strategic vision of AI, became a reality with the signature of a manifesto in which the signatory manufacturers express their commitment to work together using an open innovation approach to develop a trusted AI, which is a source of growth and jobs for industry. For Thales, one of the first concrete actions that embody this initiative has been the creation of a joint research laboratory with EDF and Total, located at the Saclay research and technology cluster, in order to work together in cutting-edge AI areas: explicability, reinforcement learning, and simulation.

2

2.2.4 A dynamic approach to intellectual property management

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

The Group filed more than 450 new patent applications in 2019. The consistently high number of patent applications in recent years reflects Thales's commitment to innovation and its ability to translate research results into competitive advantages.

The Thales portfolio, which includes more than 21,000 patents and patent applications, is regularly adapted to operational requirements, particularly to protect Thales's market share.

In 2019, Thales was once again included in the Top 100 Global Innovators ranking compiled by Clarivate Analytics (formerly Thomson Reuters Intellectual Property & Science), with the Group standing out for the volume, success and influence of its patents. This achievement underlines Thales's commitment to innovating, protecting its ideas and bringing its inventions to market. Since 2011, Thales has been included in this prestigious ranking seven times, thus proving, over time, the importance of active and ambitious intellectual property management for the Group.

2.3 REPORT ON OPERATIONS AND RESULTS

This section looks at the Group's financial performance in 2019. The analysis of its non-financial performance is presented in Chapter 5 of this document (pages 110 to 159).

2.3.1 Key figures (adjusted)

In € millions, except earnings per share and dividend (in €)	2019	2018 ^(a)	Total change	Organic change
Order intake	19,142	16,034	+19%	+4%
Order book at end of period	33,839	32,329	+5%	+2%
Sales	18,401	15,855	+16.1%	+0.8%
EBIT ^(b)	2,008	1,685	+19%	+4%
As % of sales	10.9%	10.6%	+0.3 pt	+0.3 pt
Adjusted net income, Group share ^(b)	1,405	1,178	+19%	
Adjusted net income, Group share, per share ^(b)	6.61	5.55	+19%	
Consolidated net income, Group share	1,122	982	+14%	
Free operating cash flow ^(b)	1,372	811	+561	
Net cash (debt) at end of period ^(b)	-3,311	1,673 ^(c)	-4,984	
Dividend per share	0.60 ^(d)	2.08	+27%	

(a) Since 1 January 2019, the Group has applied the IFRS 16 "Leases" standard. As the Group has used the modified retrospective method, the 2018 figures in this release have not been restated, with the exception of net cash at 31 December 2018. The impact of this standard on the 2019 financial statements is detailed in Note 1.2 to the consolidated financial statements.

(b) Non-GAAP financial indicators, see definitions page 33.

(c) As at 1 January 2019: net cash at 31 December 2018 (€3,181 m) less IFRS 16 lease liabilities (€1,507 m)

(d) Proposed to the Annual General Meeting on 6 May 2020.

2019 **order intake** amounted to **€19,142 million**, up **19%** compared to 2018 (+4% at constant scope and exchange rate). Order momentum was particularly strong in the Defence & Security segment. At 31 December 2019, the **consolidated order book** reached **€33.8 billion**.

Sales totalled **€18,401 million**, up **16.1%** compared to 2018 and **0.8% at constant scope and exchange rate** ("organic" change), with the decline in sales in the Aerospace and Transport segments offsetting the robust performance in Defence & Security.

In 2019, the Group posted an **EBIT⁽¹⁾** of **€2,008 million (10.9% of sales)**, compared to €1,685 million (10.6% of sales) in 2018, up **19%** (and up 4% in organic change), while continuing to increase investments in R&D.

At **€1,405 million, adjusted net income, Group share⁽¹⁾** was up 19%, thanks to the strong improvement in EBIT.

Consolidated net income, Group share amounted to **€1,122 million**. It recorded an increase of **14%**, driven primarily by gains on asset disposals.

Free operating cash flow⁽¹⁾ totalled **€1,372 million** versus €811 million in 2018. This increase reflects the significant increase in adjusted net income (+€227 m), an improvement in the change in working capital and the impact of IFRS 16 (+€203 m).

In a spirit of responsibility vis-à-vis all Group stakeholders, and in order to preserve funding capacity if the Covid-19 crisis were to last, the Board of Directors decided to limit it to the interim **dividend** of **€0.60** already paid in December 2019.

(1) Non-GAAP financial indicator, see definition page 33.

2.3.2 Presentation of financial information

Accounting policies

The accounting policies used to prepare the consolidated financial statements of the Thales Group comply with the standards and interpretations of IFRS (International Financial Reporting Standards) as adopted by the European Union at 31 December 2019.

Definitions of non-GAAP financial indicators

In order to facilitate monitoring and comparison of its financial and operating performance, the Group presents three key non-GAAP indicators that exclude non-operating and/or non-recurring items. They are determined as follows:

- **EBIT**, an adjusted operating indicator, corresponds to income from current operations plus the share in the net income of equity associates, before the impact of entries recorded in business combinations (amortisation of intangible assets valued as part of the purchase price allocation [PPA], other expenses directly related to the acquisitions);
- **adjusted net income** corresponds to net income, excluding the following items and net of the corresponding tax effects:
 - amortisation of assets valued as part of the purchase price allocation (business combinations),
 - expenses recognised in income from operations or financial income⁽¹⁾ that are directly related to such business combinations,
 - gains and losses on disposals of assets, changes in scope of consolidation and other,
 - impairment of non-current assets,
 - changes in the fair value of derivative foreign exchange instruments (recognised under “Other financial income and expenses” in the consolidated financial statements),

- actuarial gains (losses) on long-term benefits (recognised under “Finance costs on pensions and other long-term employee benefits” in the consolidated financial statements);

- **Free operating cash flow** corresponds to the net cash flow from operating activities before contributions to reduce the pension deficit in the United Kingdom, and after deducting net operating investments.

The definitions of EBIT and of adjusted net income drive the definition of other operating indicators on the **adjusted income statement**: adjusted cost of sales, adjusted gross margin (which corresponds to the difference between sales and adjusted cost of sales), adjusted indirect costs, other adjusted financial income, finance costs on pensions and adjusted long-term employee benefits, adjusted income tax, and adjusted net income, Group share, per share, the calculation of which is detailed on pages 34 and 35.

Net cash (debt) corresponds to the difference between the sum of “cash and cash equivalents” and “current financial assets” and short and long-term borrowings, after deduction of interest rate derivatives. As from 1 January 2019, it includes lease liabilities recorded on the balance sheet pursuant to standard IFRS 16. The calculation appears in Note 6.3 to the consolidated financial statements.

Organic change measures the movement in monetary indicators excluding the effects of changes in exchange rates and scope of consolidation. It is obtained by calculating the change between the value of this indicator for year N-1, discounted at the exchange rates for year N for the entities that report in currencies other than the euro, less the value of the indicator for disposals completed in year N, and the value of this indicator for year N, less the value of the indicator for the acquisitions made during year N. The calculation of the organic change in sales is detailed below.

➤ ORGANIC CHANGE IN SALES BY QUARTER

(in € millions)	2018 sales	Currency impact	Impact of disposals	2019 sales	Impact of acquisitions	Total change	Organic change
Q1	3,412	+37	-25	3,361	+4	-1.5%	-2.0%
Q2	4,040	+23	-26	4,829	+758	+19.5%	+0.8%
H1	7,452	+60	-51	8,190	+763	+9.9%	-0.5%
Q3	3,421	+25	-24	4,220	+766	+23.4%	+0.9%
Q4	4,981	+33	-31	5,991	+876	+20.3%	+2.6%
Full year	15,855	+118	-106	18,401	+2,405	+16.1%	+0.8%

Main scope effects:

Disposals: deconsolidation as from 1 January 2019, then disposal of the GP HSM business following the acquisition of Gemalto (Defence & Security segment).

Acquisitions:

Gemalto: consolidation as from 1 April 2019 (in the new Digital Identity and Security segment)

Ercom and Suneris: consolidation as from 1 January 2019 (Defence & Security segment). Sales of approximately €40 million in 2018.

Readers are reminded that only the consolidated financial statements at 31 December 2019 have been audited by the statutory auditors, including the calculation of EBIT, which is detailed in Note 2 “Segment information”, net cash (debt), the definition and calculation of which appear in Note 6.2 “Net cash (financial debt)” and free operating cash flow, the definition and calculation of which are specified in Note 6.3 “Changes in net cash”. Adjusted financial information other than that provided in the notes to the consolidated financial statements

is reviewed as part of the procedure to verify all of the information included in this management report.

The impact of these adjustment entries on the income statements at 31 December 2019 and 31 December 2018 is detailed in the tables on pages 34 and 35. The calculation of free operating cash flow is detailed on page 36.

(1) The definition of adjusted net income has been adapted to take into account expenses related to the acquisition of Gemalto recognised in financial income/expense (€8.4 million in 2018). See Note 6.1 to the consolidated financial statements at 31 December 2018.

➤ **ADJUSTED INCOME STATEMENT, EBIT AND ADJUSTED NET INCOME – 2019**

(in € millions, except earnings per share in €)	2019 consolidated income statement	Adjustments				2019 adjusted income statement
		(1)	(2)	(3)	(4)	
Sales	18,401					18,401
Cost of sales	(13,877)	528				(13,350)
R&D expenses	(1,099)	1				(1,097)
Marketing and selling expenses	(1,383)	2				(1,381)
General and administrative expenses	(637)	3				(634)
Restructuring costs	(122)	21				(102)
Income from operations	1,283					N/A
Disposal of assets, changes in scope of consolidation and other	219		(219)			–
Impairment of non-current assets	–					–
Share in net income of equity affiliates	142	29				171
EBIT	N/A					2,008
Interest income (expense), net	(43)					(43)
Other financial income (expense)	(84)			73		(12)
Finance costs on pensions and other long-term employee benefits	(69)				13	(56)
Income tax <i>Effective income tax rate^(a)</i>	(301) –23.1%	(146)	21	(24)	(4)	(454) –26.3%
Net income	1,146	436	(198)	49	10	1,443
Non-controlling interests	(25)	(14)				(38)
Net income, Group share	1,122	423	(198)	49	10	1,405
Average number of shares (thousands)	212,502					212,502
NET INCOME, GROUP SHARE, PER SHARE (IN €)	5.28					6.61

(a) Income tax divided by net income before income tax and before share in net income of equity affiliates.

Adjustments:

- (1) Impact of business combinations: amortisation of assets valued as part of the purchase price allocation (PPA), other costs directly related to the acquisitions.
- (2) Disposal of assets, changes in scope of consolidation and other.
- (3) Change in fair value of foreign exchange derivatives.
- (4) Actuarial differences on long-term employee benefits.

➤ ADJUSTED INCOME STATEMENT, EBIT AND ADJUSTED NET INCOME – 2018

(in € millions, except earnings per share in €)	2018 consolidated income statement	Adjustments				2018 adjusted income statement
		(1)	(2)	(3)	(4)	
Sales	15,855					15,855
Cost of sales	(11,768)	1				(11,767)
R&D expenses	(881)	2				(879)
Marketing and selling expenses	(1,098)	3				(1,095)
General and administrative expenses	(554)	2				(552)
Restructuring costs	(48)					(48)
Amort. of acquisition-related intangible assets (PPA)	(103)	103				–
Income from operations	1,403					N/A
Disposal of assets, changes in scope of consolidation and other	(73)		73			–
Impairment of non-current assets	–					–
Share in net income of equity affiliates	145	27				172
EBIT	N/A					1,685
Interest income (expense), net	(7)					(7)
Other financial income (expense)	(78)			71		(8)
Finance costs on pensions and other long-term employee benefits	(47)				(5)	(52)
Income tax	(314)	(31)	(20)	(24)	2	(387)
Effective income tax rate ^(a)	–26.2%					–26.7%
Net income	1,028	107	53	46	(3)	1,232
Non-controlling interests	(46)	(7)		–		(53)
NET INCOME, GROUP SHARE	982	100	53	46	(3)	1,178
Average number of shares (thousands)	212,437					212,437
NET INCOME, GROUP SHARE, PER SHARE (in €)	4.62					5.55

(a) Income tax divided by net income before income tax and before share in net income of equity affiliates.

Adjustments:

- (1) Impact of business combinations: amortisation of assets valued as part of the purchase price allocation (PPA), other costs directly related to the acquisitions.
- (2) Disposal of assets, changes in scope of consolidation and other
- (3) Change in fair value of foreign exchange derivatives
- (4) Actuarial differences on long-term employee benefits

➤ CALCULATION OF FREE OPERATING CASH FLOW

(in € millions)	2019	2018	Change
Operating cash flow before interest and tax	2,548	1,932	+616
Change in working capital and provisions for contingencies	(341)	(519)	+178
Pension expense, excluding contributions related to the reduction of the UK pension deficit	(148)	(129)	-19
Net financial interest received (paid)	(37)	(2)	-35
Income tax paid	(154)	(91)	-64
Net operating investments	(496)	(380)	-116
Free operating cash flow	1,372	811	+561
Net balance of disposals (acquisitions) of subsidiaries and affiliates	(5,345)	(61)	-5,284
Contributions related to the reduction of the UK pension deficit	(98)	(98)	-0
Dividends paid	(463)	(382)	-81
New lease liabilities (IFRS 16)	(299)	-	-299
Exchange rates and other	(151)	(60)	-91
Change in net cash (debt)	(4,984)	209	-5,193
Net cash (debt) at start of period	3,181	2,971	
IFRS 16 lease liabilities at beginning of period	(1,507)	-	
Net cash (debt) at start of period, post IFRS 16	1,673	2,971	
Change in net cash (debt)	(4,984)	209	
NET CASH (DEBT) AT END OF PERIOD	(3,311)	3,181	

2.3.3 Order intake

2019 **order intake** amounted to **€19,142 million, up 19%** compared to 2018 (+4% at constant scope and exchange rate⁽¹⁾). The ratio of order intake to sales ("book-to-bill") stood at 1.04 compared to 1.01 in 2018 (and 1.05 excluding the Digital Identity & Security business, the ratio of order intake to sales of which is structurally very close to 1).

(in € millions)	2019	2018	Total change	Organic change
Aerospace	4,829	5,346	-10%	-11%
Transport	1,751	1,858	-6%	-7%
Defence & Security	9,906	8,570	+16%	+17%
Digital Identity & Security	2,573	205	NS	NS
TOTAL – OPERATING SEGMENTS	19,059	15,979	+19%	+4%
Other	83	55	+49%	+44%
TOTAL	19,142	16,034	+19%	+4%
Mature markets ^(a)	14,258	12,797	+11%	+1%
Emerging markets ^(a)	4,883	3,237	+51%	+19%

(a) Mature markets: Europe, North America, Australia, New Zealand. Emerging markets: all other countries. See table on page 37.

Thales booked **21 large orders with a unit value of over €100 million**, representing a total of **€4,522 million**:

- three large orders recorded in the first quarter of 2019, covering the acquisition of new mobile radars systems by the Dutch army, a support agreement for a European army, and the supply of equipment for helicopters of the Indian army;
- four large orders recorded in the second quarter of 2019 for the design of the ground segment of the Syracuse IV satellite, the delivery of on-board electronic systems for Belgian Scorpion vehicles (CaMo project), a major long-term maintenance contract for the French Air Force, and the design, as part of a consortium, of two geostationary satellites for Spain (SpainSat NG);

(1) Taking into account a positive currency effect of €105 million and a net positive scope effect of €2,310 million, essentially linked to the consolidation of Gemalto as at 1 April 2019 (Digital Identity & Security segment) and to the deconsolidation of the GP HSM business on 1 January 2019 (Defence & Security segment).

- two large orders recorded in the third quarter of 2019: the supply of the combat management systems for two military vessels and a contract to modernise satellite navigation systems for the French Army;
- 12 large orders booked in fourth quarter of 2019:
 - the construction of three commercial telecommunications satellites (Eutelsat 10B for Eutelsat, NileSat-301 for the Egyptian operator NileSat and Amazonas Nexus for the Spanish operator Hispasat),
 - a new tranche of the COSMO-SkyMed Second Generation (CSG) project for radar observation satellites for Italy,
 - central control and communications systems for the Sydney subway extension,
 - additional work as part of the project to modernise the signals on four lines of the London tube,
 - the major strategic electromagnetic reconnaissance aircraft programme of the French Armed Forces (Archange project),
 - an additional tranche in the development of the Rafale F4 standard,
 - the supply of on-board mission systems for British Type 31 frigates,
 - the installation of integrated sonar suites on board five Spanish F110 frigates,
 - the design of a new generation of sensors and systems for a large navy,
 - the development, supply and support of the Ground Fire radar for the French Army.

At **€14,620 million**, orders **with a unit value of less than €100 million** were up 28% over 2018 (+8% at constant scope), with a sharp increase in orders with a unit value between €10 million and €100 million (+18% at constant scope).

Order intake in the **Aerospace segment** totalled **€4,829 million** versus €5,346 million in 2018 (-11% at constant scope and exchange rate). This change reflects the drop in order intake in the Space and in-flight entertainment (IFE) businesses. Space order intake was down 14% over the year, despite several significant successes in the telecommunications satellite segment in the 4th quarter. At 31 December 2019, the order book stood at **€7.3 billion**, down 8%.

At **€1,751 million**, order intake in the **Transport** segment was down 7% from 2018 at constant scope and exchange rate. This change primarily reflects the effects of phasing in the award of large contracts (three large orders in 2018 and two in 2019). At 31 December 2019, the consolidated order book reached **€4.1 billion**.

Order intake in the **Defence & Security** segment was **€9,906 million** compared with €8,570 million in 2018 (+17% at constant scope and exchange rate), benefiting from robust orders of equipment for ships, fighter aircraft, military communications networks and several long-term maintenance contracts. The order book for this segment reached **€21.8 billion**, which is 2.6 years of sales, increasing visibility for the business in the coming years.

At **€2,573 million**, orders for the **Digital Identity & Security** segment are very close to sales, as the majority of the activities of this segment operate on short cycles. As a result, the order book is not relevant.

➤ ORDER INTAKE BY DESTINATION – 2019

(in € millions)	2019	2018	Total change	Organic change	2019 weighting as a %
France	5,372	5,183	+4%	+1%	28%
United Kingdom	1,730	746	+132%	+119%	9%
Rest of Europe	4,266	3,872	+10%	-1%	22%
Sub-total Europe	11,368	9,802	+16%	+9%	59%
United States and Canada	2,040	1,501	+36%	-9%	11%
Australia and New Zealand	850	1,494	-43%	-46%	4%
TOTAL MATURE MARKETS	14,258	12,797	+11%	+1%	74%
Asia	2,452	1,764	+39%	+12%	13%
Near and Middle East	1,293	952	+36%	+22%	7%
Rest of the world	1,139	521	+119%	+38%	6%
TOTAL EMERGING MARKETS	4,883	3,237	+51%	+19%	26%
TOTAL ALL MARKETS	19,142	16,034	+19%	+4%	100%

From a geographic perspective, order intake in emerging markets totalled €4,883 million and was up 19% at constant scope and exchange rate (+51% after the consolidation of Gemalto). At €14,258 million, order

intake in mature markets remained high (+1% at constant scope and exchange rate, +11% after the consolidation of Gemalto), driven primarily by the increase in defence budgets in a number of countries.

2.3.4 Sales

(in € millions)	2019	2018	Total change	Organic change
Aerospace	5,595	5,780	-3.2%	-4.2%
Transport	1,910	2,001	-4.5%	-5.8%
Defence & Security	8,265	7,828	+5.6%	+6.4%
Digital Identity & Security	2,552	192	NS	NS
TOTAL – OPERATING SEGMENTS	18,322	15,800	+16.0%	+0.7%
Other	79	55		
TOTAL	18,401	15,855	+16.1%	+0.8%
Mature markets ^(a)	12,858	10,960	+17.3%	+4.7%
Emerging markets ^(a)	5,543	4,894	+13.3%	-7.7%

(a) Mature markets: Europe, North America, Australia, New Zealand. Emerging markets: all other countries. See the table below.

2019 sales amounted to **€18,401 million**, compared to €15,855 million in 2018, an increase of 16.1% after the consolidation of Gemalto. Organic change (at constant scope and exchange rate⁽¹⁾) was +0.8%, with the decline in sales in the Aerospace and Transport segments masking the strong dynamic in the Defence & Security segment.

In the **Aerospace** segment, sales totalled **€5,595 million**, down 3.2% compared to 2018 (-4.2% at constant scope and exchange rate). This decline in sales was concentrated in the Space segment, which fell 13%. It reflects the slowdown in the commercial telecommunications satellite market combined with the end of certain military projects.

In the **Transport** segment, sales totalled **€1,910 million**, down 4.5% compared to 2018 (-5.8% at constant scope and exchange rate). This segment recorded exceptional growth in 2018 (+18% at constant scope and exchange rate), which reflected the peak load on 4 major urban

rail signalling contracts signed in 2015 and 2016 (London, Doha, Dubai and Hong Kong). Excluding these 4 contracts, 2019 sales recorded organic growth of +5%.

Sales in the **Defence & Security** segment totalled **€8,265 million**, up 5.6% from 2018 (+6.4% at constant scope and exchange rate). Many different businesses contributed to this momentum: air traffic control, optronics, systems for fighter aircraft, systems and services for military ships, military radio communications, cybersecurity, etc.

At **€2,552 million**, sales for the **Digital Identity & Security** segment were in line with the annual target (organic growth of 0 to 2%). It reflects the strong performance of EMV payment cards, the negative impact of the reorganisation of the HSM business, and the continued decline in sales of traditional SIM cards.

➤ SALES BY DESTINATION – 2019

(in € millions)	2019	2018	Total change	Organic change	2019 weighting as a %
France	4,461	3,985	+12.0%	+8.8%	24%
United Kingdom	1,297	1,253	+3.5%	-6.1%	7%
Rest of Europe	4,040	3,498	+15.5%	+2.3%	22%
Sub-total Europe	9,798	8,736	+12.2%	+4.1%	53%
United States and Canada	2,102	1,367	+53.7%	+6.9%	11%
Australia and New Zealand	958	858	+11.6%	+7.2%	5%
Total mature markets	12,858	10,960	+17.3%	+4.7%	70%
Asia	2,642	2,297	+15.0%	-5.3%	14%
Near and Middle East	1,601	1,647	-2.8%	-11.1%	9%
Rest of the world	1,301	950	+36.8%	-7.5%	7%
Total emerging markets	5,543	4,894	+13.3%	-7.7%	30%
TOTAL ALL MARKETS	18,401	15,855	+16.1%	+0.8%	100%

From a geographic perspective, this performance reflects solid growth in mature markets (+4.7% at constant scope and exchange rate), and a slowdown in emerging markets (-7.7% at constant scope and exchange rate) after several years of strong growth in these markets (organic growth of +10.3% in 2017 and +6.5% in 2018).

(1) The calculation of the organic change in sales is shown on page 33.

2.3.5 Adjusted results

For 2019, the Group posted EBIT⁽¹⁾ of **€2,008 million**, or **10.9%** of sales, compared to €1,685 million (10.6% of sales) in 2018.

(in € millions)	2019	2018	Total change	Organic change
Aerospace	521	580	-10%	-11%
<i>As % of sales</i>	<i>9.3%</i>	<i>10.0%</i>	<i>-0.7 pt</i>	<i>-0.7 pt</i>
Transport	56	88	-36%	-35%
<i>As % of sales</i>	<i>2.9%</i>	<i>4.4%</i>	<i>-1.5 pt</i>	<i>-1.4 pt</i>
Defence & Security	1,153	992	+16%	+21%
<i>As % of sales</i>	<i>14.0%</i>	<i>12.7%</i>	<i>+1.3 pt</i>	<i>+1.6 pt</i>
Digital Identity & Security	264	15	NS	NS
<i>As % of sales</i>	<i>10.3%</i>	<i>NS</i>	<i>NS</i>	<i>NS</i>
Total – operating segments	1,994	1,675	+19%	+4%
<i>As % of sales</i>	<i>10.9%</i>	<i>10.6%</i>	<i>+0.3 pt</i>	<i>+0.3 pt</i>
Other – excluding Naval Group	(50)	(53)		
Total – excluding Naval Group	1,943	1,623	+20%	+4%
<i>As % of sales</i>	<i>10.6%</i>	<i>10.2%</i>	<i>+0.3 pt</i>	<i>+0.3 pt</i>
Naval Group (35% share)	65	63	+3%	+3%
TOTAL	2,008	1,685	+19%	+4%
<i>As % of sales</i>	<i>10.9%</i>	<i>10.6%</i>	<i>+0.3 pt</i>	<i>+0.3 pt</i>

The **Aerospace** segment posted EBIT of **€521 million (9.3%** of sales), versus €580 million (10.0% of sales) in 2018. The margin decline in this segment primarily reflects the drop in sales and the increase in restructuring charges recorded in the Space business, combined with an increase in R&D investments in avionics.

EBIT for the **Transport** segment was **€56 million (2.9%** of sales) compared to €88 million (4.4% of sales) in 2018. The underlying margin improvement in this segment was hidden by the recognition in the first half of 2019 of two one-off charges totalling around €60 million related to an engineering transformation plan and additional costs incurred in the execution of an urban rail signalling project. Corrected for these one-off charges, the margin was around 6%, thus continuing to increase in line with the medium-term objective.

In the **Defence & Security** segment, EBIT improved significantly to **€1,153 million**, compared to €992 million in 2018 (+21% at constant scope and exchange rate). The margin for this segment was **14.0%** versus 12.7% in 2018. The substantial rise in margin was due to sales momentum, positive impacts of competitiveness initiatives, solid project execution and reversals of provisions on contracts at completion recorded in the first half, for approximately €40 million.

At **€264 million (10.3%** of sales), EBIT for the **Digital Identity & Security** segment was slightly higher than the target set in June 2019 (€240 to €260 million), reflecting lower than expected integration costs, partially offset by the negative impact of the reorganisation of the HSM business following the Gemalto acquisition.

The contribution of **Naval Group** to EBIT was stable at **€65 million** in 2019, compared to €63 million in 2018, in line with the 3% growth in its sales.

The increase in **net financial interest** (**-€43 million** versus -€7 million 2018) was due primarily to the recognition, pursuant to IFRS 16, of a financial interest expense of €27 million relating to lease liabilities. **Other adjusted financial income (expenses)**⁽¹⁾ remained low (**-€12 million** in 2019, compared to -€8 million in 2018). The **adjusted finance cost on pensions and other long-term employee benefits**⁽¹⁾ was stable at constant scope (**-€56 million** compared to -€52 million in 2018).

Adjusted net income, Group share⁽¹⁾ thus amounted to **€1,405 million**, up from €1,178 million in 2018, after adjusted income tax⁽¹⁾ of -€454 million compared to -€387 million in 2018. At 26.3%, the effective tax rate was down slightly compared to 2018 (26.7%).

Adjusted net income, Group share, per share⁽¹⁾ was **€6.61**, up 19% compared to 2018 (€5.55).

(1) Non-GAAP financial indicator, see definition in the Appendices, page 33, and calculation on pages 34 and 35.

2.3.6 Consolidated results

Income from operations

Income from operations amounted to **€1,283 million** compared to €1,403 million in 2018, a decrease of -8.5%. This decrease primarily reflects the entries for amortisation of acquired assets (PPA), which rose from €103 million to €528 million following the acquisition of Gemalto.

Income of operating activities after share in net income of equity affiliates

Income from operations after share in net income of equity affiliates amounted to **€1,644 million** compared to €1,475 million in 2018, an

increase of 11.5%. It benefited in particular from income on disposals of **€214 million, primarily due to the disposal of the GP HSM business**. It includes a share in net income of equity affiliates of €142 million, down 2%, with a contribution from Naval Group equivalent to its 2018 contribution.

Net income, Group share

Consolidated net income, Group share amounted to **€1,122 million**. It increased by 14%, driven primarily by the increase in income from disposals, changes in scope and other factors.

2.3.7 Financial position at 31 December 2019

In 2019, **free operating cash flow⁽¹⁾** amounted to **€1,372 million** compared to €811 million in 2018. This increase primarily reflects the increase in adjusted net income, Group share (+€227 million), an improvement in the change in working capital and the impact of IFRS 16 (+€203 million). As a result, the rate of conversion of adjusted net income, Group share, into free operating cash flow was 98%. This solid performance includes several non-recurring items that led to a decrease in working capital requirements, resulting in a negative impact of around €100 million.

At 31 December 2019, **net cash** totalled **-€3,311 million** versus €1,673 million at 31 December 2018, after taking into account the

lease liabilities introduced by IFRS 16, the distribution of €463 million in dividends (€382 million in 2018) and a net disbursement of €5,345 million linked to acquisitions and disposals completed during the year, corresponding principally to the acquisition of Gemalto and the sale of the GP HSM business.

Shareholders' equity, Group share totalled **€5,449 million**, compared to €5,700 million as at 31 December 2018, with consolidated net income, Group share (€1,122 million) not offsetting the distribution of dividends (€463 million), the increase in the net pension commitment (€454 million net of tax), and the purchase of the Gemalto non-controlling interests (€437 million).

2.3.8 Proposed dividend

On 25 February 2020, when it reviewed the 2019 financial statements, the Board of Directors had decided to propose to shareholders at the Annual General Meeting scheduled for 6 May 2020 the distribution of a **dividend of €2.65** per share, corresponding to a distribution rate of 40% of adjusted net income, Group share, per share.

In a spirit of responsibility *vis-à-vis* all Group stakeholders, and in order to preserve funding capacity if the Covid-19 crisis were to last, the

Board of Directors decided, during its meeting of 6 April 2020, to modify its 2019 dividend proposal.

In consequence, the dividend proposal submitted to the Annual General Meeting scheduled for 6 May 2020 will be limited to the interim **dividend of €0.60** per share already paid in December 2019, allowing the Group to avoid a cash outflow of around €430 million.

2.3.9 Outlook for 2020

On 26 February 2020, when the Full Year 2019 results were announced, and assuming a limited impact of the Coronavirus crisis based on the situation at that date, the Group set the following targets for 2020:

- as in 2019, a book-to-bill ratio above 1, benefiting from the solid trend in most of the Group's markets and the acceleration of growth initiatives;
- sales in the range of €19.0 billion to €19.5 billion⁽²⁾, including the continued normalisation in urban rail signalling sales and the momentum in Defence & Security and Digital Identity & Security;
- a further increase in EBIT margin, which should be between 10.8% and 11.0%, thanks to the continuation of the Ambition 10 competitiveness initiatives and the ramp-up of the cost synergies related to the acquisition of Gemalto.

The global environment in the first half of 2020 is profoundly changed by the Coronavirus pandemic, thus invalidating this financial outlook. This unprecedented health crisis affects Thales like all other companies. The measures implemented to limit contagion have a significant impact on the Group's production, project implementation and supply chain. In addition, this crisis affects demand across the Group's markets. The greatest impact is expected to be on civil aviation businesses, which generated sales of approximately €2.15 billion in 2019.

At the date of filing this 2019 Universal Registration Document, it is impossible to quantify the financial impact of this crisis on the Group's financial statements. The impact will depend in particular on the scope, duration and depth of the crisis, as well as the potential catch-up effects at the end of the year.

As soon as it is able to do so, Thales will provide an update on the impact of this crisis on its financial statements and adjust its financial targets.

(1) Non-GAAP financial indicator. See definition on page 33.

(2) Based on February 2020 scope and foreign exchange rates.

2.4 INVESTMENTS

Targeted investment in R&D, property, plant and equipment, and intangible assets as part of acquisitions, as well as the purchase of equity interests, are all major factors advancing the Group's development strategy.

2.4.1 Investments in R&D

Research and development is one of the Group's core activities and is key to its differentiation and competitiveness. It involves almost 40% of the Group's workforce. A description of the principal R&D areas can be found in section 2.2.2, page 29.

The vast majority of R&D investment is recorded directly as expenses in the Group's income statement. As described in Note 4.2 to the consolidated financial statements, the Group capitalised €26.5 million in development costs in 2019 and, as at 31 December 2019, the net carrying amount of capitalised fixed-asset development costs amounted to only €58.6 million.

A significant portion of R&D investment is carried out as part of contracts with customers, particularly institutional space and military contracts. Only self-funded R&D expenditure is recorded separately in the income statement.

Over the past three years, to support its Ambition 10 strategic plan, the Group decided to increase its self-funded R&D expenditures, which totalled €1,097 million in 2019, up 50% over 2016 (+25% excluding the impact of the Gemalto acquisition).

(in € millions)	2017	2017 restated for IFRS 15	2018	2019
Sales	15,795	15,228	15,855	18,401
R&D expenses shown on the IFRS income statement	802	802	881	1,099
Expenses excluded from the adjusted income statement	-5	-5	-2	-1
R&D expenses shown on the adjusted income statement	797	797	879	1,097
<i>As % of sales</i>	<i>5.0%</i>	<i>5.2%</i>	<i>5.5%</i>	<i>6.0%</i>

Self-funded R&D expenditure growth is focused for the most part on the development of cross-functional digital expertise (cybersecurity, artificial intelligence, big data analytics, digital factory implementation) and the design of "dream" products – new, highly innovative products with major market potential. In 2019, these initiatives were primarily concentrated in the Aerospace operating segment, with the development of innovations

in avionics (new avionics suites, connected in-flight entertainment) and space platforms (Space Inspire, digital processors).

In the coming years, the Group expects its self-funded R&D expenditures to continue to rise, reaching between 6.3% and 6.5% of sales by 2023.

2.4.2 Operating investments

The Group's operating investments cover three main categories: technical and production investments, building investments and investments in information systems.

(in € millions)	2017	2017 restated for IFRS 15	2018	2019
Sales	15,795	15,228	15,855	18,401
Acquisitions of property, plant and equipment and intangible assets	439	439	393	503
Disposals of property, plant and equipment and intangible assets	-8	-8	-13	-7
Net operating investments	431	431	380	496
<i>As % of sales</i>	<i>2.7%</i>	<i>2.8%</i>	<i>2.4%</i>	<i>2.7%</i>

The stability of investments as a percentage of sales between 2017 and 2019 is primarily due to the reduction in real estate investments, offset by an increase in investments in information systems (including ERP upgrades), as the Group exercises strict control over its investments.

2.4.3 Acquisitions and equity investments

To support the Ambition 10 strategic plan, the Group is continuing its targeted acquisitions policy to strengthen its technology portfolio and boost its potential for growth. This strategy accelerated significantly with the acquisition of Gemalto, which was announced in December 2017 and completed in 2019.

(in € millions)	2017	2018	2019	Total 2017-2019
Investments in subsidiaries and affiliates, net	121	72	4,980	5,173
Disposals of subsidiaries and affiliates, net	-42	-11	-364	-417
Net balance of acquisitions and disposals	80	61	4,616	4,757

Acquisitions in 2017

In 2017, the main investment recorded was the net cash outflow of €91 million incurred when finalising the acquisition of the American company Guavus, one of the pioneers in real-time “big data” analytics.

At the same time, the Group received the proceeds from the disposal of its identity management business, which was finalised in May 2017.

Acquisitions in 2018

In 2018, the Group's significant investments were the acquisition of Cubris, a leader in main line train assisted driving systems, a key technology for future autonomous trains, and the acquisition by Thales Alenia Space of a stake in the American company Spaceflight Industries as part of the BlackSky satellite constellation project using big data analytics technologies.

Acquisitions in 2019

In December 2017, Thales and Gemalto announced the signing of a merger agreement including a cash offer of €51 per share (cum dividend) for all Gemalto shares with an equity value of approximately €4.8 billion. This major acquisition was finalised on 2 April 2019. In October 2019, following a judgement by the Court of Appeal in Amsterdam, the Group was able to purchase all shares still outstanding on that date, bringing Thales's percentage of Gemalto shares to 100%. More details can be found in section 2.5.

Meanwhile, to comply with the demands of several competition authorities, Thales announced in February 2019 that it had signed a definitive agreement to sell its global GP HSM (General Purpose Hardware Security Modules) business. The sale, which was finalised in early June 2019 for €362 million, led to the recognition of a gain from the disposal of €223 million.

In January 2019, Thales finalised the €100 million acquisition of Ercom, a company specialising in communication and device security, and Suneris, which provides solutions for the supervision and control of telecommunications network traffic.

The Group continues to seek targeted acquisitions to complement its digital strategy. It is concentrating on strengthening its expertise in the four key digital technologies identified in its main business areas – connectivity, artificial intelligence, big data analytics and cybersecurity.

2.5 ACQUISITION OF GEMALTO

The acquisition was finalized at the beginning of April 2019 and Gemalto has been consolidated since that date. The Group has held 100% of Gemalto shares since October 2019.

Strategic rationale and priorities

Unique strengthening of the Group's digital positioning

The integration of Gemalto allows Thales to significantly accelerate its digital strategy.

It further differentiates the Group's business portfolio by adding unique expertise in three key technology areas related to digital security: biometrics and digital identity, secured connectivity for the Internet of Things (IoT) and data protection and encryption.

These competencies, which are essential for the end-to-end security of critical decision-making chains as they are digitised, meet growing needs in an increasingly more connected world and have applications in all Group markets.

In the first months following the integration, the teams identified application opportunities in a number of the Group's product lines, from the pooling of cybersecurity skills, development in the security of airports, cities or critical sites, and the management and surveillance of drones to the implementation of the Internet of Things in the military sector or rail signalling.

The entire Group has been mobilised to identify a maximum number of synergies using a rigorous framework. At the end of 2019, several hundred specific customer opportunities had been identified, capitalising on Thales's global business presence. The Group estimates that by 2023, the incremental sales driven by the Gemalto acquisition (revenue synergies) will be between €300 million and €500 million, with a potential for significantly higher sales.

Expanding portfolio in fast-growing digital identity and security markets

With the acquisition of Gemalto, Thales has become the global leader in the digital identity and security market. This market, at the intersection of cybersecurity and the secure identification solutions for objects and people, offers high growth potential of around +10% per year until 2023, driven by the development of digital solutions and services.

The Group is implementing a differentiated development strategy in these markets:

- targeting high-value opportunities in the fast-growing segments: embedded SIM (eSIM) software and services, data protection in the cloud, public and commercial biometrics, secure IoT connectivity for the most critical industrial applications;
- strict cost control and value maximization in the mature smart card businesses.

This strategy benefits from strong synergies with the rest of Thales, thanks to the creation of an undisputed leader in data protection solutions and the Group's close ties with its customers in its five major markets.

Offer execution and integration

Once the project had been announcement, teams at Thales and Gemalto simultaneously worked on two different workstreams: completing the transaction and preparing for Gemalto's integration with Thales.

In early 2018, funding for the transaction was secured through a €1.5 billion bond issue.

At the end of March 2018, the offer document containing the terms and conditions and implications of the offer was approved by the Netherlands Authority for the Financial Markets (AFM) and published, thus opening the offer to Gemalto shareholders.

Between March 2018 and the summer of 2019, Thales and Gemalto obtained all the regulatory authorisations required.

The acquisition of shares took place in two steps: in March and April 2019, 97% of the Gemalto shares were tendered in the public offer. In October 2019, as part of a mandatory squeeze-out on the Gemalto shares, Thales purchased all shares still outstanding on that date, thus raising its holding percentage of Gemalto shares to 100%.

At the same time, detailed plans had been prepared for the integration process, structured by a dedicated project management office, with a view to maximizing synergies as soon as the acquisition was finalised. Several hundred people at both Groups were involved in preparing this integration.

In order to comply with the requirements of certain competition authorities, in June 2019, Thales sold its global GP HSM (General Purpose Hardware Security Modules) business.

Once the acquisition was finalised, Gemalto became Thales's 7th global business unit, known as "Digital Identity and Security". In addition to Gemalto's operations, this segment also includes certain digital activities formerly assigned to the Defence & Security segment, especially in protection and analysis of corporate data. A new operating segment of the same name was added in Note 2 of the financial statements.

Financial targets

When it announced the planned acquisition in December 2017, Thales set three financial targets:

- a target for annual pre-tax run rate cost synergies;
- a target for an increase in adjusted EPS: between 15% and 20% before taking synergies into account, as of the first year post closing;
- a target for return on capital employed for the transaction, including synergies, which was expected to exceed Thales's cost of capital within three years after the transaction closed.

In October 2019, five months after the acquisition was finalised, Thales presented in detail the strategy and targets assigned to the DIS operating segment (including Gemalto), including organic sales growth of around 4% to 6% per year between 2020 and 2023 and an EBIT margin of 12.5% to 13.5% by 2023. These targets include only a portion of the synergies expected at Group level since, when fully operational, around one third of the cost synergies and around two thirds of the revenue synergies should be recorded by the other operating segments.

In addition, the cost synergies target was updated on the basis of the most recent action plans, taking into account the disposal of the GP HSM business. It was therefore set at around €120 million on a run-rate basis (2022).

At the end of February 2020 when the 2019 financial statements were published, Thales estimated that this merger had already generated approximately €25 million in cost synergies in 2019.

The Group also estimates that, taking into account Gemalto's Q1 2019 EBIT and an effective tax rate of 22% for Gemalto, the transaction led to a 16% increase in adjusted EPS in 2019 (before taking into account the synergies and integration costs), which is in line with the target set at the time the project was announced.

More information on Gemalto's business is provided in section 2.1.4.

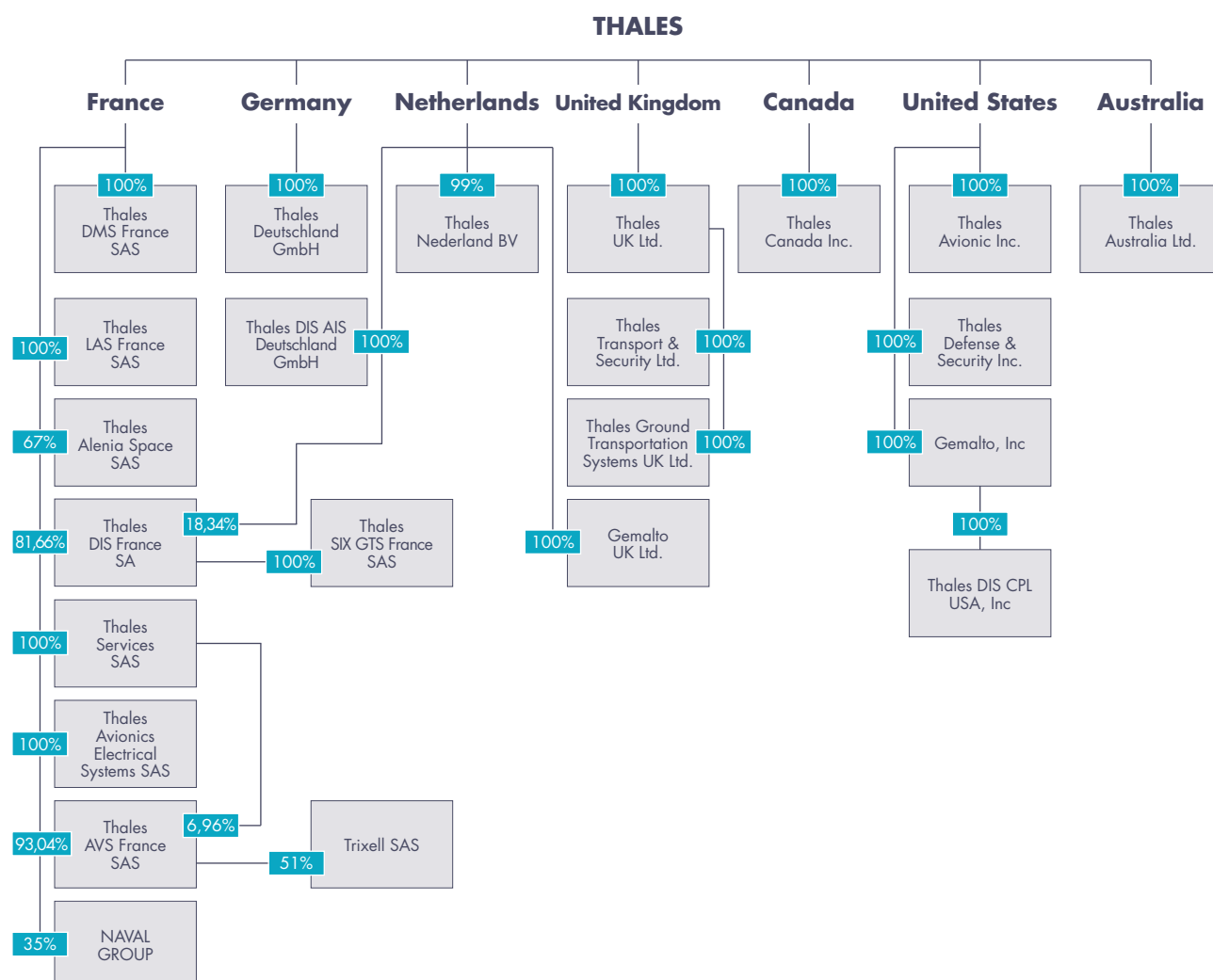
2.6 GROUP STRUCTURE

2.6.1 Relations between Thales and its subsidiaries

2.6.1.1 Simplified organisational chart at 31 December 2019

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 Naval Group).



2.6.1.2 Role of Thales (parent company) within the Group

Thales (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, commercial policy, legal and financial policy, operational control, human resources policy and communications;
- it provides subsidiaries with specialised 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, Thales (parent company) conducts its own research, described starting on page 29.

A list of the main consolidated companies can be found below.

2.6.1.3 Financial flows between Thales (parent company) and its subsidiaries

Thales (parent company) receives dividends from its subsidiaries, as approved by their respective Annual General Meetings, 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 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, Thales (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.

2.6.2 Information about major operational subsidiaries and manufacturing sites

2.6.2.1 List of main consolidated companies

A list of the main consolidated companies can be found in Note 23 on page 260 of the Group's consolidated financial statements.

2.6.2.2 Major manufacturing sites

At end-2019, there were 15 sites employing more than 1,000 staff.

At 31 December 2019	Headcount	Ownership status	Area (m ²)
France			
Bordeaux (Sud-Ouest)	2,701	Owned/leased	60,000
Brest (Brittany)	1,840	Leased	56,000
Cannes (Provence)	2,112	Owned/leased	84,000
Cholet (Pays de la Loire)	1,795	Leased	53,000
Gennevilliers (Île-de-France)	4,116	Leased	90,000
Élancourt (Île-de-France)	4,206	Leased	104,000
Rungis (Île-de-France)	1,280	Leased	23,000
Sophia (Provence-Alpes-Côte d'Azur)	1,105	Owned	40,000
Toulouse (Sud-Ouest)	4,775	Owned/leased	142,000
Vélizy (Île-de-France)	4,908	Leased	125,000
United Kingdom			
Crawley	1,790	Leased	26,130
Netherlands			
Hengelo	1,643	Owned	87,000
Australia			
Sydney	1,165	Leased	84,327
Germany			
Stuttgart	1,675	Leased	59,000
Canada			
Toronto	1,122	Leased	20,500
Singapore			
Singapore	2,396	Owned/leased	39,000

RISK FACTORS, INTERNAL CONTROL AND RISK MANAGEMENT



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The Group supplies complex systems, products and equipment, which by their nature are often critically important to its government or corporate customers worldwide. It contends with three main types of risk: operational and strategic risk, legal and regulatory risk, and financial risk.

This chapter describes these risks and the environment in which they are managed, in accordance with Article L. 225-100-1-I, paragraphs 3 to 6 of the French Commercial Code, and Regulation (EU) 2017-1129 of 14 June 2017 repealing Prospectus Directive 2003/71 (EC) of 4 November 2003 (the Prospectus Regulation). It has also been prepared in consideration of the Guidelines on risk factors under said Prospectus Regulation issued by the ESMA on 1 October 2019 (ESMA 31-62-1293). It was approved by the Board of Directors at its meeting on 25 February 2020 and, with regard to the risk related to the COVID-19 pandemic, at its meeting on 24 March 2020.

Some of the risks listed in this chapter are covered in the Group's Non-Financial Performance Statement and identified by the acronym "NFPS". The procedures for managing them are described in chapter 5.

Thales is exposed to various risks and uncertainties which could affect its business, reputation, profitability or ability to achieve its financial objectives. To address these risks and uncertainties, the Group:

- is committed to identifying sources of risks as early as possible in an effort to better control the consequences of those risks;
- relies on a proactive and coherent system of risk identification and management covering all of its functions, and performs an annual mapping of the risks to which it is exposed.

The Group's risk management is consistent with the framework recommended by the AMF; it is a Thales management lever which helps to:

- **Create and preserve the value, assets and reputation of the Group**

Risk management identifies and analyses the main threats and potential opportunities to which the Group is exposed. By anticipating the potential impact of these risks, it is intended to more effectively preserve the value, assets and reputation of the Group.

- **Secure the Group's decision-making and processes to help it achieve its objectives**

Risk analysis is designed to identify the principal events and situations which could significantly impact the achievement of the Group's objectives. Controlling such risks helps to achieve those objectives.

Risk management is integral to the Group's decision-making and operational processes. It is one of the tools for steering and assisting in decision-making. It gives executives an objective and comprehensive vision of potential threats and opportunities to which the Group is exposed, enabling them to take measured and considered risks and guiding them in their decisions on the allocation of human and financial resources.

- **Promote the consistency of action with the values of the Group**

The Group's approach to risk management is consistent with its values, particularly with regard to the strict compliance of its business activities with national and international rules and legislation.

- **Involve the Group's employees in a shared vision of the main risks and make them aware of the risks inherent in their work**

Thales applies its corporate risk management and internal control approach in the companies which it controls and which are fully consolidated. The Group's insurance policy (see section 3.4.1 b), which is centralised, covers the same scope.

These internal control and risk management processes contribute to the achievement of the Group's objectives without providing an absolute guarantee because of the limitations inherent in any system, such as the need to take into account the cost/benefit ratio leading to acceptance of a certain level of risk, and due to external uncertainties beyond the Group's control.

This section sets out what Thales considered to be the main risks at end-2019. It was prepared on the basis of the conclusions from the risk management, internal control and internal audit work carried out by the Group in 2019. The results of this work were reviewed at the various meetings of the Risk Assessment Committee and the Risk Management Committee (see section 3.4.2) during the year, as well as at meetings of the Audit and Accounts Committee held in 2019.

The work allows residual risks, as estimated by the Group at end-2019 after the deployment of risk control resources and actions, to be ranked by criticality (high/moderate/low). The impact of each risk is combined with the likelihood of its occurrence or whether it is short, medium or long term:

Low residual criticality	Moderate residual criticality	Significant residual criticality
Protecting the environment Protecting intellectual property Liquidity, interest, exchange rates and customer credit Investment management Pension commitments	Attracting, developing and retaining talent Consolidation of Gemalto Dependence on suppliers Cybersecurity Compliance	Economic and geopolitical environment Competitive positioning of products and services Contract execution

Furthermore, for each of the risk types described above (operational and strategic risk, legal and regulatory risk, and financial risk), the residual risk estimated by the Group to be the most critical at end-2019 following the deployment of risk control resources and actions, was put at the top of the list.

3.1 OPERATIONAL AND STRATEGIC RISKS

3.1.1 Risks related to the global economic and geopolitical environment

Residual criticality: significant

Risk identified

Thales generates a significant share of its business from governments, particularly in the defence markets in many countries. In these markets, public spending is dependent on political and economic factors and is therefore likely to fluctuate from one year to the next. A reduction in the budget resources of government customers could, for example, generate delays in order booking, contract execution and payments, or mean a cut in funding for research and development programmes.

A significant proportion of Thales's revenues is subject to the risk of political instability in the countries in which the Group operates. The materialisation of these risks may affect the Group's business and profitability.

In particular, a change in government, a major political event, the development of protectionist policies, armed conflict, acts of terrorism, sharp deterioration in the balance of payments, industrial action, strikes, protests, climatic events or pandemics could lead to various types of risks: hardening of export control rules, ban on trading, ban on delivery, more restrictive currency control, impairment of assets, expropriation or the forced sale of Thales's interest in a company, a security situation which prevents Thales from meeting its performance obligations, an unexpected breach of a contract or commitment, an unfair call of a bond or a guarantee, or the non-certification of documents required for payment.

Brexit

The United Kingdom's decision to leave the European Union ("Brexit") could result in a downturn in the country's economic and budget situation, increased volatility of the pound sterling against the euro, and a change in the rules governing the movement of goods and persons between continental Europe and the United Kingdom. This negative context could impact the business activity and profitability of Thales, which generates 7.1% of its Group revenues in the UK and employs around 6,600 people in the country.

Monitoring and management of the risk

Thales has based its strategy on a balanced portfolio of defence and civil operations (45% and 55% respectively).

The overall solidity of the portfolio is also underpinned by a large, diversified order base with a unit value of less than €100 million.

The broad geographic spread of the Group's business, particularly through its international operations, ensures further diversification of its customer base.

Thales manufactures and sells products in a very large number of countries and is able to adapt to varied or changing regulatory environments.

Thales has set up teams that specialise in the financial engineering of contracts to identify and analyse the risks and to determine how they can be reduced. Thales can use public or private insurers in this context to hedge the risk of contract termination, credit risk or the risk of unfair call of a bond. It can also make use of financial instruments such as notified or confirmed letters of credit, receivables discounting without recourse or export credit facilities.

Brexit

Thales has set up a team coordinating all the units concerned in an effort to anticipate the operational consequences of Brexit to the best of its ability and minimise its impacts.

The impact on ongoing programmes of any temporary ban on the movement of goods between the EU and the United Kingdom has been assessed and contingency measures have been taken to mitigate any effects of this (early deliveries, build-up of stocks, certification of British suppliers, etc.).

The Group has also established a monitoring unit which (in collaboration with the authorities, either directly or through professional associations) is tracking the tax, legal and regulatory changes so that it can take the necessary steps ahead of time to control any impact of these measures.

The prospect of an orderly exit governed by an agreement that includes a transition period reduces the risks of disruption to project execution that a lack of a regulatory or commercial framework could trigger.

Risk identified

Covid-19 pandemic

The SARS-CoV-2 coronavirus (which causes a viral disease officially named COVID-19) appeared in China in November 2019 and was declared a pandemic by the WHO on 12 March 2020. This unprecedented health crisis has affected all companies, including Thales. Three separate types of risks have been identified:

- risks related to demand (with a decline in orders and a corresponding drop in sales);
- risks related to supply chain issues (impacting production capacity and client delivery);
- risks related to production and project implementation, especially in light of the health measures put in place to ensure the safety of personnel at all sites worldwide.

Demand for all Group solutions could be affected in the short term by this crisis and by the measures adopted to limit the spread of the virus.

The most impacted businesses are expected to be those related to civil aviation (avionics, electrical systems, in-flight entertainment systems), which generated sales of approximately €2.15 billion in 2019, of which roughly €750 million of aftermarket (directly related to air traffic volume). This crisis is also expected to cause airlines to postpone some orders for in-flight entertainment systems.

The resulting disruptions could also increase liquidity risk, which is described in section 3.3.1 a).

Monitoring and management of the risk

Since this crisis began, the Group has made it an absolute priority to protect the health of its employees, their families, its customers and the general public.

To minimise the spread of the virus, the Group is applying the directives of the governments in the different countries where it operates. Work organisation is adapted in accordance with health authority recommendations. Telecommuting is implemented whenever possible.

The Group's management is constantly monitoring the situation and, whenever possible and in strict compliance with health guidelines, is working to ensure the continuity of its operations in order to serve its customers. The Group is working with all its customers to minimise the impact of the crisis on their operations.

At this stage, it is impossible to quantify the financial impact of this crisis on the Group's financial statements.

3.1.2 Risks related to the competitive positioning of products and services

Residual criticality: significant

Risk identified

The product and service lines developed by the Group must be periodically improved or redesigned to keep pace with market trends and to improve competitiveness, in particular by offering modular architectures and variability that allow for adaptations to be made competitively so that each customer's specifications can be met.

Poor anticipation of demand (volume, operating performance or target cost), bad adaptation of a design or business model, and inaccurate estimation of development costs or market launch times may result in sales or profitability being lower than projected or in the impairment of inventory for certain products or services.

The markets in which Thales operates are sensitive to factors such as rapid changes in technologies, business models, or standards and regulations.

Digitalisation, while a key growth lever for the Group, could also lead to delays in orders due to a wait-and-see attitude on the part of the customer, to market disruptions or business model changes, or to the emergence of new competitors in all Thales business activities.

The developments in the following markets are an illustration of this:

- the telecommunications satellite market is affected by constant technological developments resulting in a decrease in the Megabyte transmission cost. In particular, uncertainties remain on the interplay between new constellation models and the more traditional satellites in high orbit which are also becoming increasingly technologically advanced, enabling higher capacity and highly reconfigurable solutions to be offered ;
- in connection with the development of its activities related to in-flight broadband on passenger aircraft, Thales entered into a strategic agreement with SES from 2016 to 2028 for an annual programme to purchase bandwidth for a predefined amount. The profitability of this business could be affected if the sale of broadband services were to be significantly lower than forecast for several consecutive years ;
- with regard to SIM cards, online solutions (e-SIM) that will replace or supplement the Group's offering may not boost growth at the level or pace expected.

Monitoring and management of the risk

The Global Business Units and Business Lines, which are responsible for the product policy and R&D within their scope, are organised by markets to achieve coherent management of innovation efforts and a consistent response to customer needs.

Product line development is based on a dedicated procedure and organisational structure that are separate from bid and project management.

The Group develops and provides its entities with methodologies, an environment, a range of systems, software and hardware engineering tools appropriate to the different levels of complexity of its products and solutions.

Every year, the Group updates its strategic, industrial and technological plans to ensure that supply matches demand, its product portfolios are relevant and competitive, it remains an expert in key technologies and its industrial resources are optimised.

The diversity of the Group's business activities, the depth of its technology portfolio, its openness to global innovation ecosystems (universities, start-ups and incubators) are strengthening its ability to adapt to the changes in its markets.

In the digital domain, the Group has for several years now been pursuing an action plan structured around:

- expertise in key digital technologies by capitalising on fast-growing R&D investments and an active acquisition strategy. To this end, the contribution of Gemalto's businesses and technologies in 2019 will benefit the entire Group ;
- the Digital Factory, which is also accelerating the Group's digital transformation with teams based in Paris, Montreal and Singapore and is currently merging with the Group's engineering function to improve permeability between the disciplines ;
- partnerships with customers to support their digital transformation.

3.1.3 Risks related to contract execution

Residual criticality: significant

Risk identified

A significant proportion of Thales's business takes the form of long-term projects which are won in what is sometimes a highly competitive process.

These projects:

- can be highly complex in terms of technology ;
- must meet operational, regulatory or contractual requirements which are extremely demanding or difficult to achieve ;
- may have to deal with unexpected contingencies during the implementation phase.

Their contractual structure (contractorships for major systems, consortia, joint ventures, public-private partnerships, and so on) may also add constraints and complexity.

While these contracts are generally entered into on the basis of a fixed, lump-sum selling price, their term and actual development and manufacturing costs may significantly exceed what was estimated during the bidding phase, which in turn may adversely impact Thales's results and financial position. In the event of failure to achieve the required performance or meet the scheduled timetable, customers can also sometimes demand payment of penalties, or even terminate the contract.

Since the most complex contracts run over several years, in accordance with current accounting standards, their economic contribution to the Group's results over a given year may be based on an estimate of the costs at completion which can be corrected later.

Monitoring and management of the risk

Group bids and projects management is subject to a detailed risk assessment and management process which is continually being enhanced.

- A criticality ranking enables the corporate management of the operational entities (Business Lines, Global Business Units, Group corporate management) to monitor and approve bids and projects with the most risk attached to them.
- During the bidding phase, the management of commitments is helped by independent peer reviews and by the involvement of the functions (Technical, Engineering, Purchasing, Production, Legal and Contracts, Finance and Quality). The solution being proposed is verified to ensure it meets the customer's requirements and is in line with a product policy.
- During the execution phase, regular reviews prepared using a Group-wide format measure the technical, contractual and financial progress of each contract; particular attention is paid to changes in costs at completion and to the implementation of corrective action plans.
- Training: at the end of 2019, more than 1,600 of the Group's bid and project managers or Programme Management Office managers were certified jointly with the International Project Management Association (IPMA).

More generally, the Ambition Boost performance plan, designed to improve the Group's performance, provides a common framework within which the units can implement plans and initiatives suited to their own issues in terms of performance improvements. Corporate management regularly reviews the progress of the main initiatives, namely:

- achieving the savings expected following the introduction of an integrated Purchasing organisation ;
- making engineering more competitive with the worldwide roll-out of shared procedures and tools, rolling out international centres of excellence (Romania, India, etc.) and strengthening key competencies ;
- improving the efficiency of support functions by using optimised operating methods equipped with better tools and focusing on high value-added activities, plus setting up shared services ;
- giving more responsibilities to the project team, checking that procedures are applied, especially when it comes to managing risks and opportunities, and anticipating what resources will be required.

Risk identified**Monitoring and management of the risk****3.1.3 a) Offsets**

Winning major contracts, in particular those in the defence sector, may be contingent in certain countries on making a commitment to implement local offsets which may be direct (the execution of parts of the contract by local manufacturers), semi-direct (location in the customer country of Group activities which are not directly related to the execution of this contract), or indirect (local investments, training, industry, etc.) in domains outside Thales's principal business portfolio. The Group's ability to factor the offset dimension into its proposals can also be a major source of differentiation and, as such, have a decisive impact on its commercial success.

Non-fulfilment of contractual obligations by the requisite deadlines may expose the Group to penalties, the payment of which does not always release the obligor from its obligations. It can even compromise the Group's capacity to expand its activities in a given country.

Thales's order intake in recent years (particularly the order for the Rafale fighter aircraft placed by the Indian authorities in 2016) has led to a substantial increase in its offset commitments.

Thales units which export to a destination country with an offset policy are responsible for implementing the offset commitments entered into during the bidding phase and for managing their implementation.

The Group has set up specific central organisations to:

- coordinate the direct offsets policies between exporting units and destination countries or regions;
- manage certain semi-direct offsets;
- ensure through delegated units that indirect offset commitments are implemented, a task entrusted to a permanent management structure called Thales International Offsets.

3.1.3 b) Customer satisfaction

Given that Thales operates in markets that sometimes have a structurally limited number of customers, the dissatisfaction of one customer could have significant consequences.

Major dissatisfaction for whatever reason (delivery delays, inadequate quality or performance, poor understanding of the issues involved, lack of proximity, and so on) could damage confidence in Thales, harm its image and cause it to lose market share.

Restoring the Group's image and positions could require investment and sales efforts.

Thales has introduced a system for gauging its customers' concerns at all times, at a number of different levels:

- a sales network of Key Account Managers who are in close proximity to customers and in ongoing dialogue with them;
- a Quality & Customer Satisfaction organisation which liaises directly with customer Quality representatives throughout the contracts;
- regular independent surveys to assess customer satisfaction and confidence and to take corrective action where necessary;
- initiatives aimed at constantly strengthening the Quality culture and ensuring that teams are customer-centric.

3.1.4 Risks related to the Group's attractiveness and to talent development and retention

Residual criticality: moderate

Risk identified**Monitoring and management of the risk**

The Group's short-and medium-term performance is highly dependent on its ability to recruit, in a timely manner, manage, retain and motivate the talent and skills required to conduct and develop its activities, especially in R&D and the engineering, software and digital sectors.

If Thales were unable to be sufficiently attractive to acquire, retain and develop such talent, its revenues and operating profitability could be negatively impacted.

For a number of years now, the Group has been developing an active human resources management policy aimed at making it more attractive, encouraging integration and developing talent. Details of this can be found in section 5.4.1.

As part of this effort, Thales has revamped and rolled out its employer brand in all the countries in which the Group aims to expand. It conducts promotional campaigns and forms partnerships with major schools and universities on a regular basis.

3.1.5 Risks related to the consolidation of Gemalto

Residual criticality: moderate

Risk identified

In 2019, Thales completed the acquisition of Gemalto, a company with revenues of €3 billion and 15,000 employees in 48 countries.

The businesses from Gemalto, along with the Thales e-Security businesses that were kept by the Group and Guavus's business, now constitute the new Digital Identity & Security (DIS) Global Business Unit. Integrating all these businesses into Thales could prove more difficult and take longer than envisaged, fail to produce all the expected cost and revenue synergies and other benefits, result in a loss of talent, or require more significant involvement by senior managers and the teams concerned and, in turn, negatively impact the Group's results and financial position.

Furthermore, as these businesses are currently transitioning to Thales's management rules and principles, there could be an impact on how their risks are managed.

Lastly, if the actual financial performance of these businesses were to diverge significantly from the business plans on which Thales's investment decisions were based, the Group may have to impair goodwill and other intangible assets, thereby negatively impacting Thales's results and financial position.

Monitoring and management of the risk

As with any external growth or strategic alliance project, the Group performed detailed strategic analyses of Gemalto's businesses before launching its takeover bid, knowing that pursuant to the regulations in force for listed companies, due diligence was still limited.

The deployment of management processes and rules and the achievement of synergies are monitored by an integration Steering Committee (primarily composed of a number of Thales Executive Committee members), supported by a specific project team and, where appropriate, external advisors.

The businesses from the Gemalto acquisition are gradually being internally audited: in 2019, a total of 18 audits were carried out within DIS. The main audit reports are sent to the Group's corporate management and are summarised for the Audit and Accounts Committee.

3.1.6 Risk of dependence on suppliers

Residual criticality: moderate

Risk identified

Purchasing spend represents a substantial portion of Thales's business, whether in the areas of manufacturing, services, equipment or subsystems, and equals almost half its sales. Thales is therefore exposed to an excessive risk of dependence with respect to some of its suppliers which could affect its performance and profitability.

This excessive dependence can take several forms:

- dependence on critical technology, particularly in the case of an exclusive supplier. Bringing on board an alternative source in the event that the supplier in question ceases trading could affect the Group's performance (e.g. in aerospace, where the time required to requalify a supplier and the associated cost could be considerable);
- supply difficulties: the concentration or imbalance between supply and demand in some markets could create supply problems likely to affect the Group's performance and prevent the Group from getting its supplies on favourable terms and at favourable costs;
- economic dependence, if Thales's purchasing spend were to represent more than 50% of a supplier's sales; measures to move away from that supplier could affect the Group's performance.

Monitoring and management of the risk

Faced with an excessive risk of dependence, Thales has introduced a number of preventative or corrective measures that are coordinated by the Purchasing Department:

- searches for dual sources by technology family;
- periodic build-up of adequate stock levels;
- regular assessment of supplier markets to measure supply source concentration levels;
- monitoring of the supplier commitment rate (amount of Thales's purchase orders relative to the supplier's annual sales). When that rate exceeds 50% for more than two consecutive years, an action plan coordinated with specifiers and internal users is drawn up to reduce it;
- monitoring of the supplier's implementation of the risk control measures identified at the time of the supplier's selection.

In addition to these measures, Thales has strengthened the supplier evaluation, qualification and operational performance management process, in particular to better identify suppliers' structural risks; supplier evaluation audits now cover a broader scope (quality control systems, industrial maturity, flow optimization, compliance with environmental regulations, expertise in the business's technical and technological processes, financial soundness, etc.) allowing for more in-depth risk analysis.

3.1.7 “Cyber” risks

Residual criticality: moderate

Risk identified

Monitoring and management of the risk

3.1.7 a) Cybersecurity of the Group’s information systems

The Group operates – whether directly or through service providers – complex information systems and infrastructures that are essential to the smooth running of its commercial, industrial and financial processes. These information systems include management, development and engineering systems as well as platforms operated on behalf of its customers and must be protected against any malfunctions, malicious acts or human error. The malfunction or failure of these systems may have external causes (viruses or other malware and computer hacking, network failures, etc.) or internal causes (malicious acts, breaches of data confidentiality, human error or negligence, obsolescence). Any such malfunction or failure can have an impact on the Group’s operations and its financial results.

The Group has implemented multi-year plans to develop its protection measures in order to deal with part of its information systems being temporarily or permanently unavailable, as well as any cybersecurity threats to these systems. These plans are managed by an organisation dedicated to information system security and include regular audits to confirm the measures’ effectiveness.

A plan to protect against risks related to cybersecurity has been defined and implemented in the countries where the Group currently operates. Based on ongoing risk analyses, this plan drives the constant adaptation of the means of protection already in place, and introduces new measures to heighten protection against cyber-sabotage, cyber crime or cyber espionage attacks. This includes monitoring system vulnerabilities and simulating intrusions.

The plan also includes the implementation of centres for monitoring threats, known as “Cybersecurity Operation Centres” coordinated at global level, so that operational anomalies and incidents that could affect the security of systems are identified as early as possible and the appropriate solutions put in place.

A number of “key rules” on the security of the information systems derived from the Thales security policy for its information systems, which is aligned with ISO 27001, aim to ensure the convergence and coherence of cybersecurity strategies throughout the Group. Their effective application is regularly monitored and reported to the Group Information Systems Security Department.

The plan is supplemented by ongoing efforts to raise employee awareness of these threats: communication campaigns and training are rolled out to help users maintain the security of their information systems and remind them of the best practices when using them. Forums for discussion attended by all employees are also held on site on a regular basis.

In 2019, a total of 14 information system security audits were performed, six of them jointly by the Audit, Risks & Internal Control Department and the Information Systems Security Department.

3.1.7 b) Cybersecurity of the products, systems and solutions delivered

The Group designs, develops (either alone or with partners and subcontractors) and delivers a large number of products and systems that are mission-critical and exposed to cyber threats.

Thales also designs, develops and supplies systems or products with inbuilt cyberprotection capabilities. Its cyberprotection services include monitoring for cyber attacks on customers’ systems and auditing and testing customers’ cybersecurity systems.

In both cases, these products and systems might fail in the event of cyber attacks and result in malfunctions for our customers.

The failure of these products and systems might impact the business activity of the product lines concerned, the Group’s reputation, and hence its financial results.

Thales might not detect a failure despite the tests that are performed.

Cybersecurity products are generally subject to qualification under the aegis of third-party organisations such as ANSSI (the French agency for information systems security) in France. The assessments leading to such qualification are performed based on a security target approved by the regulator.

With regard to the systems designed and delivered by Thales, the Group has established the “Cybersecured in Thales” plan which aims to strengthen the cybersecurity of the existing systems, as well as those in development, on a regular basis.

The most critical and most exposed systems have been mapped, resulting in the preparation of a plan for testing and remediation.

The teams responsible for cybersecurity services are regularly audited by certification bodies.

3.1.8 Environmental risks

Residual criticality: low

Risk identified

Monitoring and management of the risk

3.1.8 a) Environmental impacts related to the Group's business activities (NFPS)

Emissions generated by the Group's activities have the potential to affect the environment. The Group's exposure to this risk is limited insofar as the industrial footprint of its sites and activities is small. Nevertheless, should some of its manufacturing activities fail to comply with the applicable laws and regulations on the matter, the Group would run the risk of sanctions, damage to its image or even refusal by some customers to do business with Thales.

The use of Group products and solutions by some customers, particularly in the transport and digital sectors, also contributes to producing greenhouse gases that affect global warming.

Lastly, the risks resulting from climate change (natural disasters, supply chain disruption, market instability, etc.) could have a negative impact on the Group's performance and its business model, or on its customers.

The analysis of the environmental risks of the Group's activities is updated at least once a year and includes an assessment of the significant impacts, scientific and technical developments, and changes in issues and regulations.

Based on this analysis, which also includes corporate social responsibility, the Group has introduced an organisational structure and tools at all its sites to control and limit the environmental impacts of its activities (see section 5.5.1.3). In 2019, the Group implemented a strategy to reduce greenhouse gas emissions across its entire value chain, in line with the 2°C trajectory of the Paris Agreement, setting targets for 2023 and 2030. The progress made towards achieving these targets is assessed annually (see section 5.5.2).

In recent years, Thales has performed regular assessments of its sites' exposure to natural disasters in order to reduce its vulnerability to the effects of climate change, such as floods, hurricanes, fires and water stress (see section 5.5.2.2.3).

3.1.8 b) Anticipating environmental standards in product design (NFPS)

Changes in environmental regulations may rule out certain technical solutions, particularly for certain suppliers or subcontractors. This may result in the need to qualify and implement alternative solutions, a change to the supply chain, or the upgrading of industrial resources, with the costs and timescales associated with such changes.

Regulatory differences between countries and constant changes to regulations also make it more difficult for Thales to verify the compliance of solutions that are released to market, and could put the company at a competitive disadvantage.

In addition, the expectations or commitments made by certain customers relating to the control or reduction of their carbon footprint, for instance in the aerospace sector, could exceed regulatory requirements and in some cases lead to technical impossibilities or significant additional costs for the Group.

The Group has promoted a responsible product policy for several years.

Our analyses of environmental risks are regularly updated based on new challenges, customer needs and regulatory changes (e.g. REACH in Europe, chemicals, etc.).

All this is factored into the design of our products and solutions: Thales has established an eco-design process and deploys tools to encourage employees to adopt it.

Eco-design principles are also passed on to suppliers and the supply chain through contracts and/or specifications.

Solutions for replacing hazardous substances are being developed ahead of regulatory deadlines. See section 5.5.2.2 for more details.

3.1.9 Risks related to investments

Residual criticality: low

Risk identified

Monitoring and management of the risk

Thales carries out some of its business through companies in which control is shared with, or exercised by, other partners. In 2019, the share in net income of equity affiliates accounted for around 8.5% of Group EBIT.

A deterioration in the performance of these companies may impact the Group's results and financial position.

Thales could be subject to decisions which are harmful to its interests.

Furthermore, the application of management rules and principles in these entities may differ from those adopted by Thales for entities over which it exerts exclusive control. Access to financial or operational data could be more limited than in the entities where Thales exercises exclusive control.

The Group aims to define appropriate governance methods by seeking to be represented on the Board of Directors (or a similar decision-making body), and more generally, to negotiate contractual or governance provisions that are in Thales's best interests.

3.2 LEGAL AND REGULATORY RISKS

3.2.1 Compliance

Residual criticality: moderate

Risk identified

Monitoring and management of the risk

3.2.1 a) Compliance with international trade rules

The acquisition of Gemalto has significantly increased the number of Thales customers, sometimes through distributor networks.

The export/re-export of many products, technologies and systems for military or dual use is subject to obtaining licences issued in advance by the authorities of exporting countries.

Other regulations, which may be extraterritorial (e.g. those issued in the USA by the Office of Foreign Assets Control (OFAC)), prohibit trading with certain states, bodies, companies or individuals.

Such regulations, which can often change, create a framework of restrictive measures and economic and criminal sanctions on any natural person or legal entity, or any state in breach of these provisions.

Furthermore, there are no guarantees that (i) the export/re-export controls to which Thales is subject will not be tightened, (ii) new technologies or generations of products or systems developed by Thales will not be subject to similar or tighter or more restrictive controls, (iii) geopolitical factors will not make it impossible or more complicated or increase the time taken for Thales or its suppliers to obtain export/re-export licences for certain countries or customers or make it more difficult for Thales to execute previously signed contracts or will not give rise to restrictive measures or economic sanctions (embargoes) which would prevent Thales from conducting or continuing to do business with certain countries or certain customers. More limited access to certain international military markets or a ban on dealing with certain customers included on lists of economic sanctions (from OFAC, UN, EU, etc.) might negatively impact Thales's business activity.

The Group has adopted an ISO 9100-certified process (re-certified in 2019) to ensure its transactions comply with the regulations governing international trade and the controls applicable in terms of export/re-export, as well as with restrictive measures and economic sanctions in force.

This process includes:

- procedures and specific IT tools;
- employee awareness programmes, including e-learning modules;
- an annual internal audit plan;
- a system to monitor changes in the legislation, regulations and restrictions applicable to Thales's business activities;
- a screening process for customers/end users and other partners in order to identify third parties under sanctions.

Operating units have access to a network of specialists within the Group who are responsible for monitoring the correct application of the compliance rules relating to international trade regulations, as well as tracking applications for the necessary authorisations and compliance of their implementation with regard to export trade activities.

3.2.1 b) Compliance with rules of ethical business conduct (particularly anti-corruption and influence peddling) (NFPS)

Thales's business encompasses a variety of sectors in more than 68 countries.

Failure to comply with the laws and regulations applicable to ethical business conduct (which are increasingly extraterritorial in scope) and in particular, the fight against corruption and influence peddling, may have serious legal and financial consequences for the Group and severely damage its reputation.

The Group's anti-corruption compliance programme, which has been in place for a number of years, has been further strengthened to take account of recent legislative and regulatory changes, especially those resulting from France's "Sapin II" law. The programme is developed and implemented by the Ethics, Integrity and Corporate Responsibility Department (DEIRE) under the supervision of the Integrity and Compliance Committee (see 3.4.2, page 65).

External and internal audits are performed regularly to ensure strict compliance with Group rules and provisions.

The Group's anti-corruption policy is described in section 5. 6.

Risk identified

Monitoring and management of the risk

3.2.1 c) Compliance with competition rules

Thales's business activities are subject to a wide range of national and international regulations mainly aimed at combating anti-competitive practices, concerning suppliers, customers, partners and the competitors themselves.

Infringement of these rules could lead to severe sanctions, such as fines, payment of damages and interest, and statutory prohibitions and criminal penalties. Such sanctions could also have a serious impact on the Group's reputation.

To prevent these risks, a dedicated team of experts carries out competitive assessment on sensitive agreements and projects, notifying the competent regulatory authorities in Europe or abroad as required.

In addition, the Group has initiated a programme to raise awareness of these rules, in particular through the drafting of directives, the implementation of online training tools and dedicated training programmes for the most exposed employees.

3.2.1 d) Compliance with the rules relating to the protection of personal data

Thales is exposed to the risk of non-compliance with the regulations concerning the protection of personal data, and, more specifically, the European General Data Protection Regulation (GDPR) which came into force on 25 May 2018.

Like any entity based in the European Economic Area, Thales is impacted by this Regulation as a "data controller" when the Group has to process the personal data of its employees.

Thales is also impacted by this Regulation as a "data processor" when it has to process personal data on behalf of its customers.

Thales has rolled out a compliance programme, coordinated by the Data Protection Officer (DPO), using a network of correspondents in the various functions and entities; the programme is based on a Group personal data protection policy which applies both when Thales is the data controller and when it is the data processor.

As part of this personal data protection strategy, Thales has, for example, introduced a personal data processing register, reviewed the Group's policy procedures, provided training for its employees and put in place tools to ensure that the Regulation is correctly applied.

3.2.2 Protecting intellectual property

Residual criticality: low

Risk identified

Monitoring and management of the risk

Given that it develops solutions with significant technological content, Thales is exposed to the risks of:

- infringement of its intellectual property rights;
- allegations of infringement of intellectual property rights belonging to third parties;
- dependence on third-party technologies.

To monitor and manage intellectual property risks, Thales uses a governance system comprising a network of Intellectual Property Managers (IPM) and IP legal officers who implement the policy decided at Group level and, more particularly, by technical management.

Thales's intellectual property is protected by the enforcement of intellectual property rights (copyright, patents, trademarks, domain names) and contractual rights.

To reduce the risk of reliance on critical third-party technologies, Thales has implemented a process to identify these technologies and manage each situation with a precise, strategic "Make/Team/Buy" plan.

Given the nature of its activities and the specific features of its products, Thales conducts most of its research and development work in-house and focuses on controlling the key technologies which are critical to the business.

To reduce the risk of third-party actions for alleged infringement of their intellectual property rights by Thales entities, the Group identifies and analyses this risk in the context of its own patent filing procedures and/or when embarking on technical research or product development.

In the event of a third-party infringement claim against a Thales company, the legal and technical analysis of the allegedly infringing products and intellectual property rights are handled centrally by Thales experts, with the assistance of specialist external consultants where needed.

3.3 FINANCIAL RISKS

3.3.1 Liquidity, interest rates, exchange rates and customer credit

Residual criticality: low

Risk identified

Monitoring and management of the risk

3.3.1 a) Liquidity

The Group's liquidity risk is the risk of it being unable to meet its cash needs out of its financial resources. In particular, it relates to Thales's level of exposure to changes in the main market indicators that could lead to an increase in the cost of credit or even to a temporary limitation of access to external sources of financing.

The Group manages this risk by trying to anticipate its cash needs and ensures that these are covered by the Group's short-term and long-term financial resources, as follows:

- shareholders' equity, detailed in Note 8 to the consolidated financial statements;
- gross debt, listed by maturity in Note 6.2 to the consolidated financial statements;
- a confirmed bank credit line, not used at 31 December 2019, the specific features of which are described in Note 6.6 to the consolidated financial statements, and a commercial paper programme (NeuCP).

Additional information can be found in Note 6.6 to the consolidated financial statements at 31 December 2019.

3.3.1 b) Interest rates

Thales is exposed to interest rate volatility and in particular its impact on the conditions associated with variable-rate financing.

The Corporate Treasury and Financing Department consolidates data on Thales's exposure to interest rate risk and uses suitable financial instruments to ensure these risks are appropriately hedged, while also seeking to optimise its financing terms.

The breakdown of the Group's debt by type of interest rate and the Group's exposure to interest rate risk, before and after operations to manage this risk, are described in Note 6.6 to the consolidated financial statements at 31 December 2019.

Risk identified

Monitoring and management of the risk

3.3.1 c) Exchange rates

Due to the international nature of its business, Thales is exposed to the risk of exchange rate fluctuations.

Business-related currency risk mainly occurs when some of the business is billed in a currency other than that of the related costs. To a lesser extent, cash pooling and the holding of net assets in countries outside the eurozone also expose the Group to an exchange rate risk.

The accounts of Thales's subsidiaries located in countries where the functional currency is not the euro are translated into euros in the Group's consolidated financial statements. A fall in these currencies against the euro is likely to have a negative impact on the accounts. Its impact on profitability is limited, however, since the cost base of these subsidiaries is essentially in the same currency as their revenues. The main currencies concerned are the pound sterling, the US dollar, the Canadian dollar and the Australian dollar.

In addition, for certain Group businesses (commercial avionics, commercial space, etc.), the US dollar is the reference transaction currency. For activities performed outside the dollar zone, the fall in the US dollar against the functional currency of the entity concerned might negatively impact the Group's financial statements. It should be noted in this regard that the in-flight entertainment and connectivity business, mainly based in the United States, is naturally immune to this risk.

Lastly, the Group is also exposed to an "indirect" dollar risk on contracts denominated in currencies other than the dollar. This occurs when it is bidding against companies that benefit from a cost base in dollars. Aviation, space and defence are particularly likely to be exposed to this "indirect" dollar risk.

A significant portion of Thales's activity is naturally protected from foreign exchange rate fluctuations, since more than 40% of its revenues are generated in the euro zone, which is also the region where the Group conducts most of its manufacturing.

In the event that the US dollar is the reference transaction currency for business performed outside the dollar zone, a specific policy for hedging foreign exchange risk is implemented through market transactions (forward exchange and options).

A similar approach is adopted on an *ad hoc* basis if a customer requires a contract denominated in a currency other than the functional currency of the entity in question.

Additional information can be found in Note 6.6 to the consolidated financial statements at 31 December 2019.

3.3.1 d) Customer credit

Credit risk relates to the risk that a party to a contract will default on its commitments or fail to pay what it owes.

Almost 60% of Thales's revenues come from government customers. Thales works with a large number of countries. Some of them could present a significant credit risk which could, for example, lead them to suspend an order in production, or render them unable to pay on delivery, as agreed under the terms of the contract.

More than 40% of Thales's revenues come from non-government customers (private operators of critical infrastructure, aircraft manufacturers, etc.). These customers may encounter major and/or prolonged financial difficulties that could lead to payment defaults or order cancellations. Such occurrences could have a negative impact on Thales's revenues, profitability and financial position.

To limit its exposure to customer credit risk with respect to public-sector, state or institutional customers, Thales takes out insurance with export credit agencies (such as Bpifrance) or private insurers.

Additional information can be found in Note 6.6 to the consolidated financial statements at 31 December 2019.

With regard to its private-sector customers, Thales regularly reviews their ability to meet their obligations. When necessary, Thales may request bank guarantees or corporate guarantees, or may use credit insurers.

Additional information can be found in Note 6.6 to the consolidated financial statements at 31 December 2019.

3.3.2 Pension commitments

Residual criticality: low

Risk identified

Defined-benefit pension plans are in place for certain Group employees, mainly in the UK, which are financed by the Group under the provisions of the applicable domestic legislation. As such, at 31 December 2019, Thales's pension commitments in the United Kingdom amounted to €4,811 million, hedged by €3,669 million in investments, representing an underlying shortfall of €1,142 million.

Monitoring and management of the risk

Changing market parameters can lead to a substantial increase or decrease in the amount of the shortfall and the annual costs of defined-benefit plans. The main sensitivity factors are as follows:

- a decrease or increase in the discount rate applied to liabilities, which may increase or reduce the underlying shortfall;
- changes in the total return on investments;
- changes in the forecast inflation rate;
- a substantial change in mortality tables;
- exchange rate fluctuations (mainly sterling against the euro).

Thales has introduced six-monthly reporting on its pension plan commitments and regularly examines the sensitivity of underlying shortfalls to possible market changes. In the UK, Thales plan assets are managed by trustees in accordance with the applicable regulations and in consultation with the Group. Plan assets are allocated with regard to the long-term maturity of the commitments they cover.

Additional information can be found in Note 9.3 to the consolidated financial statements at 31 December 2019.

3.4 RISK CONTROL ENVIRONMENT

3.4.1 Internal environment

For most of its operations, the Group is subject to a control environment imposed by its customers and by regulatory authorities (Ministries of Defence and Industry, authorities in its customers' countries, commercial aviation authorities, etc.), who require strict certification and controls.

These specific constraints are in addition to its statutory obligations and are an integral part of the Group's control environment.

Thales's organisational structure is in line with the internationally accepted "three lines of defence" model which provides an effective way of improving risk management and control by clarifying key roles and duties. The managing bodies and corporate management are the main stakeholders in these three lines:

The first line of defence consists of the operational management functions which host and manage the risks; see a) below.

The second line of defence consists of risk monitoring functions (including risk assessment, financial control, security, quality, compliance and insurance); see b) below. The internal control established at Thales is based on the international framework of COSO 2013 (Committee of Sponsoring Organizations of the Treadway Commission) and IFACI, and aims to provide reasonable assurance that the Group's objectives are met through:

- the effectiveness and efficiency of internal processes;
- accounting and financial internal control aimed at:
 - ensuring the reliability of the information used internally for management and monitoring purposes and for the published accounting and financial information,
 - preventing the risk of fraud;

- legal compliance, which is intended to ensure compliance with regulatory requirements.

The third line of defence consists of the Internal Audit function, whose role is to provide independent assurance; see c) below.

a) The main operational players in risk management

Thales is organised according to a two-dimensional matrix structure comprising Global Business Units (GBU) and countries. In 2019, a seventh Global Business Unit (Digital Identity & Security) was created, comprising the Gemalto and Guavus businesses and the residual businesses of Thales e-Security.

- The Global Business Units are organised into Business Lines (BL), which cover a coherent range of products, solutions and services.

For the products, solutions and services entrusted to them, the Business Lines have worldwide responsibility for strategy, product policy and marketing, competitiveness, customer access, contractual commitments, engineering, development, production, integration, quality and services, industrial organisations, optimisation of resources, and economic performance (contribution to EBIT and cash flow).

- In the region assigned to them, country managers are responsible for the successful implementation of every aspect of Group policy and handle relations with customers and local partners.

The main countries in which the Group operates (Australia, Canada, France, Germany, the Netherlands, the United Kingdom and the United States) share responsibility with the Global Business Units for local bids and projects. Country managers are involved in all decisions taken by the Global Business Units with regard to organisation and appointments, or relating to bids, projects and centres of excellence of any kind in

their territories. They are responsible for HR development and the optimisation of industrial resources. They are also responsible for Thales's institutional relations as well as for communication.

The manager of each of the six major industrial countries (excluding France) (see list above) reports to a Non-Executive Chairman, appointed from among the Group's senior executives. The Non-Executive Chairman acts as an interface between the country and head office and liaises between the country manager and the Group Executive Committee.

In all other regions (other countries in Europe, Africa, Latin America, Asia and the Middle East), the country or regional manager reports to the International Development Department.

The Group defines common processes and internal rules on delegation that set out the way in which responsibility is shared, provides entities with the corresponding tools and sets up umbrella departments.

The delegations are implemented in legal entities coordinated at national level.

The Group's managing bodies consist of Global Business Units, countries and functional departments and are ultimately responsible for the Group's entire internal control system, relying in particular on internal processes and the work of the Risk Management Committee and the Risk Assessment Committee.

The Group's governance is founded on the key principle of the responsibility of the directors of operational entities, who are responsible for establishing and maintaining the risk management and internal control system within their operational entities.

Lastly, some complex or risky transactions are carried out solely by central departments, which ensure the sharing, consistency and coordination of the Group's practices. A specific internal control mechanism has been put in place to manage the risks associated with these transactions. As a result:

- total or partial acquisitions and disposals fall under the exclusive remit of the Group's corporate management. The Global Business Units propose projects at periodic meetings of the Mergers and Acquisitions Committee, made up of the main central departments;
- all real estate transactions fall under the exclusive remit of the Group's Real Estate Department. It may delegate certain operations, especially outside France, to a national organisation, or to a local company, while ensuring proper supervision.

b) The main internal control and risk monitoring functions

Operations and performance function

The Operations and Performance Department is responsible for the operational resources necessary for carrying out projects and ensuring customer satisfaction and quality, thus contributing to risk management. It approves the most sensitive bids according to specific criteria and holds quarterly reviews of projects deemed critical. It manages skills development plans as well as bid and project manager certification plans. It rolls out and upgrades bid costing and project management tools and provides *ad hoc* support to any Global Business Units and countries that request it. In each entity, the Director of Operations coordinates the management of all of the Company's risks, in close collaboration with the Legal Director and the Financial Director.

The Operations and Performance Department includes the Quality Assurance and Customer Satisfaction Department, which defines the quality assurance policy and objectives and drives improvements in customer satisfaction. It steers the Chorus 2.0 process management framework, which applies to all Group entities. Quality assurance procedures for bids, projects and products are carried out by its representatives in each operational entity, in order to effectively meet customer demands and ensure customer satisfaction and secure the execution of operations.

Thales's process-based reference system, Chorus 2.0, defines the rules, practices and methods to be implemented by each Group entity. It can be accessed by all staff through the intranet.

Thanks to its modular design, it can be adapted to the business context; it is augmented within each entity or country by local rules and practices.

Chorus 2.0 provides all Group companies with a common language and a unified set of management processes that define the roles, rules, practices and functional methods which are to be applied; its other aim is to ensure uniform organisational alignment throughout the Group.

Chorus 2.0 is the basis of the Group's internal control system and is a natural component of the reference systems used in the work of the Internal Audit, Risks & Internal Control Department.

Chorus 2.0 is a vital tool to enable each entity to have its management systems certified in terms of quality, health, safety and environment and with regard to the norms and standards applicable to each business activity.

In its different activities, Thales has obtained and maintains certifications of compliance with applicable standards and regulations that provide evidence of its ability to manage its processes to meet the needs of its customers. In relation to Quality and for all the Group's activities, ISO 9001 certification applies. In addition, depending on the activity involved, there are numerous standards, including, but not limited to, AQAP 2110 (NATO quality standard in the defence segment), EN 9100 (European standard describing a quality assurance system for the aeronautics and space segments), EASA Part 21 sub-part G (for the production activities in Europe), EASA Part 145 (Europe) and FAR 145 (United States) for maintenance activities, EASA Part 147 (for training in aeronautics maintenance), ISO 14001 and OHSAS 18001/ISO 45001 (for Environment, Health & Safety at work matters), ISO 27001 (for Information Security Management System matters), and ISO 20000 (for Service Management System matters).

Thales has a committed strategy of continuous improvement: the Group has introduced internal and external assessments, based on international standards, enabling the Group to identify any areas requiring continuous improvement, to prioritise these and to monitor the associated action plans.

Internally, the Quality and Customer Satisfaction function steers the policy for assessing the maturity of operational entities using an internal integrated maturity model, Thales Integrated Maturity System (TIMS).

The maturity model covers all of the Chorus 2.0 management system processes and is fully compliant with international standards, such as:

- the international CMMI® (Capability Maturity Model Integration) model, which is recognised by many customers for its development, acquisition and services models;
- the international Supply Chain Operations Reference (SCOR®) model.

Maturity assessments are performed by experienced assessors who are recognised in their field, as well as by the quality managers at each operational entity.

Finance function

The Group's Finance Department is represented in each Global Business Unit, each operational entity and each of the main countries by a Financial Director with a functional reporting line to the Department. The implementation of the accounting and financial internal control is carried out by these Financial Directors, who have local teams within their scope of responsibility to ensure that the financial information is prepared in compliance with the rules on internal control.

At the time of the annual and half-year financial statements, the Chief Executive Officers and their Financial Directors issue a letter of representation to the Group's Finance Department, certifying the fair presentation and completeness of the financial data submitted for consolidation.

The Group's Finance Department oversees the Company's accounting and financial operations. Its central organisation comprises:

- an accounting and consolidation function responsible for preparing and presenting the Group's consolidated financial statements. The teams in charge of consolidation ensure that changes in regulations

and standards are taken into account. They use the same consolidation software throughout the Group, selected from those available on the market, which enables the accounting information from the Group's various entities to be uploaded with consistency checks carried out at source. Transfers of accounting entries to head office are authorised only after validation. Training sessions and personalised support on the tool within the Group's consolidation teams ensure that users operate the software effectively.

The Group's accounting and financial procedures presented in Chorus 2.0 apply to all entities. They specify in particular:

- the accounting standards and policies to be applied during the preparation of the consolidated financial statements in accordance with IFRS,
- the hierarchy and reporting levels required by the Group, the financial cycles, the responsibilities of the Finance Department in operational processes and the rules to be followed by all Group entities,
- the content and format of the periodic reports,
- the respective role of the central teams and teams in the entities in the conduct of cash and finance transactions and the procedures applicable in short-term cash management, the operation of the exchange rate risk hedging system and the associated reporting rules.

The internal control questionnaire (ICQ) completed by the finance departments (see the section on Corporate risk assessment and internal control function below) and the accompanying instructions provide an additional framework and help to improve the reliability of financial reporting while at the same time preventing the risk of fraud.

The financial reporting system is based on these accounting and financing procedures, and the centralised consolidation process is supported by a unique tool. The Financial Directors of each entity are accountable to the Group's Finance Department for compliance with these procedures.

- **A management and budget control function**, which analyses the Group's financial data and produces monthly reports comparing actual results with the budget and comparable prior-year periods. Financial forecasts for the current half-year and financial year are reviewed and discussed at that time so as to steer the business in order to achieve the objectives set.

Monthly results are analysed in order to identify any budget deviations and to update annual forecasts for orders, revenues, profits and cash flow. This procedure is carried out by each entity and provides a consolidated view at Global Business Unit and Group level. It also makes it possible to identify any action plans necessary to achieve the objectives set.

There are three stages in setting the annual budgetary targets:

- the Global Business Units draw up a strategic plan over a minimum period of four years, which can be adjusted depending on their business models; this is then presented to and approved by Group corporate management,
 - each Global Business Unit, each major country, the Europe and International Operations Department and the International Development Department then present a detailed three-year budget plan to Group corporate management. This plan is based on the sales forecasts and assumptions prepared by the marketing and sales departments, in accordance with the strategic plans prepared by the Global Business Units,
 - finally, Group corporate management sets targets for the Global Business Units, the main countries, the Europe and International Operations Department and the International Development Department, ensuring that they are consistent overall. The first year of the plan is then analysed monthly and is used as a reference for steering the Group;
- **a treasury and financing function**, which optimises financial resources and manages the Group's financial risks (liquidity, foreign exchange, interest rates, pensions, etc.) on a centralised basis. As part of this policy, the Group Treasury and Financing Department (DTFG) provides funding to the subsidiaries, manages cash positions in all of the Group's currencies and matches surpluses with cash requirements.

The Group Treasury and Financing Department is also responsible for managing the Group's currency position and, in particular, for implementing currency risk hedging for all the entities, which are responsible for monitoring that risk at the entity level;

- **a financial engineering function**, which coordinates and supervises the implementation of advance market commitments, customer financing, documentary credits or more complex transactions such as project financing. The International Finance Department, an integrated team of experts located at Group head office and in the Global Business Units, takes action to secure receivables and to hedge against the financial consequences of a contract termination;
- **a tax function**, which provides support to the operational entities on legislation and during tax audits. It also monitors tax consolidation within the Group and ensures its overall coherence;
- **an insurance function** which is responsible for implementing the insurance and management policy for insurable risks. This centralised Insurable Risk Management Department also monitors implementation of the policy by the Group companies.

The Group is covered against the financial consequences of the risk of accidental damage suffered or caused to property or people using appropriate insurance policies with leading international insurance and reinsurance companies.

The insurance policies arranged by the Group to cover these major risks relate to areas such as:

- damage to property and consequent operating losses,
- transport of goods,
- assembling and testing,
- commercial aviation liability, including civil liability for aeronautical products and hull insurance,
- liability for space products,
- risks of damage to or by naval vessels by subsidiaries, in their capacity as naval equipment suppliers,
- general third-party liability,
- environmental liability,
- liability of executive officers and directors,
- individual accident – repatriation assistance for employees on assignment,
- cyber liability.

The Group had no major loss in 2019.

The Group's policy is to arrange cover on the insurance market based on the rates and within the limits that it considers reasonable, in view of the conditions offered by the market. Insurance policies covering the major risks are limited by guarantee ceilings; general exclusions for the entire market (e.g. asbestos) also apply to Thales.

In 2019, the maximum coverage limit for insurance against damage to property and consequent operating losses was €1.3 billion. This limit takes into account the estimated maximum possible loss to an industrial site which the Group could incur in this regard.

Levels of liability cover depend on the quantification of a reasonable claim expectancy for Thales, as identified by the risk map of the main business activities and at Group level, and on cover capacity available on the insurance market. The insurance for commercial aviation liability commitments is covered by a specific programme.

The insurance industry depends on the financial markets. There are therefore no guarantees that Thales will be able to maintain current levels of insurance under similar financial conditions in the future.

In order to reduce its exposure to insurance market volatility, Thales insures major risks on a two-tier basis:

- the Group's contribution, through captive insurance and reinsurance companies, to the settlement of claims for damage to property and consequent operating losses, transport, general third-party liability, assembling and testing, development and space risks;
- transfer to the insurance and reinsurance markets of payment for catastrophic or high intensity losses.

In parallel, an active Prevention and Protection policy for industrial sites is designed to reduce the frequency and magnitude of the accidental risks of fire or explosion and to detect other exposures, such as environmental or natural disasters and the vulnerability of critical industrial facilities. In 2019, close to 70% of the assets insured were the subject of a “multi-peril” audit by the insurers during their visits to the principal operating sites and infrared thermography inspections by outside organisations specialised in the prevention of electrical damage.

In accordance with Group processes, measures were taken to minimise business interruption and the consequences of any unforeseen events. An organisational structure and crisis management tools are in place to deal as efficiently as possible with the immediate consequences of a catastrophic event and to take the necessary emergency measures.

A risk prevention policy for critical supplier sites was also pursued to reduce the risk of operating losses for Thales in the event of an accidental disaster at one of their sites.

Furthermore, Thales continues to roll out an insurance policy for its staff to cover them in the context of their professional activity. Lastly, specific and/or local cover has been arranged to comply with the regulations in force or to satisfy the specific requirements of certain business activities or projects, particularly public-private partnerships.

Ethics, Integrity and Corporate Responsibility function

The Ethics, Integrity and Corporate Responsibility Department prepares and updates the anti-corruption compliance programme, other integrity-related programmes and the Duty of Care compliance programme. It establishes the main priorities of other policies related to ethics, integrity and corporate responsibility on which the Group must position itself and submits them to the Company Secretary. It receives the internal alerts generated under the Group’s whistleblowing procedure and helps process them. More generally, it defines and implements the resources to promote and disseminate a culture of ethics, integrity and corporate responsibility within the Group.

The legal and contracts function

The Legal and Contracts Department is based on three separate bodies:

- a corporate body serving the operational entities composed of lawyers who are experts in their field;
- a body of legal advisors and contract managers deployed within the operating units and tasked with providing expertise in contract-related matters, from preparing the bid right through to the end of the contract;
- a body of Chief Compliance Officers and Compliance Officers deployed throughout the Group and tasked with implementing the anti-corruption and anti-influence peddling programme. It prepares, updates, rolls out and implements the other compliance programmes that are relevant to the Group, taking due account of the most sensitive regulations applicable to its activities (Trade Compliance, Competition law, Protection of Intellectual Property, Protection of Personal Data, Environmental law).

The Group’s Human Resources Department also has a network of legal advisors who specialise in employment law and who provide support to the Group’s entities. The Legal and Contracts Department and the Human Resources Department call upon outside law firms, where necessary.

With the exception of disputes concerning relationships with employees and trade unions, which are handled by the Human Resources Department, litigation and disputes are monitored by the Legal and Contracts Department.

The corporate risk assessment and internal control function

The Audit, Risks & Internal Control Department (DARCI) is responsible for developing and updating internal control assessment questionnaires, such as the yearly attestation letter (YAL) and the internal control questionnaire (ICQ), and collating and analysing the responses given by the operational entities in these annual questionnaires. In 2019, these questionnaires were extended to cover the DIS businesses from Gemalto.

- YAL questionnaire: every year, the local entities report on the risk scenarios under their responsibility, in the form of a YAL questionnaire, updated annually and completed by the heads of the operational entities and their management teams. In 2019, 108 questionnaires were completed by the Group’s operational entities. The responses to these questionnaires are analysed by the Audit, Risks & Internal Control Department, and by the network of risk advisors. A sample of questionnaires are checked for accuracy and compliance by the Audit, Risks & Internal Control Department: in 2019, 25 YAL questionnaires were subject to an internal audit.
- ICQ questionnaire: drawing in particular on the AMF recommendation entitled “Reference framework for internal control systems” and in collaboration with its statutory auditors, the Group asks its financial community to complete an internal control questionnaire (ICQ) focusing on the reliability of financial processes and the prevention of fraud. The ICQ is based on internal control objectives linked to the Group’s processes and accounting cycles (customers/suppliers/ fixed assets, etc.) and is designed to enable the entities to identify areas for improvement, whether these are due to control objectives that have not yet been achieved in full, insufficient control in practice, or procedures that need to be improved. In 2019, 182 questionnaires covering all operational entities (including DIS) and shared services were sent out by the Audit, Risks & Internal Control Department and seven ICQ questionnaires from the previous year were audited.

The Group has a risk assessment process in place for all the businesses and subsidiaries it controls. The Audit, Risks & Internal Control Department maps the major operational, strategic, compliance or financial risks to which Thales is exposed. It updates this risk mapping each year. The mapping is organised by risk factors broken down as risk scenarios which are independent of each other, which are measurable in terms of probability of occurrence and financial impact based on a common prudential rating scale, and which are each assigned to a single line of responsibility.

The Group has designated a Risk Advisor for each of these risk factors who is responsible for coordinating the management of this risk under the supervision of the Risk Assessment Committee. This consists of characterising the risk, monitoring major incidents, overseeing the deployment of the risk management system and continuously improving it.

The Audit, Risks & Internal Control Department also prepares risk mappings twice a year by Global Business Unit and by Major Country, as well as for certain Group-wide topics, in addition to the risks already identified and managed by operational management. The operational departments concerned, the Quality Department and the Insurance Department are involved in this work.

The internal audits conducted by the Audit, Risks & Internal Control Department (see c) below) are mostly chosen and planned based on this risk analysis.

c) Internal audit

The Audit, Risks & Internal Control Department ensures proper risk management and the maintenance of adequate internal control by conducting audits or providing guidance. It may have involvement throughout the Group (Thales parent company and its controlled subsidiaries) as well as with its non-controlled subsidiaries, after agreement with the co-owner companies. Its scope of involvement covers all domains and processes (governance, administrative, accounting and financial, functional and operational, etc.). The Audit, Risks & Internal Control Department principally works with the Audit and Accounts Committee, the Risk Management Committee, the Risk Assessment Committee, Group corporate management and the statutory auditors.

Since 2006, the Audit, Risks & Internal Control Department has been continuously certified by the French Institute of Audit and Internal Control (IFACI), which ensures that its practices comply with international auditing standards. The last IIA/IFACI triennial certification was obtained by the Audit, Risks & Internal Control Department in March 2019.

The actions of the Audit, Risks & Internal Control Department are governed by an Internal Audit charter (updated in June 2016) that defines the basic principles of internal control and internal audit, the scope and limits of its responsibilities and its interaction with the entities.

In 2019, 75 audits or advisory engagements arising from the Group's risk analysis and planned according to the criteria set out and approved

by the Audit and Accounts Committee, were conducted by teams from the Audit, Risks & Internal Control Department. These engagements focused on the following themes:

- Operations: bids and projects, product policy, engineering and industry;
- Compliance: ethics, export control, security of information systems, business continuity plans;
- Governance: organisation, shared services, joint ventures, monitoring of acquisition transactions;
- Internal control: audits on the accuracy of the internal control questionnaires (YAL, ICQ and Welcome Audit).

3.4.2 Monitoring and control bodies

The Board of Directors

The Board of Directors exercises control over the management of the Group, either directly or through its committees. Detailed information on the organisation of the Board's work, its internal regulations, and, more generally, the performance of the Board and its committees is given in section 4.2.1.

Audit and Accounts Committee

Meetings of this committee of the Board of Directors review the resources employed and the actions taken to improve internal control and risk identification and management. In 2019, the Audit and Accounts Committee met six times.

The Group Audit, Risks & Internal Control Department submits an audit plan to the Audit and Accounts Committee each year, covering various aspects relating to the Group in respect of compliance with legislation and regulations, assessment of internal control and risk identification and management. The presentation is updated mid-year.

At the time of the annual closing of the accounts, the Senior Executive Vice President, Finance & Information Systems reports on risk exposure and significant off-balance sheet commitments to the Audit and Accounts Committee.

Risk Management Committee

This committee, chaired by the Chairman & Chief Executive Officer, is responsible for defining the level of risk deemed acceptable by the Group, allocating risk management and control responsibilities for these risks, defining the strategy for transferring certain risks to insurance, approving the Group's risk mapping, and more generally, ensuring that the risk assessment and management system is as comprehensive as possible in order to maximise risk mitigation. It is supported by the work of the Risk Assessment Committee. This committee met twice in 2019.

Risk Assessment Committee

This committee is chaired by the Senior Vice President, Audit, Risks & Internal Control (DARCI). It is responsible for analysing risks and evolving threats; it updates and prioritises risk scenarios, ensuring that responsibility for each risk scenario is allocated within the Group, prepares risk maps and formulates recommendations for the Risk Management Committee, with a view to improving the overall management and mitigation of Group risks. In 2019 the Risk Assessment Committee met once every six months with each of the six Global Business Units, and on two other occasions with all of the Group's risk advisors, including at a plenary session.

Integrity and Compliance Committee

An Integrity and Compliance Committee was created in 2019. Chaired by the Company Secretary, it comprises the heads of the Ethics, Integrity and Corporate Responsibility Department, Legal and Contracts Department, and Audit, Risks & Internal Control Department. It meets monthly and its main role is to oversee the preparation, roll-out, implementation, assessment and updating of the Group's Integrity and Compliance programme. It is also tasked with assessing the criticality of internal whistleblowing reports made to the Group and any allegations of integrity or compliance violations brought to its attention.

External audit and control of financial information

Each year, the Group's Finance Department reviews the financial audit manual with the statutory auditors. This manual describes the phases for the use of external auditors.

Consolidated companies are placed in one of three categories, according to their size and the risks to which they may be exposed. They may be subject to an in-depth review, a limited review or a review for statutory requirements.

As well as assessing the financial statements, each year the statutory auditors provide corporate management with recommended improvements in terms of internal control as part of the year-end closing of accounts.

GOVERNANCE AND COMPENSATION



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4.1 COMPOSITION OF THE BOARD OF DIRECTORS AT 31 DECEMBER 2019

4.1.1 Directors

4.1.1.1 Appointed at the General Meeting

PATRICE CAINE

(49)

Chairman & Chief Executive Officer

Chairman of the Strategic & CSR Committee

First appointed

23 December 2014

Current term expires

2022 AGM

Number of shares held

- 9,473 Thales shares (9,373 in registered form, 100 under the Group savings scheme);
- 3,438 Thales stock options.

Patrice Caine was born on 7 January 1970 and is a French citizen. He is a graduate of the École Polytechnique and the École des Mines de Paris and holds the rank of Chief Engineer (*Ingénieur en chef*) of the Corps des Mines. He began his career in 1992 at Fournier, a pharmaceutical company, before working as a consultant in M&A and corporate strategy at Charterhouse Bank Limited in London.

From 1995 to 1998, he was Special Advisor to the Prefect of the Franche-Comté region of France and Head of the Industrial Development and Energy Division at DRIRE, the French agency responsible for industry, research and the environment.

From 1998 to 2000, he was part of the Conseil Général des Mines, in charge of human resources for the Corps des Mines. During this time, he oversaw the training of graduate engineers for the civil service at the École des Mines de Paris. From 2000 to 2002, he worked as a Technical Advisor on energy on the staff of the Minister of the Economy, Finance and Industry.

In 2002, Patrice Caine joined the Thales Group's Strategy Department before being appointed to manage the following operating units: Aviation & Naval, Communications, Navigation & Identification, Air Systems, Radio Communication Products, Network & Infrastructure Systems and Protection Systems.

In February 2013, Patrice Caine joined Thales's Executive Committee as Senior Executive Vice President, Operations & Performance.

On 23 December 2014, he was appointed Chairman and Chief Executive Officer of Thales by the Board of Directors.

He is the recipient of the French National Defence Medal (*Médaille de la Défense Nationale*) in the bronze category. In 2014, he was named Knight of the French National Order of Merit and in 2017 Knight of the French Legion of Honour.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Director of Naval Group and l'Oréal⁽¹⁾, Director of France Industrie (Cercle de l'Industrie and Groupe des Fédérations Industrielles), Chairman of the Association Nationale de la Recherche et de la Technologie (ANRT).

Abroad: none.

Other positions held by Mr Caine in the last five years

In France: Director of École des Mines de Paris.

Abroad: none.

(1) Listed company.

LAURENCE BROSETA**(51)**

Director proposed by the Public Sector
(Article 6 of Order No. 2014-948)

First appointed
14 May 2014

Current term expires
2021 AGM

Number of shares held
700 Thales shares

In addition, her husband, Xavier Broseta, holds:

- 450 Thales shares;
- 52 Thales shares under the Group savings scheme.

Born on 22 September 1968, Laurence Broseta is a French citizen and a graduate of the École Polytechnique and Télécom Paris.

She began her career at RATP where she oversaw operations at its bus, tram and underground departments. She also took part in new rail infrastructure projects in the UK and South Africa, where she started up and managed a locally-based operating company.

In 2008, she became Head of RATP Dev's international business unit, with responsibility for operating transport services (bus, rail, underground and tram) in nine countries and leading business development.

From 2013 to 2019, she was a member of the Executive Committee of Transdev, an international group that provides mobility and passenger transport services, first serving as Senior Executive Vice President France until 2016 and then CEO International Zone.

Since November 2019, Laurence Broseta has served as Chairman of Antargaz⁽¹⁾ a gas and electricity distribution company, and Vice Chairman of the UGI group for western Europe.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Member of the Supervisory Board of Vallourec⁽¹⁾, Chairman of Antargaz Énergies, CEO of UGI France.

Abroad: Chairman of the Board of Directors of Antargaz Belgium, Antargaz BV, Antargaz Luxembourg, Gasbottling, and Energysud.

Other positions held by Ms Broseta in the last five years

In France: Director of RATP Dev Transdev Asia, Director of Transdev group subsidiaries, Director of Thello, Director and Vice Chairman of the Union des Transports Publics.

Abroad: Director of Transdev group subsidiaries (in Spain, Portugal, South Korea, India, Germany, Chile, Colombia, Australia and New Zealand).

CHARLES EDELSTENNE**(81)**

Director recommended by the Industrial Partner

Member of the Strategic & CSR Committee

First appointed
19 May 2009

Current term expires
2022 AGM

Number of shares held
509 Thales shares

Born on 9 January 1938 and a French citizen, Charles Edelstenne is a qualified chartered accountant.

He began his career at Dassault Aviation, where he started in 1960 as Head of the Financial Studies Department. He became Company Secretary in 1975, then Vice President for Economic and Financial Affairs in 1986.

From 2000 to 2012, he was the Chairman & Chief Executive Officer of Dassault Aviation.

In January 2013, he was appointed Chief Executive Officer of Groupe Industriel Marcel Dassault, then Chairman and Chief Executive Officer in May 2018.

He was the founder, Managing Director, then Chairman & Chief Executive Officer, and is now Chairman of the Board of Directors of Dassault Systèmes.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Chairman of Groupe Industriel Marcel Dassault SAS, Chairman of the Board of Directors of Dassault Systèmes SE⁽¹⁾, Honorary Chairman of Gifas, Chairman and Director of Dassault Medias SAS, Chairman of Société du Figaro SAS, Director of Carrefour SA⁽¹⁾, Chief Executive Officer of Dassault Wine Estates SASU, Chairman of Rond-Point Immobilier SAS, Rond-Point Holding SASU, Manager of Rond-Point Investissement EURL, Manager of

Sociétés Civiles Arie and Arie 2, Nili and Nili 2 and Société Civile Immobilière de Maison Rouge, Director of the mutual fund ("SICAV") Monceau DUMAS.

Abroad: Director of Sabca⁽¹⁾ (Belgium), Chairman of the Board of Directors and Director of Dassault Belgique Aviation SA, Director of Dassault Falcon Jet Corp.

Other positions held by Charles Edelstenne in other companies in the last five years

In France: Director and Honorary Chairman of Dassault Aviation SA⁽¹⁾, member of the Supervisory Board of Groupe Industriel Marcel Dassault SAS and Director of Sogitec Industries SA.

Abroad: Chairman of Dassault Falcon Jet Corp. (United States), Chairman of Dassault International Inc. (United States).

(1) Listed company.

YANNICK D'ESCATHA

(71)

Independent director

Chairman of the Governance and Remuneration Committee

First appointed
19 May 2009

Current term expires
2020 AGM

Number of shares held
500 Thales shares

Born on 18 March 1948 and a French citizen, Yannick d'Escatha is a graduate of the École Polytechnique and an engineer of the Corps des Mines.

In 1972, he lectured at the École Polytechnique, the École des Mines de Paris and ENSTA, the French engineering and research institute.

In 1973, as a Technical Expert with the French Ministry of Industry, he took part in the drafting and subsequent implementation of the French technical regulations relating to nuclear-fired water boilers.

In 1978, he was appointed Head of the control office for nuclear construction where he was responsible for government technical control of the application of this regulation to the French electro-nuclear programme.

In 1982, he was seconded to Technicatome, a subsidiary of the CEA (French Atomic Energy Commission), whose main activity is industrial general contracting in the field of nuclear propulsion for French naval vessels. Having been Director of the Cadarache and Aix-en-Provence sites, Yannick d'Escatha was appointed Deputy Chief Executive Officer of Technicatome on 1 January 1987.

On 1 March 1990, he was asked by the Executive Director of the CEA to accept the post of director of the newly created Advanced Technologies Division, and became Deputy Executive Director of the CEA on 14 September 1992.

He was appointed Managing Director of the CEA on 1 July 1995 and Chairman of the holding company CEA-Industrie on 28 June 1999.

On 1 January 2000, he was appointed Executive Vice President Industry at EDF. As the Head of EDF's Industry Cluster, he was responsible for the company's production and engineering activities and industrial policy.

In January 2002, he became Chief Operating Officer at EDF.

In February 2003, the French Council of Ministers appointed Yannick d'Escatha as Chairman of the National Space Research Centre (CNES) and renewed his appointment in February 2010, until he reached the age limit of 65 in 2013, when he retired.

Since May 2013, he has been working as a consultant.

Since 13 November 2019, he has served as Non-Executive Chairman of the Board of Directors of AREVA SA.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Non-Executive Chairman of the Board of Directors of AREVA SA, member of the *Académie des technologies*.
Abroad: none.

Other positions held by Mr d'Escatha in the last five years

In France: Chairman of the Board of Directors of Université de Technologie de Troyes.
Abroad: none.

BERNARD FONTANA

(58)

Director proposed by the Public Sector
(Article 6 of Order No. 2014-948)

Member of the Audit and Accounts Committee

First appointed
30 January 2018

Current term expires
2021 AGM

Number of shares held
Not obliged to hold Thales shares
(Art. 6-VI of Order No. 2014-948).

Born on 11 March 1961, Bernard Fontana, a French citizen, is a graduate of the École Polytechnique and the École Nationale Supérieure des Techniques Avancées of Paris (ENSTA).

He began his career in 1987 as an armaments engineer at Groupe SNPE (formerly Société Nationale des Poudres et Explosifs), where he held a variety of positions including General Manager of the fine chemicals business, Vice President of Strategy for the chemicals business and then Head of North America. In 2001, he was appointed member of the Executive Committee of Groupe SNPE, in charge of the chemicals and industrial explosives business.

In 2004, he joined steelmaker ArcelorMittal as Executive Vice President, Human Resources, for the Flat Products Europe business. In 2006, he became Executive Vice President of ArcelorMittal with responsibility first for the automotive sector and then for human resources. In 2010, he was appointed to manage the stainless steel division of ArcelorMittal which was listed on the stock exchange under the name Aperam, and of which he then became Chief Executive Officer.

In 2012, he was appointed Chief Executive Officer of Holcim, the world's leading cement producer, where he managed the company's merger with Lafarge. In September 2015, Bernard Fontana was appointed Chief Executive Officer of Areva NP, then Chairman of the Management Board in July 2016. The group was renamed Framatome in 2018.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Chairman of the Management Board of Framatome.
Abroad: none.

Other positions held by Mr Fontana in the last five years

In France: Chief Executive Officer of Areva NP.

Abroad: Director of ACC Limited⁽¹⁾ (India), Director of Abuja Cement Limited⁽¹⁾ (India) and Director of Holcim Technology Limited (Switzerland).

(1) Listed company.

PHILIPPE LÉPINAY**(66)****Director representing employee shareholders****Member of the Strategic & CSR Committee****First appointed**8 March 2007,
effective 1 April 2007**Current term expires**

2021 AGM

Number of shares held

- 1,245 Thales shares;
- 1,333 Thales shares under the Group savings scheme.

Born on 3 December 1953, Philippe Lépinay is a French citizen and a graduate engineer of the Institut de Marketing International, Université Paris VII.

Between 1977 and 1986, he held a variety of sales and marketing roles with the Appalette & Tourtellier Systèmes, Radiall and SOPEMEA groups.

In 1986, he joined Thales Electron Devices as an Export Sales Engineer, and in 2000 he became Head of Development at Thales Engineering & Consulting.

He joined Thales International in 2003. Since 2013, he is Vice President, International Relations at Thales.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: Institutional Relations Delegate of the French Federation of Employee Shareholders' and Former Employees' Associations (FAS), Vice Chairman of the Federation of Employee Shareholders' Associations of Thales (FAST), member of the Supervisory Committee of the Thales Employee Shareholding FCPE (investment fund), member of the Development Council of the ENSOA (French School for Active Non-Commissioned Officers) and member of the Board of Directors of the Franco-Lebanese Chamber of Commerce.

Abroad: none.

Other positions held by Mr Lépinay in the last five years

In France: Chairman of the FAS, member of the Steering Committee for Profit-sharing, Incentives, Savings and Employee Shareholding (COPIESAS).

Abroad: none.

ARMELLE DE MADRE**(49)****Independent director****First appointed**

28 June 2017

Current term expires

2023 AGM

Number of shares held

500 Thales shares

Born on 2 May 1970, Armelle de Madre, a French and Dutch citizen, graduated from the University of Columbia, New York and HEC, Paris.

Armelle de Madre started her career in 1993 as a Marketing Analyst at Renault. In 2001, she became Training Manager for the Head Office, then HR Manager for Renault's logistics business. In 2006, she was appointed Human Resources Director firstly in charge of the Flins factory, then for Renault's vehicle and mechanical engineers, a remit which included the group's Technocentre, one of the largest R&D centres in France with more than 16,000 employees.

She joined Schneider Electric in 2010 as Strategy and Social Innovation Director, and then the Arkadin Group in 2011, which provides unified communications solutions and is a subsidiary of NTT, one of the main telecoms operators in the world, as Vice Chairman of Human Resources in charge of Europe, the Middle East and Africa (EMEA). In 2016, she became Vice Chairman of Marketing, EMEA, and in April 2017 Human Resources Director at Arkadin, joining the group's Executive Committee in this capacity.

In September 2019, Armelle de Madre was appointed Director of Human Resources at Datadog, a platform for monitoring and analysing data on infrastructure, networks and applications, headquartered in New York.

She is also a member of the Women's Forum United States.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: none.

Abroad: none.

Other positions held by Ms de Madre in other companies in the last five years

In France: none.

Abroad: none.

ODILE RENAUD-BASSO

(54)

Director proposed by the Public Sector, appointed representative of the French state by order of 19 July 2017⁽¹⁾

(Article 4 of Order No. 2014-948)

Member of the Strategic & CSR Committee

Member of the Governance and Remuneration Committee

First appointed
19 July 2017

Current term expires
2021 AGM

Number of shares held
Not obliged to hold Thales shares (Art. 5 of Order No. 2014-948).

Born on 2 June 1965, Odile Renaud-Basso, a French citizen, is a graduate of the Paris Institute of Political Studies and a former student of the École Nationale d'Administration.

After starting her career as an auditor in the *Cour des comptes* (1990-1994), Odile Renaud-Basso joined the French Treasury Department where she held various positions between 1994 and 2005 related to international, industrial and financial issues. In 2005, she was appointed Director of the Directorate-General for Economic and Financial Affairs (DG Ecfi) of the European Commission and continued her career in the European bodies, becoming Deputy Head of Cabinet of the President of the European Council in 2010.

In May 2012, she became Deputy Director of the Office of the French Prime Minister. Then in September 2013, she took up the position of Deputy Chief Executive Officer Caisse des Dépôts and Director of Savings Funds.

Since 30 June 2016, Odile Renaud-Basso is Director General of the French Treasury.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: none.

Abroad: none.

Other positions held by Ms Renaud-Basso in the last five years

In France: 2013-2016: Director of CNP Assurances and of the La Poste Group.

Abroad: none.

DELPHINE DE SAHUGUET D'AMARZIT

(46)

Director proposed by the Public Sector
(Article 6 of Order No. 2014-948)

First appointed
12 April 2018

Current term expires
2021 AGM

Number of shares held
Not obliged to hold Thales shares (Art. 6-VI of Order No. 2014-948).

Born on 5 May 1973, Delphine de Sahuguet d'Amarzit, a French citizen, is a graduate of the Paris Institute of Political Studies and the École Nationale d'Administration (ENA).

She began her career at the Inspection Générale des Finances and then joined the French Treasury Department. In 2003, she became a technical advisor on financial services on the staff of the Minister of the Economy and Finance, and in 2007 was appointed as Advisor on economic and financial affairs to the Prime Minister. From 2009 to 2013, she was in charge of the multi-lateral affairs and development office at the French Treasury Department where she oversaw the organisation of France's Presidency of the G8 and G20 for the Ministry of Finance, before becoming Head of the Financial Sector Department (SFE), responsible for corporate funding and financial regulation.

In 2015, she joined the management committee of Canal+ as Company Secretary. In June 2016, she was appointed Deputy Chief Executive Officer of Groupama Banque, which was renamed Orange Bank after Orange became its majority shareholder.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Director of ID2S, Deputy Chief Executive Officer of Orange Bank SA.

Director and Chairman of the Board of Directors of CECOM (Centre d'Expertise en Conformité Orange Money) since 6 December 2019.

Abroad: none.

Other positions held by Ms d'Amarzit in the last five years

In France: Director of BPI France SA.

Abroad: Director of Dexia SA (Belgium)⁽²⁾.

(1) By order of 30 January 2018, Mrs Odile Renaud-Basso was maintained as Representative of the French State, which was co-opted by Director on the same day.

(2) Listed company.

LOÏK SEGALEN**(59)****Director recommended
by the Industrial Partner****Member of the Audit
and Accounts Committee****First appointed**
19 May 2009**Current term expires**
2022 AGM**Number of shares held**
509 Thales shares

Born on 27 March 1960, Loïk Segalen is a French citizen and a graduate of the École Centrale de Lyon and ESSEC.

He started his career in 1986 in the Finance Department of Dassault International.

He served as Financial Advisor to Dassault Aviation's Vice President for Economic and Financial Affairs in 1990 and subsequently became Deputy Director (1998-1999), and ultimately Director.

In January 2009, Loïk Segalen was appointed Vice President for Economic and Financial Affairs at Dassault Aviation.

He became Vice President for Economic and Social Affairs at Dassault Aviation in September 2011.

In January 2013, he became Chief Operating Officer of Dassault Aviation.

He is a member of the Dassault Aviation Management Committee.

He is an Officer of the French National Order of Merit and Knight of the French Legion of Honour.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: Member of Gifas.

Abroad: Director of Dassault Falcon Jet Corporation (USA), Sabca⁽¹⁾ (Belgium) and Dassault Belgique Aviation (Belgium).

Other positions held by Mr Segalen in the last five years

In France: Director of Sogitec Industries.

Abroad: Director of Dassault Procurement Services (USA), Midway Aircraft Instrument Corporation (USA), Dassault International Inc. (USA) and Sabca Limburg (Belgium).

ANNE-CLAIRE TAITTINGER**(70)****Independent director****Chairman of the Audit
and Accounts Committee****First appointed**
15 May 2012**Current term expires**
2022 AGM**Number of shares held**
612 Thales shares

Born on 3 November 1949, Anne-Claire Taittinger, a French citizen, is a graduate of the Paris Institute of Political Studies, and holds a Master's degree in urban sociology, a postgraduate degree (DESS) in urbanism and an executive MBA from HEC (CPA programme). She began her career in 1976 in the Caisse des Dépôts et Consignations group as manager for urban operations in the Société centrale d'équipement du territoire.

She joined the Groupe du Louvre in 1979 as Company Secretary, then became Chairman & Chief Executive Officer of the Compagnie Financière Deville. She was subsequently Chairman & Chief Executive Officer of the Compagnie Financière Leblanc, Elm-Leblanc, Vice Chairman & Chief Executive Officer of the industrial division of Deville, and Chairman & Chief Executive Officer of Annick Goutal perfumes France USA and later of Baccarat.

She became Chief Executive Officer, followed by Chairman of the Management Board of the Société du Louvre in 1997, and, in 2002, Chairman of the Management Board of Groupe Taittinger and Chief Executive Officer of its subsidiary Groupe du Louvre when the positions of Chairman of the Board and Chief Executive Officer were separated. She stepped down from these positions in July 2006, after overseeing the sale of Groupe Taittinger to an investment fund in 2005.

In September 2006, she formed part of a pool of investors that bought Champagne Taittinger.

In 2004, Anne-Claire Taittinger became involved in the Women's Forum for the Economy and Society, both as a co-founder and investor.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: Chair of SAS Le Riffay. Since September 2018: Member of the Management Committee of SAS E-Attestation.

Abroad: none.

Other positions held by Ms Taittinger in the last five years

In France: Until July 2018: Director and member of the Appointments and Compensation Committees of Carrefour⁽¹⁾. Until 2015: Director and Chairman of the Appointments, Compensation and Corporate Governance Committee of Club Méditerranée⁽¹⁾. Until 2013: Director of FinanCités, of the IFA (*Institut Français des Administrateurs*) and of the Fondation Planet Finance, member of the Supervisory Board of Planet Finance.

Abroad: none.

(1) Listed company.

ANN TAYLOR

(72)

Independent director

First appointed
15 May 2012

Current term expires
2022 AGM

Number of shares held
500 Thales shares

Born on 2 July 1947, Ann Taylor is a UK citizen and studied at the University of Bradford, where she obtained a Bachelor's degree in political science and history, and the University of Sheffield, where she obtained a Master's degree in economic history.

In 1974, she was elected MP (Labour) for Bolton West, holding this seat until 1983.

She subsequently became Head of the Housing Corporation and was a lecturer at the Hansard Society (a member of Birkbeck College) from 1983 to 1987.

In 1987, Ann Taylor was elected MP (Labour) for Dewsbury. She then held various ministerial roles, notably Leader of the House of Commons and Government Chief Whip. She reported directly to the Prime Minister (Tony Blair) and sat on most government committees.

In May 1997, she became member of the Privy Council when she was appointed as Chairman.

In 2001, she chaired the Intelligence and Security Committee under the direct authority of the Prime Minister.

In 2005, she entered the House of Lords (with a life peerage) where she is a representative at the Parliamentary Assembly of the Council of Europe (Political Committee) and the Assembly of the Western European Union (Defence Committee). She has been a member of the NATO Parliamentary Assembly.

In 2007, as a British State Minister in the House of Lords, Ann Taylor became responsible for matters of defence, notably as Minister for Defence Equipment and Support in 2007 and 2009, and then as Minister for International Defence and Security from 2008 to 2010.

Ann Taylor is currently a Member of the House of Lords and chairs its Constitution Committee. She is also a Trustee of the National Coal Mining Museum for England and a Chair of the Council of the University of Bradford.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: none.

Abroad: member of the Advisory Board of Thales UK PLC⁽¹⁾ and Chair of Council and Pro-Chancellor of the University of Bradford.

Other positions held by Ms Taylor in the last five years

In France: none.

Abroad: none.

ÉRIC TRAPPIER

(59)

Director recommended by the Industrial Partner

Member of the Governance and Remuneration Committee

First appointed
19 May 2009

Current term expires
2022 AGM

Number of shares held
500 Thales shares

Born on 1 June 1960, Éric Trappier is a French citizen and a graduate of the École Sud Telecom (formerly Institut National Telecom).

He started his career in 1984 in the Technical Department of Dassault Aviation as Head of Systems Development for the ATL2 and Mirage 2000.

In 1991, he became Director of Sales in Asia (India), and in 1996, in the United Arab Emirates.

After serving as Head of Middle East & Africa in 2000 and Head of Military Exports in 2001, he became Executive Vice President, International in 2002.

In 2006, Éric Trappier became Executive Vice President, International of Dassault Aviation.

He was appointed Chairman & Chief Executive Officer of Dassault Aviation in January 2013.

He is an Officer of the French Legion of Honour and a Knight of the French National Order of Merit.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: Chairman and Chief Executive Officer of Dassault Aviation⁽²⁾, Chairman of Gifas, Chairman of Cidef, Director of Sogitec Industries.

Abroad: Chairman of Dassault Falcon Jet Corporation (USA), Chairman of the ASD (Belgium), Co-Chairman and Director of Dassault Reliance Aerospace Limited (DRAL) (India) and Director of Dasbat Aviation LLC (United Arab Emirates).

Other positions held by Mr Trappier in the last five years

In France: Director-Manager of the Rafale International EIG, Manager of Dassault International (France) (SARL), First Vice Chairman of Gifas and Chairman of the ASD Defence Committee.

Abroad: Director and Chairman of Dassault International Inc. (USA).

(1) A Thales Group company.

(2) Listed company.

MARIE-FRANÇOISE WALBAUM**(69)****Director recommended
by the Industrial Partner****First appointed**

17 September 2013

Current term expires

2022 AGM

Number of shares held

500 Thales shares

Born on 18 March 1950, Marie-Françoise Walbaum, a French citizen, is a graduate in economics and sociology from Paris X University.

She began her career at BNP Paribas in 1973 and held various posts in retail banking and credit analysis until 1981. From 1981 to 1994, she served as Senior Auditor of BNP's Inspectorate General, Chief Executive Officer for mutual funds and Chief Executive Officer of the brokerage firm Patrick Dubouzet SA. In 1994, Marie-Françoise Walbaum became Head of Listed and Unlisted Equity Investments as well as Private Equity Portfolio Manager at BNP Paribas, a firm she left in the summer of 2012 after a career spanning 39 years.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: Independent director of Esso⁽¹⁾ (and Chairman of the Audit Committee), FFP⁽¹⁾ (and member of the Finance and Audit Committee and the Governance, Appointments and Compensation Committee), Imerys⁽¹⁾ (and member of the Audit Committee, the Appointments Committee and the Compensation Committee), and member of the Supervisory Board of Isatis Capital.

Abroad: none.

Other positions held by Ms Walbaum in the last five years

In France: none.

Abroad: none.

4.1.1.2 Employee representatives**ANNE-MARIE HUNOT-SCHMIT****(55)****Director representing
employees****Member of the
Strategic & CSR Committee****First appointed**

9 December 2016

Current term expires

8 December 2020

Number of shares held

- 267 Thales shares;
- 101 Thales shares under the Group savings scheme.

Not required to hold Thales shares (Article L. 225-25, paragraph 3 of the French Commercial Code).

Born on 4 October 1964, Anne-Marie Hunot-Schmit is a French citizen and a graduate of the IAE Paris business school. After receiving a postgraduate degree in Applied Mathematics, she joined Dassault Électronique in 1987 as a software developer, where she filed the first patent for a ground collision avoidance system (GPWS/GCAS). In 1998, Ms Hunot-Schmit joined the first contract management team for the Mirage 2000-9 programmes.

In 2007, she began working at Thales's registered office, where she was responsible for international business ethics standards and subsequently became Head of the Price Control Department.

Since autumn 2016, she has been in charge of financial control for bids and projects within the Ground Transportation Business Unit.

Appointments and other positions held in companies in France and abroad**Appointments held in other companies**

In France: none.

Abroad: none.

Other positions held by Ms Hunot-Schmit in the last five years

In France: none.

Abroad: none.

(1) Listed company.

FRÉDÉRIQUE SAINT

(61)

Director representing employees

Member of the Audit and Accounts Committee

Member of the Governance and Remuneration Committee

First appointed

9 December 2016

Current term expires

8 December 2020

Number of shares held

- 10 Thales shares;
- 21 Thales shares under the Group savings scheme.

Not required to hold Thales shares (Article L. 225-25, paragraph 3 of the French Commercial Code).

Born on 19 December 1958, Frédérique Saint is a French citizen and holds a degree in engineering from the École Centrale de Paris. In 1984, she began working for Aérospatiale Cannes, which became Alcatel in 1998, and in 2007, she joined Thales Alenia Space.

Frédérique Saint has worked in various areas in the satellite business, including attitude control and mission analysis for telecommunications customers in Europe and abroad.

Since 2006, she is a technical expert for the In-orbit Operations division.

Appointments and other positions held in companies in France and abroad

Appointments held in other companies

In France: none.

Abroad: none.

Other positions held by Ms Saint in the last five years

In France: none.

Abroad: none.

To the knowledge of Thales:

- there are no family ties between members of the Board of Directors;
- no Board member has been convicted of fraud in the last five years;
- no Board member has been involved in the last five years as a senior executive in a bankruptcy, receivership or liquidation, or has been charged and/or officially disciplined by statutory or regulatory authorities;
- no Board member has been barred in the last five years by a court from acting as a member of a body dedicated to the administration, management or supervision of an issuer, or from being involved in the management or running of such a company's affairs;
- no conflict of interest exists between the Board members' private interests and their duties to Thales.

4.1.2 Other persons attending Board meetings (without voting rights)

In addition to the Secretary of the Board of Directors and members of corporate management who may be invited by the Chairman to attend Board meetings, depending on the agenda, the following persons are invited to attend all Board meetings in an advisory capacity:

Representative of the French state's golden share

Joël Barre, 64, Engineer-General, Exceptional Class (*Ingénieur Général de classe exceptionnelle*), head of the DGA (*Délégué Général pour l'Armement*) French military procurement office.

Appointed by decree of the Minister of the Economy and Finance on 6 April 2018.

Representing the French state on the Thales Board of Directors in accordance with decree No. 97-190 of 4 March 1997 concerning the French state's golden share (see page 169).

Government Commissioner

Jean-Luc Sourdois, 59, Controller General of Defence on special assignment (*Contrôleur Général des Armées en mission extraordinaire*).

Appointed Government Commissioner to Thales and its subsidiaries by decision of the Minister of Defence of 3 July 2019, under the statutory and regulatory provisions concerning defence contractors and companies engaged in the manufacture and sale of defence equipment.

Representative of the Central Works Council

Marielle Marichy, 56, Central Works Council representative.

Appointed by the Central Works Council as its representative on the Board of Directors of Thales, pursuant to Article L. 2323-65 of the French Labour Code.

The statutory auditors

The statutory auditors are invited to attend, at a minimum, the Board meetings relating to the audit or approval of the financial statements, as provided for by law. They may also be invited by the Chairman to attend other Board meetings when their presence could be of particular value to the discussion. The following were invited to Board meetings during the 2019 financial year:

- **Ernst & Young Audit**, represented by Jean-François Ginies, partner;
- **Mazars**, represented by Dominique Müller, partner.

4.2 CORPORATE GOVERNANCE

In accordance with French law, in 2008 the Company decided to refer voluntarily to the Corporate Governance Code for listed Companies published by the Afep and Medef bodies. The version of that code in force for the 2019 financial year is dated June 2018 and can be viewed on the Afep website at <http://www.afep.com/publications/le-code-afep-medef-revise-de-2018/>

or at the Company's registered office. When preparing this report, the Board took into account the changes contained in the latest version of the aforementioned Code which was published on 30 January 2020 and will apply as from the 2020 financial year.

“Comply or explain” rule

The Company complies with the recommendations contained in the Afep-Medef code as amended in June 2018, except for those concerning:

Heading	Afep-Medef	Thales at 25/02/2020	Explanation
A. Independent directors (ratios):			
• Board of Directors	1/3 (controlled companies)	31%	The terms of the shareholders' agreement do not allow compliance with the ratios of the Afep-Medef code.
• Audit and Accounts Committee	2/3	1/3	
• Governance and Remuneration Committee	>50%	1/3	
B. Succession plan for the Company representative (Chairman and CEO of Thales)	A Board Committee draws up a succession plan for the Chairman and CEO	No	Under the terms of the above-mentioned agreement, the appointment of the Chairman and CEO is decided by both shareholders (Public Sector and Dassault Aviation).

4.2.1 Composition and procedures for the organisation and operation of the Board of Directors

Restatement of the rules of the shareholders' agreement and composition of the Board of Directors

The Company is a *société anonyme* (French public limited company) with a Board of Directors. Under the terms of the shareholders' agreement between the Public Sector and the Industrial Partner (Dassault Aviation), as published by the French financial markets authority (*Autorité des marchés financiers* – AMF), the Board of Directors is composed of 16 directors, 14 of whom are appointed by the General Meeting and two of whom are appointed by the trade unions, in accordance with the law (Article L. 225-27 *et seq.* of the French Commercial Code) and the Articles of Association (Article 10).

Of the 14 directors appointed by the General Meeting, four are “external directors” selected jointly by the Public Sector and Dassault Aviation, one is the representative of employee shareholders, and the others are recommended to the General Meeting by the Public Sector (five) and by Dassault Aviation (four).

The shareholders' agreement also requires the Chairman and CEO to be chosen based on the joint proposal of the Public Sector and Dassault Aviation (or the Chairman of the Board and the Chief Executive Officer if the separation of these roles has been jointly agreed by the two shareholders) and at least one director representing each of the parties to sit on each of the Board Committees.

➤ **SUMMARY OF INFORMATION RELATING TO DIRECTORS**
(PREPARED IN ACCORDANCE WITH APPENDIX III OF THE AFEP-MEDEF CODE, AS AMENDED IN JANUARY 2020)

Directors at 31 December 2019	Age	Gender	Nationality	Number of Thales shares	Number of appointments held in other listed companies
Appointed by the Annual General Meeting (14)					
Recommended by the Public Sector (5)					
Patrice Caine, Chairman & Chief Executive Officer	49	M	French	9,473	1
Laurence Broseta (proposed by the French state – Article 6 of Order No. 2014-948)	51	F	French	700	1
Bernard Fontana	58	M	French	–	–
French state, represented by Odile Renaud-Basso (appointed by decree – Article 4 of Order No. 2014-948)	54	F	French	2,060 ^(a)	–
Delphine de Sahuguet d'Amarzit	46	F	French	–	–
Recommended by the Industrial Partner (Dassault Aviation) (4)					
Charles Edelstenne	81	M	French	509	3
Loïk Segalen	59	M	French	509	1
Éric Trappier	59	M	French	500	1
Marie-Françoise Walbaum	69	F	French	500	3
Representative of employee shareholders (1)					
Philippe Lépinay	66	M	French	2,578	–
External directors (4)					
Yannick d'Escatha Independent director ^(b)	71	M	French	500	–
Armelle de Madre Independent director ^(b)	49	F	French and Dutch	500	–
Anne-Claire Taittinger Independent director ^(b)	70	F	French	612	–
Ann Taylor Independent director ^(b)	72	F	British	500	–
Appointed by the trade unions (2)					
Anne-Marie Hunot-Schmit	55	F	French	368	–
Frédérique Saint	61	F	French	31	–

(a) Odile Renaud-Basso, Permanent Representative of the French state and director, holds no Thales shares.

(b) Within the meaning of the Afep-Medef code as amended in January 2020.

➤ **SUMMARY OF INFORMATION RELATING TO DIRECTORS**
(PREPARED IN ACCORDANCE WITH APPENDIX III OF THE AFEP-MEDEF CODE, AS AMENDED IN JANUARY 2020) (CONT.)

Directors at 31 December 2019	First appointment	Current term		Committees*			Attendance 2019			
		Starts	Ends	S&C	A&A	G&R	Number of meetings taken into account and attendance percentage ^(b)			
							Boards		Committees	
Appointed by the Annual General Meeting (14)										
Recommended by the Public Sector (5)										
Patrice Caine, Strategy & CSR (Chairman) Chairman & Chief Executive Officer	23/12/2014	23/05/2018	2022 OGM				10	100%	5	100%
Laurence Broseta (proposed by the French state – Article 6 of Order No. 2014-948)	14/05/2014	17/05/2017	2021 OGM				10	100%	n/a	n/a
Bernard Fontana	30/01/2018	30/01/2018	2021 OGM				10	100%	6	100%
French state, represented by Odile Renaud-Basso (appointed by decree – Article 4 of Order No. 2014-948) ^(b)	19/07/2017	19/07/2017	2021 OGM				10	90%	5 5	100% 100%
Delphine de Sahuguet d’Amarzit ^(b)	12/04/2018	12/04/2018	2021 OGM				10	90%	n/a	n/a
Recommended by the Industrial Partner (Dassault Aviation) (4)										
Charles Edelstenne	19/05/2009	23/05/2018	2022 OGM				10	90%	5	100%
Loïk Segalen	19/05/2009	23/05/2018	2022 OGM				10	100%	6	100%
Éric Trappier	19/05/2009	23/05/2018	2022 OGM				10	100%	5	100%
Marie-Françoise Walbaum	17/09/2013	23/05/2018	2022 OGM				10	100%	n/a	n/a
Representative of employee shareholders (1)										
Philippe Lépinay	01/04/2007	17/05/2017	2021 OGM				10	100%	5	100%
External directors (4)										
Yannick d’Escatha Independent director ^(c) ^(d)	19/05/2009	18/05/2016	2020 OGM				10	90%	5	100%
Armelle de Madré Independent director ^(d)	28/06/2017	15/05/2019	2023 OGM				10	80%	n/a	n/a
Anne-Claire Taittinger Independent director ^(d)	15/05/2012	23/05/2018	2022 OGM				10	100%	6	100%
Ann Taylor Independent director ^(d)	15/05/2012	23/05/2018	2022 OGM				10	50% ^(e)	n/a	n/a
Appointed by the trade unions (2)										
Anne-Marie Hunot-Schmit	09/12/2016	09/12/2016	08/12/2020				9 ^(f)	100%	5	80%
Frédérique Saint	09/12/2016	09/12/2016	08/12/2020				10	100%	6 5	100% 100%

(a) Director whose mandate expires on the date of the General Meeting of 6 May 2020. Pursuant to their wishes, they will not be nominated for re-election.

(b) Attendance is calculated in relation to the total number of meetings during which the director was in office.

(c) Within the meaning of the Afep-Medef code as amended in January 2020.

(d) Ms. Taylor's attendance rate in 2019 was due to her participation in Brexit-related parliamentary work in Britain's House of Lords.

(e) One session was deducted from the total because the director in question did not attend due to a conflict of interest.

* **Committee:** Strategic and CSR (S&C), Audit and Accounts (A&A) and Governance & Remuneration (G&R).
Status:  Member,  Chair.

➤ CHANGES IN THE COMPOSITION OF THE BOARD OF DIRECTORS AND COMMITTEES DURING THE 2019 FINANCIAL YEAR

(PREPARED IN ACCORDANCE WITH APPENDIX III OF THE AFEP-MEDEF CODE, AS AMENDED IN JANUARY 2020)

	Departures	Appointments	Reappointments
Board of Directors	—	—	Armelle de Madre
Strategic and Corporate Social Responsibility Committee	—	—	—
Audit and Accounts Committee	—	—	—
Governance and Remuneration Committee	—	—	—

In accordance with the amended Afep-Medef code and as recommended by the AMF, the biographies in section 4.1.1 list the offices held by members of the Board of Directors in Group companies and/or listed companies, in France or abroad, and include information relating to their other activities, areas of expertise or experience.

The term of office of directors was reduced from six to four years by the General Meeting of 24 May 2013, effective from the 2014 General Meeting.

The average age of the directors at 31 December 2019 was 61. On that date, in the absence of a specific provision in the Articles of Association, the age of the directors was governed by common law:

- the number of directors over the age of 70 may not exceed one-third of the directors in office, in accordance with Article L. 225-19 paragraph 2 of the French Commercial Code;
- the age limit for the Chairman is 65, in accordance with Article L. 225-48 of the French Commercial Code.

Governance procedures: non-separation

The Company is a *société anonyme* (French public limited company) with a Board of Directors and there is no separation of the positions of Chairman of the Board of Directors and Chief Executive Officer.

On 23 May 2018, upon the reappointment of Patrice Caine as Chairman and CEO, the Board of Directors ruled that the absence of separation did not affect the active and efficient exercise of its monitoring and supervisory functions, considering that the responsibilities of the Board of Directors, the role of each of its Committees, and the limits applying to the powers of the Chairman and CEO are clearly established (see the extract from chapter II of the Board's rules of procedure and section 4.2.6 below).

The Chairman and CEO's compensation is reviewed by a Committee and later by the Board of Directors in the absence of the concerned party.

During Board visits to Group sites, and in particular during the Board of Directors' annual review of its strategic plan, directors may organise meetings without any senior executives in attendance, including the Chairman and CEO, Thales's sole Company representative.

Increasing the number of women on the Board of Directors

The objectives set by law No. 2011-103 of 27 January 2011 relating to the balanced representation of men and women on boards of directors and supervisory boards and to professional equality as amended (both men and women must represent a minimum of 40% of the directors appointed, excluding directors representing employees and employee shareholders) have been met since 29 November 2016.

At 31 December 2019, the percentage of women on the Board of Directors was 54% (7 out of 13 directors), excluding employee representatives and employee shareholders, and 56% (9 out of 16 directors) when account is taken of directors representing employees and employee shareholders.

Independence of directors

According to the rules of procedure, the Board of Directors, based on the report of the Governance and Remuneration Committee, conducted on 25 February 2020 its annual review of the situation of its members with reference to the definition of and criteria for independent directors, as specified by the amended Afep-Medef code.

The Board of Directors has decided to retain the strict approach adopted in previous years: directors appointed by the General Meeting on the recommendation of either a "Public Sector" or "Industrial Partner" shareholder, or a category of shareholders (employees), or directors appointed by the trade unions, cannot be considered independent within the meaning of the amended Afep-Medef code. As part of this approach, only directors who qualify as "external directors" under the terms of the shareholders' agreement may be qualified as independent directors (i.e. no more than 4 out of 16).

The Governance and Remuneration Committee carefully reviewed the responses to the detailed questionnaire sent to each of the "external directors" in January 2020.

Of these, only Armelle de Madre and Yannick d'Escatha served in a professional capacity in 2019 in a group that had a business relationship with Thales, specifically Arkadin, of which Armelle de Madre was Human Resources Director until August 2019, and Areva SA, of which Yannick d'Escatha was appointed Non-Executive Chairman of the Board of Directors in November 2019 (see biographies on pages 70 and 71).

The Committee noted that total revenues generated by Arkadin with Thales was substantially lower than the 1% threshold of the revenues of either Thales or Arkadin. It also noted that total revenues generated by Thales with Areva SA was substantially lower than the 1% threshold of the revenues of either Thales or Areva SA. The 1% threshold was set by the Board as a threshold of materiality in assessing whether the business relationship was significant or not.

The Committee discussed whether the appointment of Yannick d'Escatha as Non-Executive Chairman of Areva SA, a state-owned company and itself the Company's largest shareholder, was likely to create a relationship of interest. The Committee deemed that it was not material since there was no business relationship between Thales and Areva SA.

Given the responses to the other sections of the questionnaire, the Committee concluded that, on this basis, nothing indicated that the judgement of Armelle de Madre and Yannick d'Escatha would be compromised while carrying out their duties as directors of Thales and that there was nothing to prevent them from being qualified as independent directors by the Board.

The two other "external directors" stated that they have no business relationship with either the Company or the Group. In the Committee's opinion, the questionnaires did not contain any responses that call into question these individuals' qualification as independent directors.

The table below shows the independent directors' fulfilment of the independence criteria set out in the Afep-Medef code.

	Yannick d'Escatha	Armelle de Madre	Anne-Claire Taittinger	Ann Taylor
Criterion 1 Employee or executive officer within the previous five years	✓	✓	✓	✓
Criterion 2 Cross-directorships	✓	✓	✓	✓
Criterion 3 Significant business relationships	✓	✓	✓	✓
Criterion 4 Family ties	✓	✓	✓	✓
Criterion 5 Auditor	✓	✓	✓	✓
Criterion 6 Period of office exceeding 12 years	✓	✓	✓	✓
Criterion 7 Status of non-executive Company representative	✓	✓	✓	✓
Criterion 8 Status of major shareholder	✓	✓	✓	✓

In conclusion, on the recommendation of the Governance and Remuneration Committee, the Board of Directors decided to qualify Armelle de Madre, Anne-Claire Taittinger, Ann Taylor and Yannick d'Escatha as independent directors.

As of 25 February 2020, the closing date of the 2019 financial statements, the Board of Directors had four independent directors, or 31% of its members (excluding directors representing employees and employee shareholders, as stipulated by the amended Afep-Medef code). The proportion is, however, slightly less than the one-third recommended for controlled companies.

Rules of procedure for the Board of Directors and its Committees

The Board's rules of procedure, amended most recently by the Board on 25 February 2020, do not supersede the provisions of the law or of the Company's Articles of Association applicable to the Board and its Committees, or the provisions of the Code of Ethics or the Code on Insider Trading, certain provisions of which apply to directors, since together these rules represent a code of professional conduct for directors (see "Prevention of insider trading" below).

In addition to the specific provisions of the shareholders' agreement, the Board's rules of procedure include best practices in respect of corporate governance, particularly those contained in the aforementioned Afep-Medef code. The Governance and Remuneration Committee is in charge of periodic updates and submits for approval to the Board the revisions that it deems necessary.

The Board's rules of procedure are divided into five sections:

I) Members of the Board of Directors (Board membership, independence, availability, primary duty, transparency, confidentiality and compensation)

The rules of procedure stipulate that:

- the members of the Board of Directors must inform the Chairman of all management or administrative positions that they hold;
- each Company representative must obtain the opinion of the Board before accepting a new corporate office in a listed company;
- directors must inform the Board of any conflicts of interest, even potential, and must, in such cases, refrain from taking part in discussions or voting on the corresponding matter.

Directors must also inform the Chairman of any proposed agreement involving them directly or indirectly which may, pursuant to the French Commercial Code, need to receive the prior authorisation of the Board of Directors.

In addition, the directors have individually issued a statement regarding the following points:

- no Board member has any family ties with another member of the Board of Directors or any members of corporate management;
- no Board member has been convicted of fraud in the last five years;
- no Board member has been involved in the last five years as a senior executive of a company that has been the subject of bankruptcy, receivership or liquidation, or has been challenged and/or officially disciplined by statutory or regulatory authorities;
- no Board member has been barred in the last five years by a court from acting as a member of a body dedicated to the administration, management or supervision of an issuer, or from being involved in the management or running of such a company's affairs;
- no conflict of interest exists between the private interests of each of the Board members and their duties with regard to Thales.

II) Powers of the Board of Directors (representation and corporate interests, specific powers and shareholders' agreement)

The annual budget, the strategic plan, the appointment and dismissal of the Chairman and CEO (or the appointment of a Chairman and a Chief Executive Officer in the event of separation or potential separation of these positions), acquisitions or disposals of shareholdings or assets with a value exceeding €150 million (as total commitments or as revenues), as well as strategic alliance agreements and agreements on technological and industrial cooperation, are automatically submitted to the Board for approval, it being understood that the shareholders' agreement stipulates that such decisions must also be approved by the majority of directors representing the Industrial Partner (Dassault Aviation).

Any transactions exceeding €50 million are also submitted to the Board for approval if they involve a change in the Group's strategy as previously approved by the Board.

III) Board information (communication and training)

In particular, it is expected that:

- board documents shall be sent to participants in a timely manner;
- the French State representative responsible for the golden share, the Government Commissioner and the representative of the Central Works Council shall receive all documents sent to directors and are invited to attend Board meetings;
- new directors shall receive, upon their appointment, the appropriate documents for their office and shall attend a briefing on the Company, its organisational structure and its business, given by the Group's senior executives. Thereafter, each director may request additional training.

IV) Board Committees (formation and responsibilities, organisation, information, Audit and Accounts Committee, Governance and Remuneration Committee, Strategic and Corporate Social Responsibility Committee)

It is stipulated that, in addition to the responsibilities of each Committee (see relevant sections below), each Committee is entitled to ask corporate management for any additional information that it deems necessary for the performance of its duties, and may, in exceptional cases, ask the Board of Directors to hire external consultants.

V) Functioning of the Board of Directors (meetings, attendance and representation, annual assessment and updating the rules of procedure)

This topic is covered in the annual minutes of the Board of Directors' activities, as required by law, in section 4.2.2 below.

Prevention of insider trading

In order to take into account any applicable regulations and the recommendations contained in the AMF guide, Thales has implemented a system of "blackout periods" (no-trading periods): in addition to the periods relating to the annual and half-yearly financial statements (at least 30 calendar days, in each case), two periods of at least 15 days each have been introduced for quarterly reporting (first and third quarters). In each case, the period includes the day following the publication of the financial press release.

The financial calendar for the following six months is published on the Company's website after the third quarter financial press release (including the date of the General Meeting). The calendar is updated for the whole year when the previous year's annual results are published.

The directors have been informed by the Company of their obligation to refrain from carrying out any transactions on Thales shares and related financial instruments during the blackout periods relating to the annual and half-yearly financial statements as well as the quarterly financial information, as defined by the Company, and when they have any insider information (within the meaning of the applicable regulations).

The directors have also been informed of any disclosure requirements with regard to the AMF and the Company concerning the transactions mentioned in Article L. 621-18-2 of the French Monetary and Financial Code, and of their obligation to provide the Company with a list of people to whom they are closely connected and inform said people of their own obligations.

Directors may, if they wish, consult the Company Secretary or the Group General Counsel prior to dealing in any shares.

Obligation to hold a minimum number of shares

In application of Article 10.3 of the Articles of Association, each director must hold at least 500 shares, unless legally exempt. The Chairman and CEO is also subject to an obligation to retain shares that they hold as part of their long-term compensation (see section 4.4.2.1 B).

Summary of the transactions mentioned in Article L. 621-18-2 of the French Monetary and Financial Code carried out in 2019

The summary statement (provided for in Article 223-26 of the AMF General Regulations) of the transactions mentioned in Article L. 621-18-2 of the French Monetary and Financial Code carried out in 2019 by persons required to file a disclosure can be found in section 4.6.

4.2.2 Report on the Board of Directors' activities during the 2019 financial year

Number of meetings and attendance rate

The Board of Directors met ten times in 2019, including three times away from head office. The average attendance rate for directors was 93%. The individual attendance rates are specified above in section 4.2.1 above.

The statutory auditors are invited to meetings relating to the audit of the half-year and annual financial statements. In addition, they may be invited to other Board meetings when a report on the work carried out by the Audit and Accounts Committee is presented and when their attendance may be of particular value to the discussion.

Key topics covered

In addition to recurring items within the remit of the Board of Directors (annual budget and update of forecasts, strategic plan, preparation of annual consolidated and corporate financial statements, review of the consolidated half-year financial statements, calculation of the Chairman and CEO's compensation and indication of the quantitative and qualitative criteria for his variable compensation, dividend and interim dividend proposal, approval of Annual Meeting documents and notice of the General Meeting, prior approval if applicable for related-party

commitments or agreements, annual assessment of the operating procedures of the Board and its Committees, various delegations of powers to the Chairman and CEO and reporting on the use of such powers, annual review of the independence of the directors, etc.), the agendas of these meetings included the following items in 2019, in some cases with reports from the relevant Board Committee:

- follow-up on the planned acquisition of Gemalto announced in December 2017 and closed on 2 April 2019, integration of Gemalto and consequent updating of the Group's multi-year targets;
- assessment of the main strategic challenges of the Group's various business areas;
- talent Strategy;
- the Group's environmental policy;
- the introduction of an annual long-term incentive (LTI) plan with performance conditions, applicable to Group employees;
- the anticipated impacts of Brexit;
- the study of a proposal for Thales's *raison d'être*.

4.2.3 Preparatory work for Board meetings

Information for directors

Board documents

Each year, a provisional timetable for meetings is drafted halfway through the year for the following year.

The Board's rules of procedure have set the period for the notice of meeting and provision of documents at five working days, unless this is impossible or there is an emergency, in which case three days is considered a desirable minimum.

Each notice includes the agenda and meeting documents (or at least the main points, if the documents cannot be completed at the time of dispatch) and the draft minutes of the previous meeting, usually sent out initially within one month of each meeting. In some cases, additional material is sent to directors after the notice of meeting, or may even be handed out during the meeting, if the matter is urgent.

The directors are also sent a press review and a selection of financial analyses relating to the Company. National press releases are sent to them directly by e-mail.

The prior sending of documents by e-mail, which can be accessed on dedicated secure tablets, has enabled the time frame for provision to be optimised; the documents are then sent out in paper form to directors based on their request.

Additional training

In accordance with the Board's rules of procedure, directors may ask to receive additional training.

Organisation and operation of Board Committees

The Board of Directors has three Committees: an Audit and Accounts Committee, a Governance and Remuneration Committee and a Strategic and Corporate Social Responsibility Committee.

Audit and Accounts Committee

At 31 December 2019, the powers and duties of this Committee, which are reproduced in the Board's rules of procedure (Article 16), reflect, on the whole, the framework set out in the Order of 8 December 2008 implementing Directive 2006/43/EC and are also compliant with EU Regulation No. 537/2014 of 16 April 2014:

The Audit and Accounts Committee acts under the responsibility of the Board of Directors. Without prejudice to the powers of the Board of Directors, it is specifically responsible for the following tasks:

- 1) it monitors the process of drawing up the financial information and, where applicable, formulates recommendations to guarantee its integrity;
- 2) it monitors the effectiveness of internal control and risk management systems, as well as the internal audit where applicable, with regard to procedures relating to the preparation and processing of the accounting, financial and non-financial information;
- 3) it supervises the selection procedure for the statutory auditors and issues a recommendation to the Board of Directors on the statutory auditors proposed for appointment by the General Meeting, including the renewal of their mandate;
- 4) it monitors fulfilment by the statutory auditors of their mission, taking account of the findings and conclusions of the Haut Conseil du Commissariat aux Comptes (Audit Office Control Board) following audits performed;
- 5) it ensures compliance by the statutory auditors with the terms and conditions of independence prescribed by current regulations;
- 6) it approves, within the framework authorised by the Board of Directors, the provision by the statutory auditors or members of their respective networks, of services other than the certification of the financial statements of the Company and the companies that it controls directly and indirectly. it reviews and validates related procedures and ensures their compliance;

- 7) it reviews the procedure for regularly assessing whether the agreements relating to ordinary transactions entered into under normal terms and conditions actually meet these conditions, in accordance with Article L. 225-39 of the French Commercial Code (task added by the Board of Directors on 25 February 2020).

It consults the statutory auditors on the following:

- 1) their general programme of work as well as the various sample tests they have performed;
- 2) changes that they believe should be made to the financial statements to be published or to other accounting documents, making any relevant comments on the assessment methods used in their preparation;
- 3) any irregularities and inaccuracies that they may have discovered;
- 4) conclusions resulting from the aforementioned comments and adjustments to the profits for the period compared to those of the previous period;
- 5) risks to their independence and the safeguards applied to mitigate these risks;
- 6) significant internal control weaknesses they may have identified, as regards procedures relating to the preparation and processing of accounting and financial information.

It receives from them each year:

- 1) a statement of independence;
- 2) an update of the information provided for their appointment, detailing the services provided by members of the network to which the statutory auditors belong, as well as services other than the certification of the financial statements that they have provided;
- 3) the additional report under Article 11 of EU Regulation No. 537/2014.

Each year, it examines the budget for professional fees for the statutory auditors. It reviews and analyses the professional fees paid to the statutory auditors for the preceding financial year.

The Committee relies in particular, for performing its duties, on the work of the Finance Department and the Internal Audit department. It approves the annual programme of the Internal Audit department and examines the activity reports.

It reports regularly to the Board of Directors on its work and the results of its mission to certify the financial statements, the way in which this mission contributed to the integrity of the financial information and the role that it played in this process. It informs the Board of Directors immediately of any problems encountered.

In addition, since 2010, with reference to the final AMF Audit Committee report of 22 July 2010, Committee members have been able to have a discussion with the statutory auditors at the end of each meeting without any meeting secretary or Thales representatives being present.

On 31 December 2019, the members of the Committee were:

- Anne-Claire Taittinger, Chairman and independent director;
- Bernard Fontana;
- Frédérique Saint, director representing employees;
- Loïk Segalen.

The composition of the Audit and Accounts Committee is consistent with the provisions of the French Commercial Code: the Committee members are all directors and one director, the Chair of the Committee, in addition to being qualified as an independent director, has the requisite financial, accounting and statutory audit expertise (see biography of Anne-Claire Taittinger on page 73).

However, the Committee is not composed of two thirds independent directors, as recommended by the Afep-Medef code, but only one-third (note that employee director Frédérique Saint was not taken into account for this calculation). Under the shareholders' agreement, a representative of each of the two shareholders of the agreement sits on each Committee. In the case of the Audit and Accounts Committee, the representatives are Bernard Fontana, appointed on the recommendation of the Public Sector, and Loïk Segalen, appointed on the recommendation of Dassault Aviation.

The Committee met six times in 2019, with an attendance rate of 100%.

The statutory auditors, invited to all Committee meetings, are involved in all discussions, except when there is a conflict of interest (e.g. during a

review of the appointment of statutory auditors or renewal of their terms of office). Twice a year, they submit their report on the audit of the accounts (annual and half-year), and specify the accounting options used and the highlights of their audit of the financial statements.

The Senior Executive Vice President, Finance and Information Systems, the Company Secretary and the Director of Audit, Risks & Internal Control are invited to all meetings, as is the Group Director of Financial Control and, periodically and depending on the agenda, other representatives of the Finance Department and the Group General Counsel.

In addition to the annual and half-year financial statements, in 2019 the Committee also reviewed:

- the execution of difficult contracts and their accounting implications;
- the follow-up of the main disputes;
- the external audit plan and statutory auditors' fees;
- the organisation of internal control, updates to the risk mapping and assessment of the implementation of the annual audit plan;
- the audit plan for 2020;
- cyber risk mapping and cyber action plans;
- mapping of corruption risk and the Group's anti-corruption compliance programme;
- the finalisation of the three-year assessment of the Group's pension commitments in the United Kingdom and the corresponding financing plan;
- the selection process of an incumbent statutory auditor that led to their reappointment, and the independence of the second incumbent statutory auditor with a view to the rotation of their partners who sign the Group's financial statements;
- the Chairman's report for 2018 covering internal control and risk management.

During meetings more specifically devoted to audit and internal control, the Committee reviewed the reports of the Audit, Risks & Internal Control Department. It laid out its recommendations for the follow-up on assignments.

The Committee also reviewed the financial press releases on the Company's results.

Following the meetings, which, in the case of the closing or examination of the financial statements, are held at least two (and wherever possible three) days prior to the Board meeting, a written report is produced and submitted to all directors at the next Board meeting. Pursuant to the AMF recommendation in its report on the Audit Committee of 22 July 2010, this report is systematically included or attached to the minutes of the next Board meeting after being approved by the Committee. In addition, the Committee proceedings are recorded in the minutes, which may be more detailed.

Governance and Remuneration Committee

In compliance with Article 17 of the Board's rules of procedure, the Governance and Remuneration Committee has the task of examining:

- the compensation policy for the Company's senior executives;
- the compensation of the Chairman and CEO and any commitment concerning him, the compensation of the directors and, if applicable, that of other Company representatives;
- the proposed long-term incentive (LTI) plans, which are submitted to the Board;
- the proposed employee share ownership schemes;
- candidates for external directors, regarding whom the two major shareholders hold consultations in accordance with the provisions of the aforementioned shareholders' agreement;
- at least once a year, the independence of the directors; and
- in general, any issues relating to the application of the Afep-Medef Corporate Governance Code for Listed Companies.

The Committee is also responsible for preparing the Board's assessment of its own performance (see section 4.2.4 below) and reporting on it to the Board in order to facilitate discussion.

On 31 December 2019, the members of the Committee were:

- Yannick d'Escatha, Chairman and independent director;
- Frédérique Saint, director representing employees;
- Éric Trappier;
- Odile Renaud-Basso.

The Committee met five times in 2019, with an attendance rate of 100%.

The ratio of independent directors recommended by the Afep-Medef code (at least half) is not met, because it currently stands at one-third (the director representing employees, Frédérique Saint, is not included in this calculation pursuant to the Afep-Medef code). Under the shareholders' agreement, a representative of each of the two shareholders of the agreement sits on each Committee. In the case of the Governance and Remuneration Committee, the representatives are Odile Renaud-Basso, representative of the State, appointed on the recommendation of the Public Sector, and Eric Trappier, appointed on the recommendation of Dassault Aviation.

The Senior Executive Vice President, Human Resources, and the Company Secretary are invited to all Committee meetings, and the Chairman and CEO is invited to some of the meetings, depending on the agenda or in cases where his presence could be of particular value to the discussion.

The items reviewed by the Committee in 2019 included:

- the Group's long-term incentive (LTI) policy and the preparation of a free share plan with performance conditions according to the level of responsibility of the beneficiaries;
- the total compensation of the Chairman and CEO (*ex post* 2018 and compensation policy for 2019);
- establishment of a matrix of director skills;
- the independence of the directors;
- the terms for the annual assessment of the performance of the Board of Directors and the related report presented to the Board; and
- the Board's report on corporate governance.

For all of these items, the Committee presented its recommendations to the Board: each meeting was systematically recorded in minutes issued to all directors at the following Board meeting. In addition, the Committee proceedings are recorded in the minutes, which may be more detailed.

Strategic and Corporate Social Responsibility Committee

In compliance with the Board's rules of procedure, the Strategic and Corporate Social Responsibility (CSR) Committee's main tasks are to assess the Group's strategy in its key business segments, and in particular:

- to examine the Group's strategic approaches in each of its major fields of operation, before these are submitted to the Board of Directors;
- to analyse the framework for submission of the budget and the three-year rolling plan to the Board, and to examine the proposed annual budget in the context of this plan;
- to analyse major acquisitions and asset disposal plans (in excess of €150 million), as well as proposed strategic agreements or partnerships.

The Board of Directors, at its meeting on 27 February 2017, decided to add corporate social responsibility to these duties, pursuant to the Afep-Medef code as amended in November 2016 (see section 3, "The Board of Directors and Strategy"). As a result of these new duties, the Committee is henceforth known as the "Strategic and Corporate Social Responsibility Committee". As from the 2019 financial year, it is tasked with reviewing the Group's annual non-financial performance statement prior to its approval by the Board.

As at 31 December 2019, the Strategic and Corporate Social Responsibility Committee comprised:

- Patrice Caine, Chairman;
- Charles Edelstenne;
- Anne-Marie Hunot-Schmit, director representing employees;
- Philippe Lépinay, director representing employee shareholders;
- Odile Renaud-Basso.

For this type of committee, no conditions are set for the independence of directors, either by law or by the Afep-Medef code.

The Committee met five times in 2019 with a 96% attendance rate, mainly to examine the 2019 budget, follow up on the acquisition and integration of Gemalto, and review other strategic decisions. At a special meeting, the Committee also reviewed the "Corporate Responsibility and Non-Financial Performance" report for the 2018 financial year, which included the Group's first non-financial performance statement.

In 2019, the Senior Executive Vice President of Finance & Information Systems, the Company Secretary, the Senior Executive Vice President of Operations & Performance and the Executive Vice President of Strategy were invited to meetings by the Chair of the Committee. A written report was made for each meeting and distributed to all directors at the following Board meeting, or an oral account of the meeting was presented by the Chairman and CEO, the Committee Chairman, with supporting documentation as applicable. Meetings are recorded in minutes, which may be more detailed.

4.2.4 Assessment of the Board's performance

The Board assesses its performance each year either by means of a formal self-assessment or an external assessment. In either case, the assessment is followed by a discussion with the Governance and Remuneration Committee and then the Board.

At the end of 2017, the Board arranged for an external assessment of its performance. The results were included in the report on corporate governance for that financial year. At the end of 2018, the Board conducted a formal self-assessment based on individual interviews between the directors and the Company Secretary according to an interview guide prepared in consultation with the Chairman of the Governance and Remuneration Committee. In 2019, it assessed its performance based on a questionnaire that followed the same principle.

At the end of the assessment process, the directors unanimously agreed that the Board and its Committees were performing well.

In particular, they appreciated the regular, detailed follow-up of the Gemalto acquisition and other strategic planning issues, largely thanks to the work carried out by the Strategic & CSR Committee.

As in 2018, the directors also stressed the value of the many opportunities they had to interact with the management team and they particularly appreciated the annual strategy seminar and a second off-site Board

meeting which gave them an opportunity to learn more about the Group's business activities.

With regard to the Strategic & CSR Committee, which is now in the second year of its CSR duties, work performed in 2019 was very well received.

Finally, the directors reported that proper account had been taken of the recommendations resulting from the 2017 external assessment and suggested certain areas for improvement for 2020: regular analysis of benchmarks compared to the competition; more time for discussions with the Executive Committee and between directors; more in-depth discussions throughout the year about strategic challenges and options; and greater timeliness in sending out certain documents. The directors also specified the topics they wished to see addressed in 2020. These pertained to human resources and executive compensation policies, as well as to some of the Group's business areas.

In addition, the self-assessment revealed that the individual contributions of directors to the work of the Board of Directors and its Committees were satisfactory.

4.2.5 Diversity policy of the Board of Directors and gender balance on management bodies

Diversity policy of the Board of Directors and its Committees

(information referred to in Article L. 225-37-4, paragraph 6 of the French Commercial Code and in paragraph 6.2 of the Afep-Medef code)

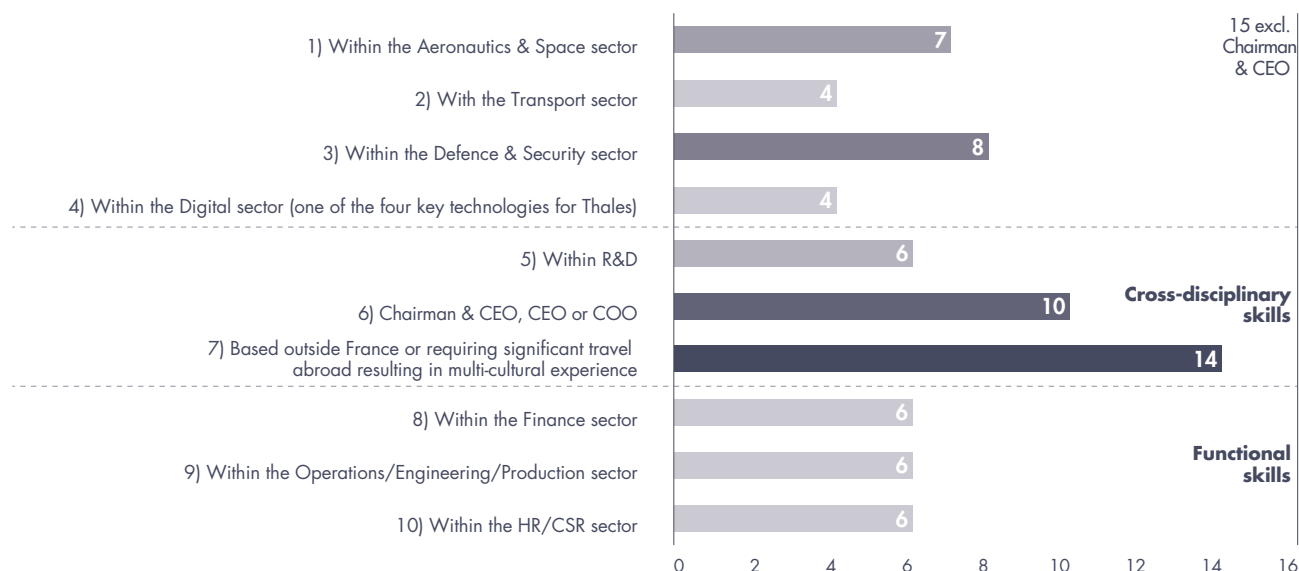
When assessing the performance of the Board and its Committees in 2019, the directors assessed the achievement of the Board's diversity targets first approved at its meeting of 5 March 2018, as well as how they might change in 2020.

Diversity target	Findings from 2019	Possible reassessment of the target for 2020
Varied and complementary expertise and experience within the Board	By virtue of their experience, the directors possess skills in all of the Group's business sectors (aerospace, defence, space, transport, digital technology) as well as in key cross-disciplinary areas such as finance, industry and human resources. See matrix of director skills below.	Target unchanged
A balanced representation of men and women on the Board and its Committees	This target was considered met, given that 43.8% of Board members were men and 56.3% were women (excluding the directors representing employees), the percentage of women members rising to 56% when the directors representing employees and employee shareholders were taken into account. There is also gender balance on the Committees.	Target unchanged
Balance in terms of seniority of directors	This target was considered met, given the balanced representation on the Board of Directors with less than four years' seniority, four to eight years' seniority, and eight to 12 years' seniority.	Target unchanged

As in 2018, the Board furthermore reiterated that these diversity targets should be taken into consideration when it comes to complying with the rules of the shareholders' agreement regarding the composition of the Board and its Committees.

In 2019, the directors carried out a self-assessment of their skills based on the positions they have held personally throughout their careers. This is presented in aggregate, non-nominative form. It attests to the diversity and complementarity of expertise and experience within the Board.

➤ SKILLS ASSESSED BY THE DIRECTORS BASED ON PERSONAL POSITIONS^(a)



(a) Excludes the skills of the Chairman & CEO.

Gender balance on management bodies (information referred to in Article L. 225-37-4, paragraph 6 of the French Commercial Code and in Sections 1.7 and 7 of the Afep-Medef code)

The Group's Executive Committee established with Corporate Management is composed of two women and 12 men. Women thus make up 14.3% of the Committee's membership versus 15.4% at the end of 2018, this change resulting from the addition of Philippe Vallée following the acquisition of Gemalto.

At the end of 2019, women accounted for 17.2% of employees in the most senior positions (versus 14.7% in 2016) out of a population representing 12% of the total workforce⁽¹⁾. The Group's long-term target is 30%.

The Group's long-term target is for each management committee to have at least three female members. At the end of 2019, 50% of committees had at least three female members (vs 27% at the end of 2016).

A range of initiatives designed to promote gender diversity have contributed to the achievement of these goals. They include education about stereotypes and unconscious bias, communication campaigns to combat sexist language, network initiatives for gender equality, and female leadership development and mentoring programmes.

These commitments and achievements are published in the Group's 2019 Non-Financial Performance Statement, approved by the Board of Directors on the recommendation of its Strategic and Corporate Social Responsibility Committee and provided in section 5.4.2.

4.2.6 Restrictions to the Chief Executive Officer's powers (information covered by Article L. 225-37-4, paragraph 7 of the French Commercial Code)

Since 23 December 2014, Patrice Caine has served as Chairman and CEO, with the confirmation of the principle of non-separation on 23 May 2018, with no limitation of powers other than those stipulated in the applicable legislation with respect to the specific powers of the Board of Directors or the Annual General Meeting.

The powers of the Chief Executive Officer are furthermore restricted by the Board's rules of procedure which stipulate, as mentioned in section 4.2.1 above, that any acquisitions or disposals exceeding €150 million, or any non-strategic transaction exceeding €50 million, must be automatically submitted for Board approval. These restrictions were confirmed without amendment by the Board of Directors when the Chairman and CEO was reappointed on 23 May 2018.

4.2.7 Other information

Notice of Annual General Meetings and conditions for attendance

All shareholders, regardless of the number of shares they own, are entitled to take part in Annual General Meetings. They are sent a notice of meeting and business is transacted according to the law. The date and place of the meeting, the agenda and the draft resolutions of the meeting are published in the French official gazette (*Bulletin des annonces légales obligatoires*, BALO) at least 35 days prior to the date of the meeting, with the final notice of meeting being sent no later than 15 days prior to the meeting. The Board of Directors ensures, in the interests of all shareholders, that the period of notice for meetings is much longer than the minimum requirements.

At least 21 days prior to the General Meeting, all documentation required by current regulations is provided on the Company's website (www.thalesgroup.com). It is available for shareholders at the registered office within the statutory deadline.

The date of the General Meeting is published on the Company's website approximately six months in advance.

Participation in General Meetings, in any form whatsoever, is conditional upon registration of the shares in accordance with the conditions and within the time limits provided for under the current regulations.

Due to the Covid-19 crisis, the 6 May 2020 annual general meeting will be held behind closed doors and under the conditions described in the "Annual General meeting" section of the website (<https://www.thalesgroup.com/en/investor/retail-investors/annual-general-meeting>), which shareholders are invited to consult regularly.

Any shareholder who has already voted by post or by proxy, or requested an admittance card or share ownership certificate, may sell all or some of their shares at any time.

However, in accordance with the regulations in force since 1 January 2015, should the intermediary account holder notify the Company of a disposal occurring before midnight (Paris time) on the second trading day prior to the General Meeting, the Company will invalidate or modify the vote, proxy, admittance card or share ownership certificate, as the case may be.

No sale or other operation carried out after midnight (Paris time) on the second trading day prior to the meeting, irrespective of the means used, is notified by the approved intermediary or taken into consideration by the Company, notwithstanding any agreement to the contrary.

The right to vote, and consequently the right to attend General Meetings, belongs to the beneficial owner at Ordinary General Meetings, and to the bare legal owner at Extraordinary General Meetings. Owners of pledged shares retain their voting rights. Co-owners of shares are represented at General Meetings by one of the co-owners or by a joint proxy who, in the event of disagreement, is appointed by the court at the request of the co-owner who acts first.

Each person present at the General Meeting has one vote for each share owned or represented, without limitation, subject to the following provisions on the right to a double vote, and to the exceptions provided by law.

⁽¹⁾ This population, the percentage of which slightly exceeds that provided for in Article L. 225-37-4 paragraph 6 of the French Commercial Code (10%), has been selected for reasons of uniformity and consistency.

Double voting rights

Shareholders who can prove that their shares have been registered in their name in the Company's share register (kept by Société Générale, duly authorised for this purpose – see section 6.2.1), for at least two years without interruption, are entitled to double voting rights at General Meetings for each share so held. Registered shares that have been granted to a shareholder as free shares in respect of shares they already hold with double voting rights attached are also entitled to double voting rights as soon as the shares have been granted.

Double voting rights automatically end for any share that is converted to bearer form or is transferred (except in the case of inheritance, either intestate or by will, spousal community property, *inter vivos* gifts to a spouse or relative who may inherit, or in the case of a transfer as a result of a merger or demerger of a shareholding company).

Double voting rights may be cancelled by a decision of an Extraordinary General Meeting, following approval by a special General Meeting of Shareholders entitled to double voting rights.

Under the Articles of Association, there is no limit on voting rights.

Key factors likely to have an impact in the event of a takeover bid

The structure of share ownership and the distribution of voting rights mean that Thales is unlikely to be affected by any public offering. Furthermore:

1. the two main shareholders (Dassault Aviation and TSA) have declared that they are acting in concert under a shareholders' agreement, the key terms of which are described in section 6.2.3.2, which stipulates in particular that the Chairman and CEO is chosen based on a joint proposal by the parties;
2. in the absence of termination on expiry of the contract on 31 December 2016, the agreement was tacitly renewed for another period of five years, expiring on 31 December 2021. It may be tacitly renewed for five-year periods;
3. any crossing of the threshold of one-tenth or a multiple of one-tenth of the share capital or voting rights of the Company must first be approved by the Minister for the Economy; in addition, under the conditions set by Decree No. 93-1296 of 13 December 1993, the Minister responsible for the Economy may oppose decisions on the sale or the allocation as collateral of assets referred to in the appendix of Decree No. 97-190 of 4 March 1997 (see section 6.2.3.3.5).

General Meeting authorisations valid at 31 December 2019 for increases in capital

Table pursuant to Article L. 225-37-4 paragraph 3 of the French Commercial Code.

Annual General Meeting of 23/05/2018	Used by the Board of Directors	Observations
Issue of securities giving access to equity capital • With pre-emptive subscription rights (Resolution 22): 53 million shares, €3 billion in debt securities • Without pre-emptive subscription rights (Resolution 23): 20 million shares and €2 billion in debt securities • Without pre-emptive subscription rights by private placement (Resolution 24): 20 million shares and €2 billion in debt securities • Possibility of over-allotment ("green shoe") (Resolution 25): maximum of 15% of issues carried out attributable to each Resolution/transaction above 26 months, i.e. until 22 July 2020	Not used	Overall ceiling of Resolutions 22, 23, 24, 25 and 26: 60 million shares and €3 billion in debt securities (Resolution 27)
Issue of new shares as consideration for contributions of the securities of third-party companies Up to a maximum of 21.2 million shares (Resolution 26) 26 months, i.e. until 22 July 2020	Not used	Overall ceiling for transactions coming under Resolutions 23, 24, 25 and 26: 20 million shares and €2 billion in debt securities (Resolution 27)
Issue of new shares reserved for employees who are members of the Group savings scheme Ceiling: 2 million shares (Resolution 28) Maximum discount: 20% for a five-year employee savings plan and 30% for a ten-year holding period 26 months, i.e. until 22 July 2020	Not used	Note: employee shareholding operations are now conducted using existing shares, which have previously been bought back by the Company under a share buy-back programme.

Agreements entered into by a manager or major shareholder and a subsidiary

During financial year 2019, no agreement was reached, directly or through an intermediary, between, on the one hand, one of the Company representatives or one of the shareholders holding a fraction of the voting rights greater than 10% of the Company's share capital and, on the other hand, another company of which Thales holds directly or indirectly more than half the share capital, with the exception of current agreements concluded under normal conditions.

Procedure for the regular assessment of agreements relating to ordinary transactions entered into under normal terms and conditions

At its meeting of 25 February 2020, and based on the recommendation of its Governance and Remuneration Committee and Audit and Accounts Committee, the Board of Directors approved the procedure for the regular assessment of agreements relating to ordinary transactions entered into under normal terms and conditions.

This is part of an internal charter whose purpose is also to describe the methodology and procedure for identifying, qualifying and processing agreements entered into by Thales SA pursuant to the provisions of Article L. 225-38 of the French Commercial Code (related-party agreements). This charter is not made public for reasons of confidentiality.

The procedure provides that at the end of the calendar year, the main departments concerned (particularly the Company Secretary and Group Finance Department) shall review the information provided by the departments concerned when said agreements were signed, amended, renewed or terminated, in order to analyse the normal nature of their terms and conditions, as well as the relevance of the criteria used to draw them up.

In accordance with the provisions of Article L. 225-39, paragraph 2 of the French Commercial Code, any individual with a direct or indirect interest in one of the agreements concerned may not participate in this assessment.

In addition, the procedure stipulates that when the annual financial statements are being prepared, senior management shall report on the above-mentioned work to the Audit and Accounts Committee, which in turn shall report thereon to the Board.

Following this review, and based on the recommendation of its Audit and Accounts Committee, the Board of Directors shall determine the action to be taken with respect to the agreements that no longer meet the aforementioned criteria, or shall revise said criteria or more generally the procedure itself, in order to take into account any legislative or regulatory amendments and/or changes in market practices.

In addition, should this review lead to the conclusion that the Board's prior authorisation for a given agreement had been omitted, the Board shall be asked to ratify the agreement before it is submitted to the General Meeting for after-the-fact approval in accordance with applicable legislation, or amend or even terminate it.

4.3 CORPORATE MANAGEMENT AND THE EXECUTIVE COMMITTEE

Executive Committee at 31 December 2019



Patrice Caine
Chairman and CEO



Pierre-Éric Pommellet
Senior Executive Vice President, Operations & Performance



Pascale Sourisse
Senior Executive Vice President, International Development



David Tournadre
Senior Executive Vice President, Human Resources



Pascal Bouchiat
Senior Executive Vice President, Finance and Information Systems



Isabelle Simon
Executive Vice President, Group Secretary and General Council



Philippe Keryer
Executive Vice President, Strategy, Research and Technology



Marc Darmon
Executive Vice President, Secure Communications and Information Systems



Alex Cresswell
Executive Vice President, Land & Air Systems



Philippe Duhamel
Executive Vice President, Defence Mission Systems



Gil Michielin
Executive Vice President, Avionics



Jean-Loïc Galle
Executive Vice President, Space



Millar Crawford
Executive Vice President, Ground Transportation Systems



Philippe Vallée
Executive Vice-President Digital Identity and Security

4.4 COMPENSATION OF COMPANY REPRESENTATIVES

This section was drafted in compliance with Order No. 2019-124 dated 27 November 2019 relating to the compensation of company representatives and Decree No. 2019-1235 dated the same day.

4.4.1 Information regarding the 2019 compensation of company representatives

The present section 4.4.1 presents the items of compensation paid or allocated during the 2019 financial year to all company representatives and, more generally, information required under Article L. 225-37-3 I. of the French Commercial Code. These are the subject of Resolution 6 presented to the General Meeting of 6 May 2020. If this resolution is rejected, the payment of compensation allocated to directors for the 2020 financial year shall be suspended and the Board of Directors shall submit a new draft resolution to the General Meeting presented a revised compensation policy, according to the conditions set out in Article L. 225-100-II of the French Commercial Code.

Sub-section 4.4.1.1 set out the items of and information regarding the compensation of the Chairman and Chief Executive Officer. These are the subject of Resolution 5 presented to the same General Meeting. The payment of the Chairman and Chief Executive Officer's annual variable compensation for 2019 (see 4.4.1.1 A) is subject to the approval of this resolution.

4.4.1.1 Compensation of the Chairman and CEO in 2019

A. Annual fixed and variable compensation

The annual fixed and variable compensation for 2019 for Patrice Caine was set in accordance with the compensation policy for the Chairman and CEO of Thales approved by the General Meeting of 15 May 2019 (Resolution 6).

It comprises:

- a fixed compensation of €800,000 (gross amount);
- a target annual variable compensation of €800,000 in the event of achieving objectives and that is capped, in the event of exceeding these objectives, at a maximum of €1,200,000 (150% of the target).

The criteria for determining the variable compensation are set at an overall level of 75% financial and 25% non-financial. In order to reward outperformance of the financial criteria, the amount of the payment relative to these criteria may exceed the target up to 166.66%. This is not the case for the non-financial portion which is capped at 100%. Consequently, annual variable compensation is capped at 150% of the target.

There is no provision for the possibility of reclaiming the variable component.

(i) Financial criteria for 2019 annual variable compensation

For the financial part, the criteria were EBIT (35%), order intake (20%), and free operating cash flow (20%). The table below sets out the achievement level against these three financial criteria.

➤ FINANCIAL CRITERIA FOR 2019 ANNUAL VARIABLE COMPENSATION

Criteria	Weighting	Threshold	Payment as % of target
EBIT	35%	If results ≤ 90% of budgeted objective	0%
		If results = 100% of budgeted objective	35.00%
		If results ≥ 110% of budgeted objective	58.33%
Order intake	20%	If results ≤ 90% of budgeted objective	0%
		If results = 100% of budgeted objective	20.00%
		If results ≥ 110% of budgeted objective	33.33%
Free operating cash flow	20%	If results ≤ budgeted objective – 2% of budgeted revenues	0%
		If results = 100% of budgeted objective	20.00%
		If results ≥ budgeted objective + 2% of budgeted revenues	33.33%
TOTAL FINANCIAL CRITERIA	75%		

The definition and calculation of these criteria are set out in section 2.3.

Meeting on 25 February 2020, the Board of Directors examined the results obtained for the financial criteria.

Criterion	Weighting	In € millions	Achievement level
EBIT	35%	2,008	104.2%
Order intake	20%	19,142	120.2%
Free operating cash flow	20%	1,372	138.3%
Financial portion of annual variable compensation (as a % of target)			117.5%

The budgeted target for the Group's EBIT included Gemalto and anticipated a further improvement in the EBIT margin. The Board noted that, in spite of revenue growth below the budgeted target, the Group's EBIT had reached €2,008 million in 2019, €18 million above the middle of the target range communicated to the market (€1,980 million to €2,000 million). This performance, slightly above the budgeted target, triggered a payment of 104.2% on this criterion.

The Board noted that the major effort on the part of the Group's teams had resulted in a record order intake of €19,142 million, significantly higher than the budgeted target and the target of €18.0 billion communicated to the market, triggering a payment of 120.2% on this criterion.

In 2019, the Group's free operating cash flow stood at €1,372 million, well above the budgeted target. This triggered a payment of 138.3% on this criterion.

Overall, taking into account the weighting of the three financial criteria, the Board noted that the financial portion of annual variable compensation was €705,294, i.e. 117.5% of the target.

(ii) Non-financial criteria for 2019 annual variable compensation

In accordance with the aforementioned compensation policy of the Chairman and CEO of Thales, he was assessed in 2019 on the achievement of the following five non-financial criteria:

- the definition of strategic priorities and the updating of the five-year growth and profitability objectives for the new Group scope that now includes Gemalto;
- the closing of the Gemalto acquisition; the launch and action related to Gemalto's integration as soon as the acquisition closes; implementation of the new organisation; securing of cost synergies; and qualification and quantification of revenue synergies;
- the continued implementation of the digital strategy, including the ramp-up of expertise in the four key digital technologies (Connectivity/Internet of Things (IoT), Big Data, Artificial Intelligence and Cybersecurity), and the development of digital solutions based on these four technologies;
- adapting the Group's globalisation strategy to changes in context;
- several social and environmental responsibility objectives: further deployment of measures relating to diversity and inclusion across the Group; adoption in 2019 of a new carbon policy in line with the Paris agreements, including a reduction in the Group's energy intensity; promotion of a personal safety culture; completion of an external review of the Group's anti-corruption policy.

Each of these objectives represented one-fifth of the 25% of the weighting attributed to non-financial criteria.

At its meeting of 25 February 2020, the Board of Directors reviewed the above criteria and on the recommendation of the Governance and Remuneration Committee set the following achievement rates:

- 50% on the five-year strategic priorities and updating of the medium-term financial objectives following the acquisition of Gemalto, bearing in mind that the positive impact of the Capital Markets Day held on 4 October 2019 had been weakened by the warning about 2019 revenues a few weeks later;
- 70% on the combination of the two themes related to digital strategy and the planned acquisition of Gemalto, thereby recognising the Group's ramp-up on the four key digital technologies (Connectivity/IoT, Big Data, Artificial Intelligence and Cybersecurity), the successful integration of Gemalto, the quick implementation of synergy plans (costs and revenues) and the excellent results of the cultural survey conducted among former Gemalto employees (88% of whom endorse the integration);
- 90% on the globalisation strategy, with particular note taken of the success of initiatives carried out in 2019, specifically the development of engineering skills centres in Romania and India, initiatives carried out in Asia and the Middle East, and strong orders in the United Kingdom;
- 80% on the Corporate Social and Environmental Responsibility criterion, recognising the personal commitment of the Chairman and CEO and the Group's achievements in 2019, including the publication on 26 November 2019 of the Group's low-carbon policy and the marked increase in the number of employees trained in anti-corruption, as well as all other achievements described in section 5.

Taking into account the weighting of these five non-financial criteria, the Board of Directors decided, on the recommendation of its Governance and Remuneration Committee, to set the overall achievement level of these criteria at 72%, i.e. €144,000.

Following this review and the recommendation by the Governance and Remuneration Committee, the Board of Directors decided that the annual variable compensation to be paid in 2020 to Patrice Caine for financial year 2019 should be €849,294, representing 106.2% of the target annual variable compensation.

B. Long-term incentive

In 2019, the Board of Directors granted Patrice Caine a long-term incentive in the form of a maximum of 8,000 performance units indexed to the Thales share price (2019 LTIP), in accordance with the compensation policy approved by the General Meeting of 15 May 2019 (Resolution 6).

The vesting of this compensation will take place in 2023 and depend both on performance conditions calculated over three financial years (2019, 2020 and 2021) and an employment condition of four years. This long-term incentive is detailed in Table 6 below.

In addition, at its meeting of 25 February 2020, the Board of Directors noted the achievement level of the performance conditions related to the long-term incentive plan awarded on 28 September 2017 (2017 LTIP).

2017 LTIP criteria	Weighting	Achievement	Achievement level
Cumulative free operating cash flow for 2017-2019 (in €m)	40%	3,345	39.8%
Average order intake for 2017-2019 (in €m)	40%	16,699	37.0%
Total Shareholder Return compared to a panel of European companies ^(a) Measure based on performance at 31/12/2019 compared to 31/12/2016	10%	+6.5%	0%
Total Shareholder Return compared to the Euro Stoxx index Measure based on performance at 31/12/2019 compared to 31/12/2016	10%	+6.5%	0%
Total achievement level (as a % of the maximum number of units)			76.8%

(a) The panel includes: Airbus, BAE Systems, Dassault Aviation, Leonardo, Gemalto, Rolls-Royce, Safran and Zodiac Aerospace.

With regard to free operating cash flow, the Board noted that the impact of IFRS 16 on this aggregate could not be taken into account when setting the 2017 LTI thresholds and that this standard had had a positive impact of €203 million on free operating cash flow for the 2019 financial year. Consequently, the Board wished to neutralise this accounting effect. On this basis, cumulative free operating cash flow over the 2017-2019 period was €3,345 million, while the 2018 performance (€811 million) was below the budgeted target, having been offset by the excellent level in 2017 (€1,365 million) and, to a lesser extent, the 2019 performance (€1,169 million after adjusting for the impact of IFRS 16). As this achievement was close to the ceiling set on this criterion, it triggered an achievement level of 39.8%.

With regard to the order intake criterion, the Board noted that the Group had recorded average order intake of €16,699 million over the 2017-2019 period, the slowdown in orders in the space market being offset by strong momentum in the Defence & Security segment. As this performance was close to the ceiling on this criterion, it triggered an achievement level of 37.0%.

Lastly, the Board noted that the stock market performance of Thales's shares with dividends reinvested was up +6.5% for the 2017-2019 period. This performance was just below the median of the selected panel of European companies (+7.7%) and below the performance of the Euro Stoxx market as a whole (median of +33.4%). No performance unit allotment was therefore triggered on this criterion.

The 2017 LTIP will therefore result in the payment in 2021 of 3,840 performance units to Patrice Caine, subject to his compliance with the employment condition and to approval by the 2021 General Meeting.

Adjustment of the 2018 LTIP targets

The Board of Directors also decided, on the recommendation of the Governance and Remuneration Committee, to revise upwards the targets set for free operating cash flow and order intake under the 2018 long-term incentive plan (2018 LTIP) to take into account the acquisition of Gemalto. The new targets are detailed in the table below.

2018 LTIP criteria	Weighting	Previous objective	New objective
Free operating cash flow cumulative over the 2018-2020 period	40% (2,000 units)	Floor: €2.6 billion Ceiling: €3.6 billion	Floor: €2.8 billion Ceiling: €3.8 billion
Order intake average over the 2018-2020 period	40% (2,000 units)	Floor: €15.5 billion Ceiling: €17.5 billion	Floor: €17.2 billion Ceiling: €19.2 billion

C. Other commitments

Deferred incremental and conditional compensation of Patrice Caine, Company representative

The Thales Company representative is entitled to deferred incremental compensation, the amount of which is determined using the same points method as for the Group supplementary pension scheme in operation at the date of the Board meeting for Group executives whose compensation exceeds the contributions ceiling set by Agirc, the French executive pension fund.

This arrangement is based on defined benefit plans but is not governed by Article L. 137-11 of the French Social Security Code as its benefit is not subject to the recipient serving out the rest of their career with the Company:

- the acquisition of rights is progressive and is based on capped compensation received during each year. The system draws upon the Agirc retirement plan and its points calculation. Acquisition relates to the tranche of salary not affected by compulsory schemes, namely salaries higher than eight annual Social Security caps (*Plafonds Annuels de Sécurité Sociale* – PASS) (> €324,192 in 2019);
- the calculation is made each year on the compensation declared to URSSAF, the French Social Security collection office, using the annual values of Social Security caps and the official Agirc⁽¹⁾ reference salary. The acquisition base is equal to 20% of the portion

of salary paid between eight PASS and 32 PASS caps maximum (i.e. between €324,192 and €1,296,768 in 2020), which has the effect of limiting annual acquisition to a maximum of approximately €14,213;

- this base is then divided by the Agirc reference salary for the year (acquisition price of one point) to obtain a number of points acquired for the year. The potential compensation to be paid is equal to the total number of points acquired multiplied by the value of the Agirc point on the date of setting up the annuity.

Entitlement to the rights acquired by the Company representative is not subject to the employment condition in the Company at the time of payment of the retirement benefits. On the other hand, this deferred compensation is only deemed to have been acquired on condition that the Company representative has carried out a full term in office and has drawn their retirement benefits. Their entitlement is also subject to achieving a performance criterion over the last three full financial years: the average rate of achievement of annual EBIT objectives set by the Board for the Company representative must be higher than or equal to 80%.

This mechanism (annuities and social and tax costs for the employer) is provisioned and financed by the Company.

This deferred compensation is increased (doubling the annuity) if the Company representative accumulates a minimum of 10 years' service on the Executive Committee of Thales.

(1) Agirc points have been replaced by Agirc-Arrco points.

In 2019, Patrice Caine potentially acquired annual deferred compensation of €14,213.

At 31 December 2019, the theoretical annual annuity, accumulated since the beginning of the term of office, stood at €59,439 (i.e. 7.43% of the annual fixed salary).

Benefits and rights upon the termination of office of Patrice Caine, Company representative

Severance pay

In accordance with the conditions laid down by the Afep-Medef code, with which the Company has declared that it complies, compensation may be paid to Patrice Caine if his term of office as Company representative should be terminated, except in the case of resignation, serious misconduct or gross negligence.

The amount of this severance pay is fixed at 12 months of his reference salary (fixed and variable compensation paid over the last 12 months of activity, excluding the long-term incentive plan). The Chairman and CEO resigned when he took up office and no longer has an employment contract with the Company.

The payment of this compensation is subject to achieving a performance criterion over the last three full financial years: the average rate of achievement of annual EBIT objectives set by the Board for the Company representative must be higher than or equal to 80%.

Private unemployment insurance

A decision was also made to take out private unemployment insurance based on the same performance criteria as for severance pay. This provides for one year's compensation for an amount limited to the sum of the amounts corresponding to 70% of the A and B (Social Security) tranches of net taxable income and 50% of the C tranche of this same income. At 31 December 2019, this private unemployment insurance would have represented private annual compensation equal to approximately €202,620, i.e. 25.3% of the Chairman and CEO's fixed compensation.

The compensation calculations are as follows:

	2015	2016	2017	2018	2019
Ratios based on the average	10	15	26	28	33
Ratios based on the median	11	17	28	32	36
Company performance: EBIT in € millions	1,216	1,354	1,543	1,685	2,008
Compensation paid to the Company representative (in €)	628,498	972,274	1,651,082	1,885,359	2,177,264
Average compensation paid to employees (in €)	63,165	64,090	64,527	66,225	66,104

As Patrice Caine assumed his duties as Company representative on 23 December 2014, the 2015 ratio is not meaningful: the calculation for that year includes his fixed compensation as Company representative as well as his variable compensation for his previous duties. Furthermore, the structure of his compensation had initially been set in February 2015 in view of a proposed separation of the duties of Chairman of the Board and Chief Executive Officer, which was not carried out.

The increase in the ratio in 2017 and 2019 reflects the changes in the compensation policy, particularly the revision of fixed and variable compensation and implementation of a long-term incentive (LTI)⁽¹⁾.

Benefits of any kind

Patrice Caine receives the benefits in kind detailed in the table below, which summarises the 2019 compensation components.

D. Other disclosures required under Article L. 225-37-3 I. of the French Commercial Code

1) Pay equity ratios

In accordance with the new provisions of the French Commercial Code resulting from law No. 2019-486 of 22 May 2019 on business growth and transformation, pay equity ratios measure changes in the differences in compensation between the Company representative and employees. To make these ratios more relevant, they have been calculated based on the scope of the Group's French companies, rather than solely on the scope of the listed parent company, in accordance with the recommendations of the Afep-Medef code (§ 26.2). The calculation of these ratios therefore takes the following into account:

- in the numerator, the compensation paid to the Company representative (fixed, annual variable, and benefits in kind) or allocated to him (LTI⁽¹⁾);
- in the denominator, compensation paid or allocated (fixed, annual variable, benefits in kind, LTI⁽²⁾), on a full-time equivalent basis, to active employees (as defined in Chapter 5 page 127) in continuous employment from 1 January to 31 December 2019 at a Group company having its registered office in France (Thales SA and the companies under its sole control within the meaning of Article L. 233-16 II of the French Commercial Code). Staff of French and foreign branches of these companies are included in the calculation if those branches have more than 50 employees. Expatriates are not included in the calculation. For 2019, Gemalto is excluded from the compensation calculation as the acquisition occurred during the year.

2) Contribution of the Chairman and CEO's 2019 compensation to long-term performance

When reviewing the 2019 variable compensation, the Board noted that this offered simple, balanced incentives both in terms of achieving the key aspects of the annual budget (profitability, growth, cash generation), by means of the annual variable compensation component based on financial criteria, and in terms of meeting value creation targets over the longer term (growth, cash generation, stock market performance), by means of the long-term incentive. The annual variable compensation also includes, each year, non-financial criteria to encourage the achievement of annual or multi-year strategic objectives and take into consideration the social and environmental issues that are central to the Group's long-term development.

For its part, the criterion on growth is order intake level, which, by its very nature, rewards in particular the signature of contracts that extend over several years – an important factor in the Group's long-term performance.

(1) The Company representative's long-term incentive was determined at fair value following the application of IFRS standards.

(2) Employees' long-term incentives were assessed at fair value according to the same accounting standards.

(3) As approved for the 2017 LTI Plan by the Board of Directors' meetings of 27 February and 28 September 2017 and the General Meeting of 17 May 2017 and, for the 2019 LTI Plan, by the General Meeting of 15 May 2019 and the Board of Directors' meeting of 25 September 2019.

In application of Article L. 225-100-II of the French Commercial Code, the components of the compensation of the Chairman and CEO subject to the vote of the General Meeting of 6 May 2020 (Resolution 5) are detailed below. Additional information can be found in the appended tables prepared in accordance with the Afep-Medef code (see page 97). The compensation components are summarised in the table below.

➤ **SUMMARY TABLE OF THE COMPENSATION COMPONENTS OF PATRICE CAINE, CHAIRMAN AND CEO, FOR 2019**

Compensation component	Policy approved by the General Meeting of 15 May 2019	Paid in financial year 2019	Allocated for financial year 2019 (as amount or accounting valuation)
Annual fixed compensation	The policy provides for fixed annual compensation of €800,000.	€800,000	
Annual variable compensation	The policy provides for a target annual variable compensation of €800,000. The criteria set are as follows: - financial criteria account for 75% (see description above). The targets are set by the Board of Directors during the budgetary process but are not made public for reasons of confidentiality; - non-financial criteria make up the remaining 25% of variable compensation (see description above). In the event of outperformance of the financial targets, the variable compensation may REACH a maximum of €1,200,000, i.e. 150% of fixed annual compensation.		€849,294 ^(a)
Total annual compensation		€1,649,294 of which 51.5% in annual variable compensation and 48.5% in fixed annual compensation	
Multi-year variable compensation	None	—	—
Long-term incentive	2019 unit plan – The number of units that will vest will depend on the level of achievement, calculated over three years, performance conditions related to order intake, free operating cash flow and Thales's stock market performance. Vesting is also subject to a four-year employment condition (i.e. until 24 February 2023), except in the event of death or disability. Half of the payment is made in kind with Thales shares and half is made in cash. The detailed conditions of this long-term incentive appear on page 97 of the 2018 Registration Document. Targets and thresholds are shown in table 6 on page 99 of this document.	—	€740,160 ^(b)
Exceptional compensation	None	—	—
Non-compete clause	None	—	—
Compensation linked to taking up appointment	None	—	—

(a) The payment to Patrice Caine of annual variable compensation for 2019 is conditional upon the approval of the Annual General Meeting of 6 May 2020 (Resolution 5).

(b) Total determined by multiplying the maximum number of units granted (8,000) by the Thales share price at 31 December 2019.

Compensation component	Policy approved by the General Meeting of 15 May 2019	Paid for financial year 2019	Allocated for financial year 2019 (as amount or accounting valuation)
Deferred incremental and conditional compensation ^(a)	The Thales Company representative is entitled to deferred incremental and conditional compensation, the amount of which is determined on the basis of an allocation method identical to the Group supplementary pension scheme in operation within Thales at the date of the Board meeting for Group executives whose compensation exceeds the contributions ceiling set by Agirc-Arrco, the French executive pension fund. Their entitlement is subject to performance conditions over the last three years. This compensation was approved by the General Meeting of 23 May 2018 (Resolution 17). For more details, see page 93 and 94.		€14,213 in potential annual deferred compensation paid in respect of 2019, i.e. 1.78% of the fixed salary
Severance pay ^(a)	Subject to fulfilment of the same performance conditions as for deferred incremental and conditional compensation, compensation could be paid to Patrice Caine if his term of office as Company representative were terminated, except in the case of resignation, serious misconduct or gross negligence. The amount of compensation is fixed at 12 months of his reference salary (fixed and variable compensation paid over the last 12 months of activity, excluding long-term compensation). This severance pay was approved by the General Meeting of 23 May 2018 (Resolution 16). For more details, see page 94.	—	—
Private unemployment insurance ^(a)	Patrice Caine is entitled to private unemployment insurance subject to fulfilment of the same performance conditions as those envisaged for severance pay. This private unemployment insurance was approved by the General Meeting of 23 May 2018 (Resolution 18). For more details, see page 94.	—	2019 employer's contribution: €12,765
Compensation in respect of directorship	By decisions of the Board of Directors on 25 February and 3 April 2019, Patrice Caine receives no compensation in respect of his directorship, that compensation being retained by the Company.	—	—
Benefits of any kind	Patrice Caine is entitled to: - the services of a chauffeur-driven car for his business travel; - external legal and tax assistance. In addition, he is entitled to the private healthcare scheme for French employees, an annual check-up identical to that offered to other Thales senior executives, and directors' liability insurance, including criminal liability^(b).	€3,987 €37,065	

(a) Other commitments and compensation payments and rights approved under the related-party commitments regime governed by Articles L. 225-42-1 and R. 225-34-1 of the French Commercial Code, eliminated by law No. 2019-486 of 22 May 2019.

(b) The cost of healthcare and annual check-up benefits to the Company for financial year 2019 amounted to €2,900. Liability insurance is a collective insurance, the cost of which cannot be individualised.

4.4.1.2 Compensation for 2019 paid to other Company representatives

Pursuant to the new provisions resulting from Order No. 2019-1234 of 27 November 2019 and Decree No. 2019-1235 of the same date, this section describes the compensation paid to directors for the 2019 financial year.

A. Principles of director compensation

The total amount of attendance fees to be divided among directors (and non-voting members) for services to the Board, including compensation payable to directors who are Committee members in respect of their participation in these Committees, is set at €600,000 per year, an amount that has remained unchanged since 2008. The Board decided that directors would receive:

- for services to the Board, fixed compensation of €14,000 per year (prorated in the event of appointment or resignation during the year), adjusted down if necessary to respect the total envelope (see below), and variable compensation based on attendance at meetings amounting to €2,500 per meeting;
- for services to the Committees, compensation (entirely variable), based on attendance of €1,250 per meeting, with the Chairman of each Committee receiving an additional €2,000 per year (prorated based on the number of meetings chaired, if applicable).

If, on account of the high number of meetings (variable compensation being paid first), the total amount of €600,000 per financial year (gross amount before any deductions) is likely to be exceeded, the fixed component of directors' compensation is reduced in order to remain within the annual budget approved by shareholders.

The Chairman and CEO does not receive any compensation in respect of his position as Chairman and member of the Board of Directors.

B. Compensation of directors for the 2019 fiscal year

Given the high number of meetings in 2019, the fixed component was reduced from €14,000 to €8,650 for the full year.

For 2019, attendance fees totalled €599,400 (gross amount before any deduction at source and levy), versus €599,591 for 2018. This amount includes attendance fees not received by the Chairman and CEO and retained by the Company. The payment of attendance fees was made in full in February 2020. Most of the total of €557,500 actually paid comprised the variable component, as recommended by the Afep-Medef code, amounting to €427,750 (approximately 77% of the total received).

For information purposes, the gross amount (before any deduction at source or levy) paid during financial year 2019 (after any retention by the Company) and representing the attendance fees due for financial year 2018, amounted to €558,141.

Table 3 included on directors' compensation, prepared in accordance with the Afep-Medef code, provides details per director (see section 4.4.1.4 below).

4.4.1.3 Compliance with the recommendations of the Afep-Medef code

Recommendations of the Afep-Medef code	Thales provisions for Patrice Caine, Company representative
Severance pay	
Only in the event of forced departure	Yes
Performance conditions over two years	Performance conditions over the last three financial years
Maximum amount: two years' compensation (fixed and variable)	12 months of his reference salary (fixed and variable compensation paid over the last 12 months of activity, excluding long-term compensation)
Supplementary pension	
	Not applicable ^(a)

(a) The deferred incremental and conditional compensation of Thales's Company representative is an arrangement that is modelled on pension schemes, but which is not governed by Article L. 137.11 of the French Social Security Code or Article 24.2.6 of the Afep-Medef code. This benefit is not subject to the condition of the recipient serving out the rest of his/her career with the Company. Under this arrangement Thales awards, under conditions relating to seniority in office and performance, deferred compensation paid as an annuity when the beneficiary claims his/her mandatory pension. The calculation procedures for this deferred compensation, and the corresponding amounts, comply with the principles relating to the compensation of directors as defined by Article 24-1 of the Afep-Medef code.

4.4.1.4 Summary tables prepared in accordance with the Afep-Medef code

► **TABLE 1: COMPENSATION, OPTIONS AND SHARES GRANTED TO THE COMPANY REPRESENTATIVE**

(in € thousands)	2019	2018
Patrice Caine, Chairman & Chief Executive Officer#		
Compensation allocated for the financial year (detailed in Table 2)	1,649.3	1,391.6
Value of options granted during the financial year		—
Value of performance shares granted during the financial year		—
Value of performance units granted during the financial year	740.1	510.0
TOTAL	2,389.4	1,901.6

➤ **TABLE 2: COMPENSATION OF THE COMPANY REPRESENTATIVE**

(in € thousands)	2019		2018	
	Allocated for the financial year	Paid during the financial year	Allocated for the financial year	Paid during the financial year
Patrice Caine, Chairman & Chief Executive Officer				
Fixed compensation	800.0	800.0	700.0	700.0
Variable compensation ^(a)	849.3	691.6	691.6	805.5
Exceptional compensation	—	—	—	—
Compensation allocated in respect of directorship ^(b)	—	—	—	—
Benefits in kind ^(c)	41.1	41.1	24.1	24.1
TOTAL PATRICE CAINE	1,690.4	1,532.7	1,415.7	1,529.6

(a) See section 4.4.1.1 on the review of variable compensation for 2019.

(b) Does not receive any compensation in respect of his directorship or his role on the Strategic & CSR Committee. This compensation is retained by the Company (decision of the Board of Directors on 25 February and 3 April 2019). The amount calculated and not paid to Patrice Caine in respect of the 2019 financial year following these decisions was €41,900.

(c) The Company representative is entitled to the services of a chauffeur-driven car and external tax and legal advice.

➤ **TABLE 3: COMPENSATION RECEIVED BY NON-EXECUTIVE DIRECTORS (GROSS AMOUNTS BEFORE ANY DEDUCTION AT SOURCE OR OTHER LEVY)**

Beneficiary (gross amount in euros)	Allocated for the 2019 financial year and paid in 2020	Variable component/ 2018 total (%)	Allocated for the financial year and paid in 2019	Paid during the 2018 financial year	Notes
L. Broseta	28,602	74%	26,095	28,226	(d)
Y. d'Escatha	39,400	78%	43,950	45,490	
G. Dyèvre (up to 27/06/2017 incl.)	—	—	—	14,079	(b)
Ch. Edelstenne	37,400	77%	36,950	39,740	
B. Fontana (from 30/01/2018)	34,977	79%	34,912	—	(b) (d)
D. Gény-Stephann (from 29/11/2016 incl. to 23/11/2017 incl.)	—	—	—	32,032	(b) (d)
Ph. Lépinay	39,900	78%	38,200	39,740	(c)
A. de Madre (from 28/06/2017 incl.)	28,650	70%	35,700	16,911	(b)
D. de Sahuguet d'Amarzit (from 03/04/2018)	26,477	72%	19,310	—	(b) (d)
L. Segalen	41,150	79%	41,950	40,990	
A.-C. Taittinger	43,150	80%	43,950	45,490	
A. Taylor	21,150	59%	25,700	30,990	
É. Trappier	39,900	78%	39,450	40,990	
M.-F. Walbaum	33,650	74%	30,700	35,990	
Inter CFE-CGC (A.-M. Hunot-Schmit from 09/12/2017 incl.)	36,150	76%	39,450	37,240	(b)
FGMM-CFDT (F. Saint from 09/12/2017 incl.)	47,400	82%	48,200	50,990	(b)
Treasury Accountant – Art. 139 NRE and/or Order No. 2014-948 (L. Collet-Billon + M. Vial + O. Renaud-Basso + D. Gény-Stephann + L. Broseta + B. Fontana + D. de Sahuguet d'Amarzit)	59,544		53,624	59,247	
TOTAL GROSS AMOUNT OF COMPENSATION PAID	557,500	77%	558,141	558,145	(c)

By decision of the Board of Directors on 27 February 2017, attendance fees are paid annually. Payments made in 2018 correspond to the sum of the fixed and variable portions of attendance fees for financial year 2017, and those made in 2019, to the sum of the fixed and variable portions of attendance fees for financial year 2018.

(a) Philippe Lépinay informed the Company that in 2019 he donated the sum of €3,300 to the Thales employee shareholder association (APAT).

(b) Amounts determined on a pro rata basis.

(c) These amounts do not include the compensation not received by the Company representative (and retained by the Company instead) in respect of his directorship. Including that amount, the gross amounts of attendance fees allocated for the 2018 and 2019 financial years came to €599,050 and €599,400 respectively, which is still below the annual budget (€600,000) authorised by the General Meeting.

(d) Amounts after deduction of the amounts paid to the Treasury Accountant in accordance with Order No. 2014-948.

➤ **TABLE 4: SUBSCRIPTION OR PURCHASE OPTIONS AWARDED DURING THE FINANCIAL YEAR TO THE COMPANY REPRESENTATIVE BY THE ISSUER OR BY ANY OTHER GROUP COMPANY**

None. The Company has not awarded subscription or purchase options since 2012.

➤ **TABLE 5: SUBSCRIPTION OR PURCHASE OPTIONS EXERCISED DURING THE FINANCIAL YEAR BY THE COMPANY REPRESENTATIVE**

None.

➤ **TABLE 6: PERFORMANCE SHARES AWARDED DURING THE FINANCIAL YEAR TO THE COMPANY REPRESENTATIVE BY THE ISSUER OR BY ANY OTHER GROUP COMPANY**

During financial year 2019, no performance shares were awarded to Patrice Caine.

In the context of the 2019 compensation policy approved by the General Meeting of 15 May 2019 in its seventh resolution, he was awarded a long-term incentive plan in the form of performance units, the main conditions of which are shown below.

Director's name	Date of plan	Maximum number of performance units	Vesting conditions
Patrice Caine	25/02/2019 and 25/09/2019	8,000	Units vesting after a four-year vesting period from 25/02/2019 and subject to performance conditions

➤ **LONG-TERM INCENTIVE PLAN CRITERIA AND WEIGHTINGS (2019 LTIP)**

2019 LTIP criteria	Weighting	Objectives	Threshold	Payment in number of units
Cumulative free operating cash flow 2019-2021	40% (3,200 units maximum)	Floor:	If results < floor	0%
		€3.4 billion	If results = floor (= 33% of maximum)	1,070 units
		Ceiling:	If results ≥ ceiling for the period	3,200 units
		€4.4 billion	Variations between floor and target and ceiling calculated on a straight-line basis	
Average order intake for 2019-2021	40% (3,200 units maximum)	Floor:	If results < floor	0%
		€18.7 billion	If results = floor (= 33% of maximum)	1,070 units
		Ceiling:	If results ≥ ceiling for the period	3,200 units
		€20.7 billion	Variations between floor and ceiling calculated on a straight-line basis	
Total Shareholder Return compared to a panel of European companies ^(a) Measure based on performance at 31/12/2021 compared to 31/12/2018	10% (800 units maximum)	Floor: median of the panel	If TSR < median of the panel	0%
			If TSR = median of the panel	500 units
		Ceiling: highest quintile of the panel	If TSR is in the highest quintile of the panel	800 units
			Variations between median and entry point of highest quintile calculated on a straight-line basis	
Total Shareholder Return compared to the Euro Stoxx index. Measure based on performance at 31/12/2021 compared to 31/12/2018	10% (800 units maximum)	Floor: median of the Euro Stoxx index	If TSR < median of the index	0%
			If TSR = median of the index	500 units
		Ceiling: highest quintile of the index	If TSR is in the highest quintile of the index	800 units
			Variations between median and entry point of highest quintile calculated on a straight-line basis	

(a) The panel includes: Airbus, Atos, BAE Systems, Capgemini, Dassault Aviation, Leonardo, Rolls-Royce and Safran.

NB: Total Shareholder Return measures the performance of Thales's shares with dividend reinvested for the period in question.

➤ **TABLE 7: PERFORMANCE SHARES OR UNITS THAT HAVE BECOME AVAILABLE DURING THE FINANCIAL YEAR FOR THE COMPANY REPRESENTATIVE**

As indicated in Tables 1 and 6, Patrice Caine's compensation as Company representative does not include performance shares. Furthermore, no performance shares or units allocated in respect of his previous duties as an employee or his duties as Company representative became available during the financial year.

➤ **TABLE 8: PAST AWARDS OF SUBSCRIPTION AND/OR PURCHASE OPTIONS TO THE COMPANY REPRESENTATIVE**

None. Patrice Caine has not received any subscription or purchase options during his term in office. He has retained those that had been awarded to him with respect to his previous salaried positions.

➤ **TABLE 9: PAST AWARDS OF PERFORMANCE UNITS TO THE COMPANY REPRESENTATIVE**

Director's name	Award date	Number of units awarded	Vesting conditions
Patrice Caine	2017	5,000 (maximum)	Units vested after a four-year vesting period and subject to performance conditions over 2017-2019. Details of other conditions can be found on pages 153 and 154 of the 2016 Registration Document.
Patrice Caine	2018	5,000 (maximum)	Units vested after a four-year vesting period and subject to performance conditions over 2018-2020. Details of other conditions can be found on pages 166 and 167 of the 2017 Registration Document.
Patrice Caine	2019	8,000 (maximum)	Units vested after a four-year vesting period and subject to performance conditions over 2019-2021. Details of other conditions can be found on page 97 of the 2018 Registration Document.

➤ **TABLE 10: TABLE OF MULTI-YEAR VARIABLE COMPENSATION PAID TO THE COMPANY REPRESENTATIVE**

None.

➤ **TABLE 11**

Company representative	Patrice Caine
Term of office start date ^(a)	23 May 2018
Term of office end date	2022 AGM
Employment contract	no
Supplementary pension scheme	not applicable ^(b)
Compensation or benefits due or likely to become due as a result of termination or change of position	yes ^(c)
Compensation for restrictive covenant	no

(a) Patrice Caine was first appointed Chairman and CEO on 23 December 2014.

(b) See Note (a) to the table "Compliance with the recommendations of the Afep-Medef code", page 97.

(c) Decision made in 2015 and renewed in 2018.

4.4.2 Compensation policy for Company representatives for the 2020 financial year

In accordance with Order No. 2019-1234 of 27 November 2019 and Decree No. 2019-1235 of the same date, section 4.4.2 presents the compensation policy applicable to Company representatives.

It is divided into sub-sections 4.4.2.1 and 4.4.2.2 which describe the compensation policies applicable to the Chairman and CEO and the directors respectively. The Board of Directors wished to submit two separate resolutions to the General Meeting of 6 May 2020 (Resolutions 7 and 8) given that the Chairman and CEO and the directors belong to different Company representative categories on which it is desirable for shareholders to be able to vote separately.

If Resolution 7 is approved:

- the compensation policy set out in section 4.4.2.1 will apply to the Chairman and CEO as from the 2020 financial year, subject to any amendment at a subsequent General Meeting deliberating on the same subject, in accordance with Article L. 225-37-2 of the French Commercial Code;
- the components of total compensation and benefits in kind for the Chairman and CEO, paid during the 2020 financial year or granted in respect of that year, in accordance with the compensation policy, will be put to the vote of the shareholders at the General Meeting called to approve the financial statements for 2020, pursuant to Articles L. 225-37-3 and L. 225-100-II and III of the French Commercial Code which moreover stipulate that payment of variable and exceptional items are subject to the approval of the General Meeting.

If Resolution 8 is approved, the compensation policy presented in section 4.4.2.2 will apply to directors as from the 2020 financial year, subject to any amendment at a subsequent General Meeting deliberating on the same subject, in accordance with Article L. 225-37-2 of the French Commercial Code.

Process for establishing the compensation policy for Company representatives

This process is managed by the Governance and Remuneration Committee in accordance with the Board of Directors' rules of procedure.

To define the compensation policy for the Chairman and CEO, the Governance and Remuneration Committee takes multiple parameters into account, such as salary policy for senior managers and Group employees, analyses prepared by an independent consultant, practices of comparable companies, strategic priorities, recommendations of proxy advisers, viewpoint of major shareholders, stakeholder observations, and changes in the Afep-Medef code. It also reviews the rate of achievement of financial and non-financial targets in previous years and the budget for the coming year. Through its Chairman, the Committee obtains all useful information from the Group's Human Resources Department, particularly with regard to changes in salary practices within the Group, or from other departments that have contributed to drawing up the policy (Finance Department and Company Secretary).

The Governance and Remuneration Committee issues a recommendation to the Board of Directors, which, following a review, submits its decision to the vote of the General Meeting. Any change is only effective after approval by the General Meeting.

To limit conflicts of interest, the Governance and Remuneration Committee is chaired by an independent director. It may also call on an outside consultant. Lastly, the Chairman and CEO never participates in the Board's deliberations or votes on his own compensation.

Whenever it deems it necessary, and especially if there have been changes to the Afep-Medef code, the Governance and Remuneration Committee reviews whether it is appropriate to update the compensation policy for directors, which by nature tends not to change very much.

4.4.2.1 Compensation policy for the Chairman and CEO for the 2020 financial year

The Governance and Remuneration Committee met on 4 and 17 February 2020 to recommend that the Board of Directors set the compensation of the Chairman and CEO for the 2020 financial year in accordance with the new framework approved by the General Meeting of 15 May 2019, as described below.

A. General framework

The General Meeting of 15 May 2019 approved a compensation structure for the Chairman and CEO with the following components:

- annual fixed compensation;
- annual variable compensation whose target level is equal to the fixed compensation, based on a combination of financial and non-financial criteria, with financial criteria being of overriding importance;
- long-term incentive plan (LTIP) linked to the value of the Thales share, in the form of performance shares or units;
- severance pay⁽¹⁾;
- private unemployment insurance⁽¹⁾;
- deferred incremental and conditional compensation⁽¹⁾; subject to approval by the General Meeting of 6 May 2020, and effective retroactively to 1 January 2020, this scheme will be harmonised with the defined contribution pension scheme existing elsewhere in the Company;
- legal and tax advice;
- private healthcare benefits identical to those offered to senior executives;
- company representatives' liability insurance;
- reimbursement of business expenses in accordance with Thales's rules and guidelines;
- an annual medical check-up like other senior executives;
- the services of a chauffeur-driven car.

Subject to approval by the General Meeting of 6 May 2020, the Board of Directors wished to formalise its ongoing practice of automatically including one or more criteria related to social and environmental responsibility in the Company representative's variable compensation.

⁽¹⁾ Other compensation subject to performance conditions.

The Company complies with the Afep-Medef code (section 25.1), whereby:

- the Company representative's compensation should be competitive, tailored to the corporate strategy and environment and must be intended to boost the Company's medium to long-term performance and competitiveness. It must be designed to attract, retain and motivate an effective Company representative;
- when determining the compensation, the following principles must be considered: comprehensiveness, balance between different components of compensation, consistency with the compensation of other company executives and employees, understandability of the rules (simple, stable and transparent) and balance in terms of the corporate interest, market practices, the performance of the Company representative and the views of other stakeholders.

The compensation of Executive Committee members and most of the Group's senior executives is made up of a fixed component, an annual variable component and a long-term incentive plan (LTIP). The respective proportion of each component is determined based on the level of responsibility of each position and on benchmark compensation studies conducted in the various national markets where Thales is present.

For the Chairman and CEO, these components are weighed up and determined in the following manner:

- the fixed component is determined based on the level of responsibility and on benchmark compensation studies of comparable profiles;
- the target annual variable compensation is equal to 100% of fixed compensation; this annual variable compensation is capped at 150% of fixed compensation;
- the value of the target long-term incentive plan at the grant date may not exceed 100% of the fixed compensation.

Long-term incentive is based on the achievement of demanding performance criteria measured at the end of a three-year period. It vests in a single instalment at the end of a four-year period. Most of the long-term incentive is subject to internal performance criteria linked to strategic objectives laid down by the Board that take into account the objectives communicated to financial markets (if these exist).

The Chairman and CEO must hold the Thales shares delivered to him at each LTIP maturity date, at 50% of the net after-tax gain from these LTIPs, until he has accumulated the equivalent of one year's fixed salary in shares. He must keep these shares for his entire term of office as Chairman and CEO.

The Chairman and CEO is also entitled to a deferred incremental and conditional compensation mechanism detailed in section 2.1.1.

Lastly, the severance payment shall only be paid to the Chairman and CEO in the event of forced departure, contingent upon the achievement of performance targets over three financial years. It is capped at 12 months of reference salary (fixed and variable compensation paid over the last 12 months of activity, excluding LTIP), which is less than the amount recommended under the Afep-Medef code.

Pursuant to the Afep-Medef code (section 25.1.2), the rules for determining the Chairman and CEO's compensation should be stable and the performance criteria used should be, to the greatest extent possible,

long lasting. In principle, fixed compensation should only be reviewed at relatively long intervals (section 25.3.1 of the Afep-Medef code).

Lastly, subject to approval by the General Meeting of 6 May 2020 and pursuant to the new regulations in force, the compensation policy for the Chairman and CEO will henceforth provide for a plan applicable to exceptional situations (see section 4.4.2.1.B.f).

B. Implementation of compensation policy for the Chairman and CEO in 2020

a) Structure of total compensation

At its meeting of 25 February 2020, the Board of Directors decided to continue in 2020 the 2019 compensation policy for the Chairman and CEO, based on the recommendations of the Governance and Remuneration Committee and in accordance with the general framework described in A. above.

When making its decision, the Board took into account the fact that the compensation policy for the Chairman and CEO had been adopted by the General Meeting of 15 May 2019 (Resolution 6) with an approval rate of 59.32%, this rate being essentially due to the opposition by the French State, representing 39% of the voting rights.

The Board of Directors therefore decided to:

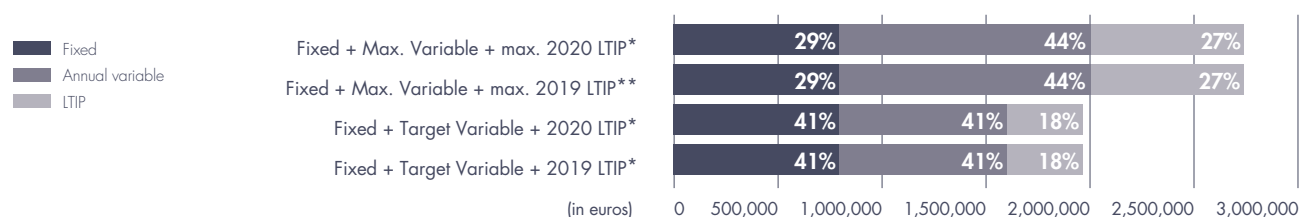
- maintain the annual fixed compensation at €800,000;
- maintain the target annual variable compensation at 100% of the annual fixed compensation, capped at 150% of the annual fixed compensation, i.e. €1,200,000, in the event of exceeding objectives;
- maintain the amount of the long-term incentive plan (LTIP), which will be capped at 8,000 performance units valued at €800,000 at fair value, i.e. 100% of 2020 fixed compensation; each unit will be valued at the closing price of the Thales share on 24 February 2024 and the exact amount of this compensation will depend on the fulfilment of performance and employment conditions, as well as on the value of the Thales share on the vesting date of the performance units.

Subject to the approval of the General Meeting of 6 May 2020, the Board of Directors furthermore wished to amend the Chairman and CEO's deferred incremental and conditional compensation scheme in order to harmonise it with the defined contribution pension scheme existing elsewhere in the Company. This change will result in the payment to the Chairman and CEO of an annual bonus of €264,000 to offset the negative impact of social security contributions and income tax resulting from this arrangement. The arrangement, described in paragraph d. below, will guarantee an annuity roughly equivalent to the current scheme and will be less costly for the company.

In accordance with its previous practice, the Board does not apply any deferral period to the payment of the Chairman and CEO's compensation, other than that provided for in Article L. 225-100-III of the French Commercial Code, pursuant to which the Chairman and CEO's 2020 annual variable compensation will be paid after approval by the shareholders at the General Meeting in 2021.

Lastly, the compensation policy does not provide for the possibility of asking the Chairman and CEO to return his annual variable compensation or performance units vested under his LTIP.

In summary, the components of annual fixed and variable compensation and the long-term incentive are allocated as follows:



* In the absence of a history of performance units actually vested by the Chairman and CEO under his LTIPs, these histograms illustrate the theoretical assumption that 50% of the maximum number of units concerned will vest. For the record, the Chairman and CEO will vest 76.8% of his 2017 LTIPs subject to fulfilling the employment condition (see 4.4.1.1 B above).

* and ** Value projections for the LTIP are calculated on the last trading day of 2019.

Rationale for the policy and its criteria

For annual variable compensation and the long-term incentive, the Board adopted thresholds and performance criteria that contribute to the goals of the compensation policy. The financial criteria (EBIT, order intake, free operating cash flow) are key indicators of the Group's performance and competitiveness. Moreover, these criteria are consistent with those adopted for the compensation policy of other Group executives and employees. The thresholds are such that they will boost the incentives to exceed budgeted targets and, in the case of the long-term incentive plan, stimulate the Group's development over time. The Board also paid close attention to the clarity and stability of the calculation rules, since the criteria and the calculation mechanism have remained unchanged since 2015.

The Board noted that the overall compensation policy offered clear, balanced incentives both in terms of achieving the key aspects of the annual budget (profitability, growth, cash generation), by means of the annual variable compensation component, and in terms of meeting value creation targets over the longer term (growth, cash generation, stock market performance), by means of the long-term incentive. Furthermore, it deemed it important to supplement this financial approach by including, on an annual basis, non-financial criteria to encourage the achievement of annual or multi-year strategic objectives and to take into consideration the social and environmental issues that are central to the Group's long-term development.

The Board also stressed that this compensation policy contributes to the Group's business development strategy. The incentives for developing new business (variable compensation linked to order intake) are counter-balanced by incentives for achieving profitability (EBIT and free operating cash flow criteria), both for the current year (annual variable compensation) and over the medium term (three-year LTI).

Finally, the balance between annual variable and long-term components ensures that the compensation policy contributes to the Group's long-term development by minimising the incentive to achieve annual targets at the expense of medium-term development.

The Board also noted that the annual fixed compensation and other compensation components (deferred incremental and conditional compensation, severance pay, private unemployment insurance, benefits in kind) contribute to the competitiveness of the compensation policy, which is designed to attract, retain and motivate an effective Company representative. These three objectives serve both the Group's corporate interest and its long-term development.

b) Criteria for setting annual variable compensation for 2020

As in 2019, 75% of the annual variable compensation is set on financial criteria and 25% is set on non-financial criteria. In order to reward outperformance on the financial criteria, payment relative to these criteria may exceed the target and amount to a maximum of 125% of annual fixed compensation. This is not the case for the non-financial portion which remains capped at 25%. Consequently, annual variable compensation is capped at 150% of the target.

(i) Financial criteria for 2020

The Board of Directors has decided to keep financial criteria and weightings identical to those prevailing in the calculation of the 2019 variable compensation, namely:

- 35% based on EBIT;
- 20% based on order intake;
- 20% based on free operating cash flow.

For each criterion, annual variable compensation will only be paid if a demanding threshold is reached. For the first two criteria (EBIT and order intake), no amount is due when the actual figure reported is less than or equal to 90% of the target. For free operating cash flow, no amount is due when the actual figure reported is below the budgeted objective by more than 2% of targeted budgeted revenue.

Triggering ranges for each of the financial criteria, also unchanged from 2019, are detailed below:

Financial criteria for annual variable compensation	Weighting	Threshold	Payment as % of target
EBIT	35%	If results $\leq$ 90% of budgeted objective	0%
		If results = 100% of budgeted objective	35.00%
		If results $\geq$ 110% of budgeted objective	58.33%
Order intake	20%	If results $\leq$ 90% of budgeted objective	0%
		If results = 100% of budgeted objective	20.00%
		If results $\geq$ 110% of budgeted objective	33.33%
Free operating cash flow	20%	If results $\leq$ budgeted objective – 2% of budgeted revenues	0%
		If results = 100% of budgeted objective	20.00%
		If results $\geq$ budgeted objective + 2% of budgeted revenues	33.33%
TOTAL FINANCIAL CRITERIA	75%		

The definition and calculation of these criteria are set out in section 2.3 of the 2019 Universal Registration Document.

As in previous years, the objectives for each financial criterion correspond to those in the Group's budget as approved by the Board of Directors. For reasons of confidentiality, the exact objectives underlying these financial criteria cannot be disclosed.

The level of achievement for each financial criterion will be detailed *a posteriori* in the 2020 Universal Registration Document.

(ii) Non-financial criteria for 2020

The Board selected three non-financial criteria for 2020, each contributing to 8.33% of the target variable compensation:

- cross-functional strategic action: continued implementation of cost synergies, gradual ramp-up of revenue synergies, boosting of the Group's fertilisation initiatives with DIS digital technologies (biometrics, big data, IoT, etc.), preparation for recovery in the Space business;
- adaptation of the Group's international expansion strategy to keep pace with changes in context; implementation of synergies in the organisation of international development;
- Social and Environmental Responsibility: continued deployment of diversity and inclusion initiatives at all levels of the company; more work on the Group's *raison d'être* and implementation of initial appropriation; deployment of the low-carbon strategy defined in 2019.

c) 2020 Long-Term Incentive Plan (LTIP)

The LTIP is designed to reward the Chairman and CEO for the Group's long-term performance. In accordance with the Afep-Medef code (section 25.1.2), the performance and employment conditions applicable to this plan are based on those that apply to the LTIPs of members of the Executive Committee and other senior executives who are LTIP beneficiaries (see section 6.2.3.5.2 of the 2019 Universal Registration Document), without said conditions being identical. As such, only the LTIP of the Chairman and CEO contains an external financial criterion linked to Thales's stock market performance, which is justified by his corporate office.

For 2020, the structure, achievement criteria and proportioning of the Chairman and CEO's LTIP remain unchanged from the 2019 compensation policy.

The LTIP consists of performance units tied to the value of the Thales share. The units will be paid 50% in Thales shares and 50% in cash. As in 2019, the grant approved by the Board consists of 8,000 performance units, comprising the maximum number of units that may ultimately vest in the event that related maximum objectives are reached *vis-à-vis* the criteria listed below.

These units are subject to a vesting period of four years from 26 February 2020. The performance units that actually vest in 2024 will depend on the achievement of performance conditions measured over a three-year period (2020-2022).

Pursuant to Article L. 225-100-III of the French Commercial Code, the payments related to the performance units will be submitted to the vote of the General Meeting in accordance with legal conditions.

(i) 2020 LTIP performance criteria

The Board of Directors decided to keep the same demanding performance criteria tied to the Group's key levers of long-term value creation and their implementation as part of the "Ambition 10" strategic plan focused on growth and competitiveness. Therefore, performance is measured as follows over this three-year period:

- 40% based on a growth objective measured in terms of average order intake over the 2020-2022 period;
- 40% based on a competitiveness objective measured in terms of cumulative free operating cash flow over the 2020-2022 period; and
- 20% based on Thales's stock market performance and measured by Total Shareholder Return (which includes reinvested dividends). Half of this stock market performance (10%) is compared to a panel of European companies in comparable industry sectors (including the following eight equally weighted companies: Airbus, Atos, BAE Systems, Capgemini, Dassault Aviation, Leonardo, Rolls-Royce and Safran), and the other half (10%) to the Euro Stoxx index. The calculation is based on a comparison of performance at 31 December 2022 against performance at 31 December 2019.

(ii) Thresholds and objectives attached to the 2020 LTIP performance criteria

The thresholds and objectives set by the Board to be both demanding and motivating are as follows:

2020 LTIP criteria	Weighting	Objectives	Threshold	Payment as % of target
Cumulative free operating cash flow 2020-2022	40% (3,200 units maximum)	Floor: €3.5 billion	If results < floor	0
			If results = floor (= 33% of maximum)	1,070 units
		Ceiling: €4.5 billion	If results ≥ ceiling for the period	3,200 units
			Variations between floor and target and ceiling calculated on a straight-line basis	
Average order intake for 2020-2022	40% (3,200 units maximum)	Floor: €19.5 billion	If results < floor	0
			If results = floor (= 33% of maximum)	1,070 units
		Ceiling: €21.5 billion	If results ≥ ceiling for the period	3,200 units
			Variations between floor and ceiling calculated on a straight-line basis	
Total Shareholder Return compared to a panel of European companies ^(a) Measure based on performance at 31/12/2022 compared to 31/12/2019	10% (800 units maximum)	Floor: median of the panel	If TSR < median of the panel	0
			If TSR = median of the panel	500 units
		Ceiling: highest quintile of the panel	If TSR is in the highest quintile of the panel	800 units
			Variations between median and entry point of highest quintile calculated on a straight-line basis	
Total Shareholder Return compared to the Euro Stoxx index. Measure based on performance at 31/12/2022 compared to 31/12/2019	10% (800 units maximum)	Floor: median of the Euro Stoxx index	If TSR < median of the index	0
			If TSR = median of the index	500 units
		Ceiling: highest quintile of the index	If TSR is in the highest quintile of the index	800 units
			Variations between median and entry point of highest quintile calculated on a straight-line basis	

(a) The panel includes: Airbus, Atos, BAE Systems, Capgemini, Dassault Aviation, Leonardo, Rolls-Royce and Safran.

After the end of the 2022 financial year, the Board of Directors will disclose the number of performance units that actually vest following a review of the achievement of said performance conditions.

(iii) Additional 2020 LTIP vesting criteria⁽¹⁾

Payment of the performance units is subject to the Chairman and CEO still being with the Company at the end of the four-year vesting period. If he should leave the Group during the vesting period, all performance unit entitlements shall be forfeited. Entitlement shall only be maintained in the event of death, disability or retirement. The value of each performance unit will be equal to the average of the share prices quoted at the closing of the Euronext market over the 20 trading days preceding 24 February 2024.

The Chairman and CEO must hold the Thales shares delivered to him at 50% of the net after-tax gain from the LTIP, until he has accumulated a portfolio of shares equivalent to one year's fixed salary, and hold onto these shares for his entire term of office as Company representative.

In accordance with section 25.3.3 of the Afep-Medef code and the Internal Code on Insider Trading, the Chairman and CEO has undertaken not to use any hedging instruments in relation to his risk exposure on any shares or performance units he holds.

d) Defined-contribution pension scheme of the Chairman and CEO

The Chairman and CEO is entitled to a deferred incremental and conditional compensation scheme set up in February 2015 upon termination of his employment contract. The scheme was renewed by the General Meeting of 23 May 2018.

At its meeting of 25 February 2020, the Board decided to harmonise this deferred incremental and conditional compensation scheme with the defined contribution pension scheme existing elsewhere in the Company. The Board made this amendment to:

- anticipate potential legislative developments related to pensions and the possible disappearance of the Agirc-Arrco points system;
- bring the compensation policy of the Chairman and CEO more in line with that of other members of the Executive Committee, once the scheme is harmonised with the supplementary pension scheme existing elsewhere in the Company;
- harmonise all pension systems with defined contribution schemes, in line with the Group's Human Resources policy;
- reduce the cost of these commitments for the Group.

(1) Unchanged from the 2019 compensation policy.

Subject to the approval of Resolution 7 by the General Meeting of 6 May 2020, the Chairman and CEO will be entitled to a supplementary defined contribution pension scheme effective retroactively to 1 January 2020 and subject to Article 82 of the French Tax Code, under the following conditions:

- the scheme, administered by an external insurer and funded by the Company, will allow the withdrawal of an annuity or capital;
- its financial characteristics will be such that the person concerned will be guaranteed an annuity roughly equivalent to the prevailing deferred incremental and conditional compensation scheme.

These characteristics consist in:

- the crystallisation of benefits accrued in his capacity as an employee and corporate officer of the Company, and the valuation of which will depend on legislation awaiting publication (amount currently estimated at €47,284);
- the contribution by the Company to an insurer of an annual premium (the “Insurer’s Contribution”) which will provide the Company representative, on the date on which he draws his retirement benefits, with a net annuity roughly equivalent to that which he would have received had he continued to benefit from the scheme in force up to that date (amount currently estimated at €264,000);
- the payment by the Company of an annual amount to offset the negative impact of this change on the Company representative’s net compensation after social security contributions and income tax. Unlike the existing scheme, the Insurer’s Contributions are regarded as benefits in kind and therefore, in the year they are paid, subject to social security contributions (employer and employee) and income tax (based on the current estimate of €264,000);
- the conditions for the Company representative to be entitled to his rights under this new scheme will be identical to those of the existing scheme: the new scheme is not conditional on employment in the company when the pension is drawn, but this deferred compensation is only deemed to have been acquired on condition that the Company representative has carried out a full term in office and has drawn his retirement benefits. Furthermore, his entitlement is subject to achieving a performance criterion over the last three full financial years: the average rate of achievement of annual EBIT objectives set by the Board for the Company representative must be higher than or equal to 80%.

For the Company, this new scheme will result in a lower annual cost (€0.85 million/year versus €1.02 million/year) than that of the existing scheme because of the different tax and social security regime applicable.

e) Other items of the Chairman and CEO’s compensation

The Chairman and CEO is entitled to two other compensation components subject to related-party commitments, described in section 4.4.1:

- severance pay;
- private unemployment insurance.

The Chairman and CEO is furthermore entitled to other compensation components, also unchanged from 2019, as follows:

- legal and tax advice;
- private healthcare benefits identical to those offered to senior executives;
- company representatives’ liability insurance;
- reimbursement of business expenses in accordance with Thales’s rules and guidelines;
- an annual medical check-up like other Thales senior executives;
- the services of a chauffeur-driven car.

The Chairman and CEO does not receive attendance fees in his capacity as a director of Thales. He has no service contract with Thales SA or any of the companies it controls within the meaning of Article L. 233-16 II or III of the French Commercial Code.

For more information, please refer to section 2.1.

f) Exceptional situations

In accordance with the legislation in force, this section describes the measures envisaged should an exceptional event occur.

In the event of a transaction that significantly changes the Group’s scope of consolidation, the Board of Directors reserves the right to exercise its discretionary power to adjust, up or down, one or more of the parameters attached to the performance criteria (weighting, triggering thresholds, objectives, targets, etc.) of the Company representative’s annual variable compensation or long-term incentive plan (LTIP). This will ensure that the results of the application of said criteria reflect both the performance of the Company representative and that of the Group. By the same reasoning, the Board of Directors may adjust the triggering thresholds, objectives and targets in the event of changes in accounting standards. These adjustments will be decided by the Board of Directors, based on the recommendation of its Governance and Remuneration Committee, and published on the Company’s website.

No provision has been made for the Board of Directors to depart from this compensation policy in the event of exceptional circumstances other than those mentioned above.

4.4.2.2 Compensation policy for the directors for financial year 2020

At its meeting of 25 February 2020, the Board of Directors established the current compensation policy for directors strictly in keeping with its previous decisions.

a) Annual compensation

The total amount of compensation to be divided among directors (and non-voting members) for services to the Board, including compensation payable to directors who are Committee members in respect of their participation in these Committees, is set at €600,000 per year.

Directors receive:

- for services to the Board, fixed compensation of €14,000 per year (prorated in the event of appointment or resignation during the year), adjusted down if necessary to respect the total envelope (see below), and variable compensation based on attendance at meetings amounting to €2,500 per meeting;
- for services to the Committees, compensation (entirely variable), based on attendance of €1,250 per meeting, with the Chairman of each Committee receiving an additional €2,000 per year (prorated based on the number of meetings chaired, if applicable).

Non-voting members receive compensation that is entirely variable, based on attendance at meetings and amounting to €2,500 (or less, if the Board so decides) per meeting;

If, on account of the high number of meetings (variable compensation being paid first), the total amount of €600,000 per financial year (gross amount before any deductions) is likely to be exceeded, the fixed component of directors’ compensation is reduced in order to remain within the annual budget approved by shareholders.

The Chairman and CEO does not receive any compensation in respect of his office as director.

In accordance with the recommendations of the Afep-Medef code, this structure was set up so that the variable component makes up most of the directors’ compensation. Directors are therefore encouraged to observe strict attendance at meetings, which is essential if they are to carry out their duties effectively.

No provision has been made for the possibility of requesting that directors return the variable component of their compensation.

b) Exceptional compensation

In accordance with Article L. 225-46 of the French Commercial Code, additional compensation may be allocated to directors outside the authorised annual budget of €600,000 on an exceptional basis by decision of the Board in the following cases:

- pursuant to the Board's rules of procedure, the Chairman may request that specific committees be set up to study a proposed transaction, such as the signature of a major contract or the completion of an investment or divestment, for which the referral to one of the standing
- committees does not seem the best way for such transaction to be appraised and subsequently voted on by the Board. In such cases, the Board of Directors may decide to grant its members exceptional compensation in the form of a flat fee pro-rated for the meetings attended;
- the Board may also entrust specific tasks to a director and decide to grant him or her exceptional compensation commensurate with the work performed.

4.5 COMPENSATION OF OTHER EXECUTIVES

The total compensation paid in 2019 to members of the Executive Committee, excluding the Chairman and CEO, totalled €13,568k. This included a variable component of 29.9% for 2018 and 30.91% paid in

respect of the 2015 unit plan, which qualifies as compensation. As is the case for the Chairman and CEO, the variable component is based on financial and non-financial performance criteria.

➤ DETAILS OF COMPENSATION PAID TO THE EXECUTIVE COMMITTEE (EXCLUDING THE CHAIRMAN AND CEO) IN 2018 AND 2019

(in € thousands)	2019	2018
	Paid during the financial year	Paid during the financial year
Executive Committee (excl. Chairman and CEO)		
Fixed compensation	5,268	4,492
Variable compensation	4,056	3,910
Compensation in units subject to performance and employment conditions under the 2015 LTI plan ^(a)	4,195	3,699
Payments due upon retirement	–	–
Benefits in kind	49	41
Total before social contributions	13,568	12,142
Employer social contributions	4,000	3,523
TOTAL EXPENSE	17,568	15,665

(a) Plan maturing in 2019. Half of the total value referred to above was paid in the form of shares.

In addition, at the end of December 2019, the members of the Executive Committee, other than the Chairman and CEO, together had a total of 149,170 performance shares and 16,450 phantom shares. The breakdown by grant date and characteristics, as well as any options exercised, are

shown in Sections 6.2.2.2 and 6.2.3.5 (pages 165 and 171). The summary of transactions carried out by directors, non-voting directors and related persons is shown in section 4.6.

4.6 SUMMARY STATEMENT OF TRANSACTIONS MENTIONED IN ARTICLE L. 621-18-2 OF THE FRENCH MONETARY AND FINANCIAL CODE CARRIED OUT IN 2019

In accordance with Article 223-26 of the General Regulations of the French financial markets authority (AMF).

To the best of the Company's knowledge, the following disclosures have been made to the AMF⁽¹⁾, for publication on its website (<http://www.amf-france.org>):

Director's name	Financial instrument	Type of transaction	Transaction amount (in euros)	Unit price (in euros)
Pascal Bouchiat	Share	Payment in kind ^(a)	277,172.68	102.1270
Millar Crawford	Share	Payment in kind ^(a)	138,586.34	102.1270
	Share purchase options	Financial year	40,510.92	26.3400
Alexander Cresswell	Share	Sale	164,944.62	91.1800
	Share	Payment in kind ^(a)	184,747.74	102.1270
Marc Darmon	Share	Sale	155,400.00	111.0000
	Share	Payment in kind ^(a)	161,667.04	102.1270
	Share	Sale	153,860.00	109.9000
Philippe Duhamel	Share	Payment in kind ^(a)	41,565.69	102.1270
Jean-Loïc Galle	Share	Sale	107,248.00	107.2480
	Share	Payment in kind ^(a)	184,747.74	102.1270
Gil Michielin	Share	Payment in kind ^(a)	207,828.45	102.1270
Pierre-Éric Pommellet	Share	Payment in kind ^(a)	207,828.45	102.1270
	Share	Sale	198,000.00	110.0000
Isabelle Simon	Share	Payment in kind ^(a)	138,586.34	102.1270
Pascale Sourisse	Share	Payment in kind ^(a)	277,172.68	102.1270
David Tournadre	Share	Payment in kind ^(a)	277,172.68	102.1270

(a) Partial payment in the form of Thales shares to the value of the units granted under the unit award plan of 17 September 2015 which is subject to performance conditions.

(1) This refers to individuals required to make a disclosure as indicated in Articles L. 621-18-2 a), b) and c) of the French Monetary and Financial Code. The individuals concerned by Article L. 621-18-2 b) of the French Monetary and Financial Code include the members of the Executive Committee.

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CORPORATE RESPONSIBILITY AND NON-FINANCIAL PERFORMANCE



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5.1 A CORPORATE RESPONSIBILITY POLICY TO SUPPORT SUSTAINABLE ECONOMIC GROWTH

For more than 15 years, Thales has been proactively implementing a strong corporate responsibility policy based on the highest international standards. The Group is also addressing the demands of its investors and the financial markets for a company that is increasingly successful, innovative and mindful of its responsibilities. These are also the fundamental expectations it has for its customers and employees, which are key to Thales's long-term economic performance.

This is especially reflected in Thales's commitment to the United Nations Global Compact, which it signed in 2003. Thales upholds the Global Compact's 10 principles relating to Human Rights, labour standards, environmental protection and the fight against corruption. These commitments, implemented through agreements and best practices guaranteeing that the Group will conduct business responsibly, helped Thales reach "GC Advanced level" of the Global Compact's Differentiation Programme in 2012.

The appropriateness of the Group's corporate responsibility policy was also recognised by the Dow Jones Sustainability Index (DJSI). In 2019, for the third year in a row, the Dow Jones Sustainability Index (DJSI) ranked Thales as one of the companies in the Aerospace & Defence segment with the most advanced corporate responsibility policy worldwide. Similarly, the non-financial rating agencies MSCI and Ethifinance (Gaia rating) gave Thales a rating of AA (for the fourth consecutive year) and an index of 83/100 for its corporate responsibility policy, acknowledging the Group's sustained efforts in this area.

On the environmental front this year, Thales received a B rating from the Carbon Disclosure Project.

Lastly, Thales publishes an integrated annual corporate responsibility report which aims to provide all stakeholders – employees, customers, suppliers, business partners, local communities, public authorities, NGOs, etc. - with details about how the organisation interacts with its

ecosystem and uses capital to create this value in the short, medium and long term. In this document, Thales sets out our ever-growing commitment to the Sustainable Development Goals defined by the United Nations in 2015.

The integration of Gemalto's business activities in April 2019, which are now included in the Digital Identity & Security (DIS) Global Business Unit, has had no impact on the main thrusts of Thales's corporate responsibility policy, which remain unchanged. However, the significant change to the new scope of business has resulted in a clear shift in the values of some indicators as well as the decision to redefine certain assessment criteria.

The corporate responsibility policy is promoted at Group level by the Company Secretary; the Senior Executive Vice-President, Human Resources; and the Senior Executive Vice President, Chief Operating and Performance Officer. It is coordinated by the Executive Committee and monitored at board level by the Strategic and Corporate Social Responsibility Committee.

In 2019, Thales started to think about how to involve even more managers in the implementation of its CSR strategy by making CSR objectives a factor in their annual variable compensation. Accordingly, the Group's Executive Committee has defined a list of managerial CSR objectives for 2020 in line with the six components of the Group's CSR strategy (diversity and inclusion, workplace health and safety, climate change, environmental protection, business ethics and duty of care), as set out in its Non-Financial Performance Statement.

With this new system, Thales will be able to better integrate CSR into the duties and daily decisions of its managers to ensure the overall improvement of the Group's non-financial performance, fuelled by its *raison d'être*: "Building a future of trust together".

5.2 RISKS TAKEN INTO ACCOUNT FOR THE NON-FINANCIAL PERFORMANCE STATEMENT

In 2018, to identify the main risks that would also be published in the Non-Financial Performance Statement, the Group conducted a risk identification and risk mapping exercise with the participation of the main Corporate support functions⁽¹⁾ and the assistance of an external consulting firm (see 2018 Registration Document).

In 2019, this working group met again to assess the impact of the change in the Group's scope on the six risks selected for the Non-Financial Performance Statement after the acquisition of Gemalto in April 2019. After analysing these risks, the working group decided to keep them, since the change in scope had not generated any significant change in the typology of CSR risks to which Thales is exposed.

The six risks selected on that basis relate to:

1. diversity and inclusion,
2. protection of the health and safety of employees,
3. environmental impacts of the Group's activities,
4. anticipation of environmental standards in product design⁽²⁾,
5. compliance with rules of ethical business conduct (especially the fight against corruption and influence peddling)⁽²⁾,
6. vigilance concerning supplier compliance with corporate responsibility issues.

(1) Representatives from the Finance, Health, Safety & Environment, Human Resources, Purchasing, Audit, Risks & Internal Control, Strategy & Marketing, Ethics & Corporate Responsibility, and Communications Departments (Thales Foundation), plus the Company Secretary and corporate management.

(2) These three risks are outlined in chapter 3, Risk Factors

Risk identification**1. Diversity and inclusion**

In a more globalised cultural and technological environment, increasing team diversity and developing a more inclusive corporate culture are key ways to support innovation and creativity thanks to a broader range of approaches, perspectives and ideas.

A lack of diversity could affect the Group's ability to properly account for major technological changes and respond to changes in customer expectations. This could in turn have a negative effect on its competitiveness and profitability.

Risk monitoring and management

Since 2016, proactive targets have been introduced Group-wide to strengthen diversity and inclusion in the broad sense of the term. These targets are covered in a quarterly scorecard (see section 5.4.2).

In an effort to encourage team diversity and employee inclusion and ensure differences are respected, the Group has adopted a dedicated governance system structured around a Steering Committee, a Diversity and Inclusion Council and a central Diversity and Inclusion department.

In terms of gender diversity and professional equality, the Group has been rolling out negotiated action plans in France since 2004 under agreements signed with trade unions.

Since 2009, Thales has been a signatory of a European agreement called IDEA, which includes gender equality commitments. The Group's initiatives in this area are discussed in greater detail in section 5.4.2.

2. Workplace health and safety

Some of Thales' activities could expose its employees, visitors or subcontractors to various physical risks (electrical, chemical, radiation, railway worksites, work at height, etc.).

These activities require compliance, wherever the Group operates, with a wide range of different regulations relating to the work environment and industrial safety in order to ensure a safe and healthy workplace for all employees concerned.

Failure to comply with these requirements or insufficient measures to protect the health, safety and quality of life at work of the employees for which the Group is responsible could expose it to sanctions, a deterioration in its operating performance, and may damage its reputation or attractiveness.

Thales has set up a dedicated framework aimed at preventing risks related to workplace health and safety both at the Group's facilities and its external sites. Thales has worked to analyse the risks related to substances and products handled as well as anticipate major global health crises.

The Group Human Resources and Health, Safety and Environment departments have introduced tangible measures to prevent risks related to workplace health and safety and improve quality of life and well-being at work (see section 5.4.3). The risks to which employees and outside contractors may be exposed are assessed and monitored on a regular basis throughout the Group.

Cross-functional and multi-disciplinary steering committees created to eliminate or reduce these risks meet several times a year (see section 5.4.3).

3. Environmental impacts related to the Group's activities

Emissions generated by the Group's business activities have the potential to affect the environment, while the use of Group products by customers may contribute to the production of greenhouse gases that contribute to global warming.

However, the Group's exposure to these risks of environmental damage is limited to the extent that its core business is engineering and software development.

That said, should some of its industrial operations fail to comply with environmental laws and regulations, the Group would be exposed to sanctions, damage to its image and potentially, refusal by some customers to do business with Thales.

Furthermore, the risks resulting from climate change (natural disasters, supply chain disruption, market instability, etc.) could have a negative impact on the Group's performance and its business model.

Thales updates its environmental risk analysis on a regular basis according to its business activities, processes for assessing significant impacts, scientific and technical developments as well as new challenges and regulatory changes.

To support this analysis, which also includes the Group's corporate social responsibility and is performed at least once a year, the Group has introduced a framework and resources at all its locations to control and limit the environmental impacts of its business activities (see sections 5.5.2 and 5.5.3).

Total provisions for environmental risks totalled €5 million at 31 December 2019.

In 2019, to reduce the impact of product use as regards energy efficiency and a low carbon footprint, the Group implemented a strategy for a low-carbon future in order to cut back on greenhouse gas emissions across its value chain, in line with the 2°C trajectory of the Paris Agreement, with targets set for 2023 and 2030. The Group assesses the progress it has made in achieving these targets each year.

Lastly, in recent years, Thales has performed regular assessments and worked to reduce its sites' exposure to natural disasters (floods, hurricanes, fires, water stress, etc.) in order to make it less vulnerable to the effects of climate change.

Risk identification

4. Anticipation of environmental standards in product design

Changes in environmental regulations may rule out certain technical or technological solutions, particularly for certain suppliers or subcontractors. This may result in the need to qualify and implement alternative solutions. It may also result in changes to the supply chain or the upgrading of industrial resources, with the costs and timescales associated with such changes.

Regulatory differences between countries and constant changes to regulations also make it more difficult for Thales to verify the compliance of solutions that are released to market, and could put the company at a competitive disadvantage.

Commitments made by some sectors relating to managing and reducing their carbon footprints, such as Corsia in the aeronautic industry, could also be passed on to equipment suppliers and cause Thales to pay taxes and/or compensation.

Lastly, some customers' expectations may exceed regulatory requirements alone and in some cases lead to solutions that are technically impossible or to substantial additional costs.

Risk monitoring and management

The Group has promoted a responsible product policy for several years.

Based on regulatory monitoring, it produces an analysis of environmental risks and their impact on the supply chain, product design and conditions for accessing various markets that it updates on a regular basis based on new challenges and regulatory changes (e.g., REACH in Europe, use of chemicals, etc.).

These factors relating to regulations or to meeting customer needs are passed on to suppliers and the supply chain through contracts and/or specifications.

Solutions for replacing hazardous substances are being developed ahead of regulatory deadlines.

To be able to meet the Group's commitments regarding eco-design and reducing the carbon footprint of the products it sells, Thales has adopted an eco-design approach. See section 5.5.2.2 for more details.

5. Compliance with rules of ethical business conduct (especially the fight against corruption and influence peddling)

Thales's business encompasses a variety of sectors in more than 50 countries.

Failure to comply with applicable laws and regulations relating to ethical business conduct, especially the fight against corruption and influence peddling, may have serious legal and financial consequences for the Group and severely damage its reputation.

The Group's anti-corruption compliance programme, which has been in place for many years, was further strengthened in 2018 and 2019 to take account of recent legislative and regulatory changes, especially those resulting from France's Sapin II law.

The Group's anti-corruption policy is described in section 5.6.1.

6. Vigilance concerning supplier compliance with corporate responsibility issues

Thales's purchases account for approximately half of its revenues. These purchases are made worldwide from around 19,000 active suppliers (Thales' historic scope plus the DIS GBU) of all sizes, many of whom have their own subcontracting chains.

Despite the Group's increased vigilance, it is difficult to guarantee that all stakeholders in the upstream supply chain are fully compliant with laws relating to social, environmental and ethical responsibility.

Should any of them fail to comply, the Group's business, image and profitability could be affected.

Monitoring and management of this risk are included in the Duty of Care Plan (see section 5.7.3.2) pursuant to law No. 2017-399 of 27 March 2017 on the duty of care of parent companies and contracting companies.

The Non-Financial Performance Statement also includes the disclosures required under Article L. 225-102-1, III, paragraph 2 of the French Commercial Code. These include disclosures about the consequences of the company's business activities and the use of the goods and services it produces on climate change, its corporate commitments to sustainable development, the circular economy, the fight against food waste and food insecurity, respect for animal welfare and responsible, fair and sustainable food, collective agreements signed within the company and their impact on the company's economic performance and employees' working conditions, initiatives aimed at combating discrimination and promoting diversity, and measures taken for people with disabilities. See the related summary table in section 8.6.

5.3 NON-FINANCIAL PERFORMANCE SCORECARD

Issue/Risk	Policies	Key performance indicator	2018 Outcomes ^(a)	2018 Outcomes ^(b)	2019 Outcomes ^(c)
1. Diversity and inclusion	Thales's commitment: Bring out the best in everyone <i>"At Thales, I work in teams that are open to diversity and value our differences and backgrounds."</i> Cross-functional initiative taken by the Executive Committee as part of the Group's Ambition 10 strategic vision Being a global leader with a strong local presence means embracing diversity in all its forms: gender, age, origin and nationality. A truly diverse, global organisation has an additional advantage when it comes to competitiveness and attracting retaining top local talent. Diversity stimulates innovation and creativity thanks to a broad range of approaches, perspectives and ideas. Inclusion, which presupposes the acceptance of diversity and recognition of its importance, will improve Thales's collective performance.	% of women among new hires		32%	33
		% of women in top positions		16.5%	17.2%
		% of Management Committees with at least three female members		49%	50%
2. Workplace health and safety	Thales's commitment: Be attentive to everyone <i>"At Thales, my manager trusts me: he empowers me and ensures my well-being."</i> <i>"At Thales, I have all the resources and support I need to maintain a healthy work-life balance."</i>	Absenteeism rate		2.4%	2.56%
		Frequency rate of accidents at work	2.22	2.01	2.32
		Severity rate of accidents at work	0.053	0.048	0.057
	Thales's commitment: HSE policy <i>"Thales is committed to providing a safe and healthy working environment for its employees at its own sites and at external sites."</i>	Percentage of employees working at an OHSAS 18001/ISO 45001-certified site	83%		77.5%
3. Environmental impacts related to the Group's activities	Thales's commitment: HSE policy <i>"Thales is committed to safeguarding the environment by limiting impacts (energy, climate, natural resources, etc.) and preventing pollution risks."</i>	Change in energy intensity (in TOE/hours worked)			-4.6%
		Reduction of direct operational emissions ^(d)			-1.8%
		Absolute value compared with 2018			
		Reduction of indirect emissions ^(e)			-1.7%
		Absolute value compared with 2018			
		Recycling rate of non-hazardous waste	57%	58%	60%
		Percentage of employees working at ISO 14001-certified sites	89%		84%
4. Anticipation of environmental standards in product design	Thales's commitment: HSE policy <i>"Thales is committed to designing, purchasing, producing and providing solutions, products and services that meet health, safety and environmental requirements."</i>	New developments incorporating eco-design			pending
		Percentage of Product Line Architects and Product Line Managers trained in or made aware of eco-design			5%

(a) 2019 scope after the integration of Gemalto's business activities – Data provided for comparison purposes, where available, in accordance with Article R. 225-105-1 of the French Commercial Code.

(b) Thales pro forma scope with integration of Gemalto's business activities.

(c) Thales historic scope before integration of Gemalto's business activities.

(d) Direct operational emissions: Internal operations (Scope 1, 2 and 3 – business travel).

(e) Indirect emissions: Scope 3 purchases of goods and services and use of products and services sold.

Issue/Risk	Policies	Key performance indicator	2018 Outcomes ^(a)	2018 Outcomes ^(b)	2019 Outcomes ^(d)
5. Compliance with rules of ethical business conduct (especially the fight against corruption and influence peddling)	Thales's commitment: zero tolerance for corruption <i>"Ethical conduct, integrity and compliance with regulations must be the rule for all Group employees throughout the world and at all levels of the company."</i> (extract from the Code of Ethics)	Number of operational entities that assessed risks of corruption		113	108 ^(f)
		Anti-corruption training ^(g)		4,563	9,920
		Alerts received via the Group's alert system		15	34
		including alerts about possible acts of corruption ^(h)		None	4
6. Vigilance concerning supplier compliance with corporate responsibility issues	Thales's commitment: Get all its suppliers to support its approach to corporate responsibility <i>"Thales establishes relationships of mutual cooperation with its suppliers, based on mutual loyalty."</i> (extract from the Code of Ethics) Thales requires its suppliers to comply with commitments relating to Human Rights, labour standards and environmental protection.	Supplier performance in the areas of corporate responsibility (labour standards, the environment, corporate governance, business ethics and export control) (average score out of 10)		8.7	8.7
		Supplier performance in areas of corporate responsibility (average score out of 10)			
		Percentage of class A ⁽ⁱ⁾ suppliers assessed in terms of their environmental maturity		84%	N/A ^(j)

(f) DIS not included (these assessments are made via the Yearly Attestation Letters that are produced at the beginning of the year). The decrease in the number of entities evaluated is due to the disposal of activities.

(g) Comprising 5,197 e-learning sessions and 4,723 face-to-face sessions in 2019. The sharp increase in the number of training courses is due to the systematic and fast deployment of a new mandatory anti-corruption training module for the departments that have been identified as the most at risk.

(h) Of the four alerts concerning allegations of possible acts of corruption, all four were closed after internal investigations confirmed that there were no acts of corruption.

(i) All suppliers accounting for 80% of purchasing volumes.

(j) The classification of suppliers was significantly revamped in 2019 and the A, B and C classes were eliminated. The percentages referring to class A are therefore not available for this financial year. The new indicators linked to Responsible Purchasing targets will be published in the 2020 Universal Registration Document (see Section 5.7.3.1.2).

5.4 HUMAN RESOURCES GEARED TOWARDS COMPANY PERFORMANCE

With the acquisition of Gemalto, which was finalised on 2 April 2019, Thales now has more than 82,000 employees in 76 countries worldwide.

With this acquisition, the Group has significantly increased its presence in Latin America (78% more employees), India (68% more employees), doubled its workforce in China and Hong Kong (59% more employees in China and Hong Kong) and boosted its workforce in North America (31% more employees) and Europe (13% more employees).

A new Global Business Unit called Digital Identity and Security was created after the integration of Gemalto into the Group (DIS GBU).

With nearly 3,000 researchers and 28,000 engineers employed today in research and development, the Group offers its employees amazing opportunities, especially in digital expertise.

The breakdown of Group employees by geographical area and by level of responsibility after the acquisition of Gemalto, has confirmed:

- the globalisation of the Group: at the end of 2019, there were 43,412 employees working outside France, representing 52.5% of the workforce;
- an increase in the percentage of women, who represent 26% of the Group's workforce;

- policy of stable employment: 98% of employees have permanent contracts and 94% work full-time;
- the special attention paid to young people and seniors: 38% of the workforce is under 40 years old and 33% of employees are over 50 years old.

In 2019, the Group's Human Resources Departments rallied round to integrate new employees and harmonise their employment policies while continuing the actions implemented to concretise the Ambition 10 strategic vision, which places employees at the heart of the Group's long-term development process.

The Group continued its actions to promote diversity and inclusion and reviewed the commitments it made in 2017 to all its employees: develop together in a changing world, bring out the best in everyone and be attentive to everyone.

To support the Human Resources Department's initiatives, the new digital platform WorkDay was deployed across the entire Group in 2019. It offers new services to employees and managers. Workday is now the new HR information system and will be expanded to the entities of the DIS GBU in 2020.

5.4.1 Attract, retain and develop talent

The Group is facing several challenges:

- encourage an interest in science and technology careers, especially among girls, to bring out the talents of tomorrow, and attract the best talent, especially with the shortage of skills in some areas of expertise (in particular cybersecurity);
- retain and develop the Group's talent to cope with the fierce competition on the job market.

To overcome these challenges, the Global Resourcing function, responsible for attracting and hiring talent, the Talent and Culture function, responsible for professional development and employee training and the Compensation and Benefits function, which is in charge of the Group compensation system, have worked closely and collaboratively with the country units and the GBUs to overcome these different challenges.

First challenge: spark interest in jobs and attract the best talent

In a fiercely competitive job market, in particular for digital skills, Thales needs to deploy dynamic, innovative and relevant recruitment processes aimed at the target population, especially young graduates. Furthermore, since women are quite rare in scientific professions, Thales is working to make girls aware of technical and scientific fields and the professional opportunities they can offer.

Actions deployed to spark interest in jobs

- **Creating partnerships with educational institutions**

For several years now, Thales has been forging partnerships with schools and universities in France and abroad to encourage the professional integration of young people and attract the Group's future employees.

In 2019, the Group and the association Article 1 entered into a partnership to help students from less privileged backgrounds get support from 15 employees as part of a mentoring programme. Students are supported throughout their studies, during their search for internships and when choosing their career.

The Group is also keen to encourage an interest in science and technology careers among students. A long-time partner of the association Elles Bougent, whose objective is to attract young women to engineering careers, Thales today has 415 female employees who are sponsors within the association. Thales regularly hosts junior and secondary school students so they can learn about what engineers do at an industrial group such as Thales.

- **The Thales ambassador network**

There are nearly 125 Campus Managers in an internal network made up of former students of partner schools who are now working at the Group who act as Thales ambassadors with students. In 2019, they took part in 130 events carried out with schools and universities and in 90 recruitment fairs.

Actions taken to attract the best talent

- **The Thales Employer brand**

The employer brand showcases the values championed by the Group. It is regularly highlighted on the Group website, its various social networks and during different events the Group participates in, such as the Bourget Air Show or the Vivattech fair, which is dedicated to technological innovation.

In 2019, the Group continued to develop its employer brand by drawing on the integration of Gemalto and on the discussions undertaken to define Thales's *raison d'être*.

The efforts the Group has made to enhance its employer brand have been rewarded by various rankings for companies preferred by employees and young graduates in France, who rank Thales among the most attractive companies. For example, Thales ranks second in the Epoka/Le Figaro Étudiant survey in the category of the 50 companies where engineers want to work and third among the preferred companies of engineers in the field of transportation, aeronautics and defence. At the international level, Thales Canada was named one of the best employers in the Greater Toronto Area in 2020⁽¹⁾.

- **The use of social networks and digital tools**

With the internet now the number one source of information and job searches, the Group has continued its social network development strategy to improve its attractiveness outside the company.

At the end of 2019, more than 550,000 people were following news about the Group on LinkedIn (compared with 375,000 in 2018) and 70,000 people were following the Group on Twitter at @thalesgroup.

In 2019, the Group initiated a project to overhaul the Career section of its website. Although this project should be finalised in 2020, several pages of the website have already been reviewed to make the Group's activities more visible and to improve the job search experience of Thales applicants. In 2019, 480,000 applications were received via WorkDay, 300,000 of which came from France. The Career section of the Group's website is therefore the primary method for recruiting external applicants today.

In 2019, the Group also focused on standardising recruitment processes after the acquisition of Gemalto. As part of this standardisation, the new DIS GBU used eQuest, one of the Group's tools that publishes job offers on nearly 65 recruitment websites and social networks. Thus, the Group ensures that employees work consistently at the global level while taking the specific characteristics of the local job market into account and optimising online recruitment channels.

(1) Canada's Top 100 Employers competition, December 2019.

Thanks to all these actions to increase its attractiveness, the Group continued its recruitment momentum by hiring 10,906 people in 2019, demonstrating the success of all the actions implemented.

- **An active policy to integrate young people**

As part of its Human Resources policy, Thales has implemented measures aimed at recruiting young people not just to meet its hiring needs but also to help young people enter the workforce.

Thales has therefore renewed its commitments to work/study and internship programmes. The Group has kept the commitments it made when it signed the three-year agreement on the Development of Growth and Employment in February 2017. This agreement is aimed at maintaining the percentage of work-study students in France at 5% of the average annual workforce and to hire 6,500 people in France between 1 January 2016 and 31 December 2019 with 35% of applicants under 30 years old with permanent contracts. To be completed with figures from France.

Second challenge: retain and develop talent

Thales's success and performance depend on its ability to develop the loyalty of the talent in the Group and support their professional development because the individual development of each employee contributes to collective success.

In a constantly changing economic and technological environment, the Group's professional development policy relies, in particular, on forward planning and results in its ability, firstly, to predict key changes or innovations and to prepare action plans to deal with them; and secondly, to train and support every employee to diversify their experience and provide them with opportunities, especially in other countries, and thus design better career paths. Thales also has a compensation policy that recognises and values skills and gives employees a stake in the Group's results.

Actions taken to retain and develop talent

- **A compensation system that gives employees a stake in the Group's results**

Compensation

The Group's compensation policy is based on transparency, equity and dialogue. It is a veritable component of its employment policy, aimed at encouraging performance, recognising skills and retaining talented employees. It combines collective results and individual performance and takes market practices in the countries where the Group operates into account. In 2019, compensation rose by over 3.04% in France. This increase includes both individual pay raises and the collective pay rises negotiated with trade unions.

Payroll, including profit-sharing and incentives, totalled €7,389 million in 2019, compared with €6,459 million in 2018. The increase in payroll accounts for the integration of DIS.

Employee profit-sharing and incentive schemes

To build bonds among employees that go beyond the entities they work for and foster solidarity among the Group's French companies, as well as to give employees a greater stake in the Group's results, development and improved performance, the Group has introduced pooled profit-sharing and incentive agreements that distributed a total of €36.4 million to Group employees in 2019 as their share in profits for 2018 (of which the share of the parent company Thales amounted to €1.09 million) and €42.6 million in respect of the 2018 incentive scheme (of which the share of the parent company Thales amounted to €1.2 million).

Thales DIS France joined the collective profit-sharing and incentive agreements to allow the employees of these entities to take advantage of all these measures as from fiscal 2019.

Employee savings schemes: in France, employees benefit from a complete employee savings plan that enables them to build savings with the company's help:

- a Group savings plan (PEG) was created in 1998 and its assets total approximately €378 million as at 31 December 2019 (excluding employee shareholding). The mutual fund for employee shareholders is the main framework within which Group's employees hold company shares under the Group savings plan. Thales's assets under management in this fund total €367 million for 31,414 unitholders;
- a collective retirement savings plan (PERCO) was created through a collective agreement in 2007 and allows employees to build up savings for their retirement. Under this scheme, employees receive a matching contribution from the company that increases with their seniority that could be as much as €2,694 in 2019 if retirement is expected within 24 months. At 31 December 2019, the assets under management as part of the PERCO plan amounted to €451 million for 38,149 unitholders.

Thales employee share ownership offering

Since it was privatised in 1998, Thales has made a commitment to increasing employee shareholding. The Group regularly offers its employees the opportunity to buy shares at advantageous terms. It has set up ten employee shareholding offers between 1998 and 2019 in various countries. The most recent offer made in October 2019 included 550,000 shares for employees in 34 countries with a 20% discount on the purchase price and a matching contribution of one share for every four shares purchased (up to a maximum of 10 free shares). Since demand exceeded supply, the larger subscriptions had to be capped.

All types of shareholding combined (FCPE, direct shareholding and shares from free share plans), the shareholding of current (or former) employees in Thales amounted to 2.90% of the Company's share capital at 31 December 2019.

Free share allocations and phantom shares

On 25 September 2019, the Board of Directors approved a plan to allocate free performance-related shares to 917 senior French executives.

A plan to allocate performance-related "phantom shares" (monetary equivalent of a Thales share) was also put in place for 551 senior non-French executives.

A total of 1,468 employees in 41 of the Group's countries participate in these two plans. Short- and medium-term loyalty development programmes lasting between two and three years have also been introduced for technicians, engineers and managers.

• A dynamic mobility and expatriation policy

The Group's international mobility policies were restructured in 2019 to bring them in line with current market practices, which consist of giving priority to a local approach by offering employees advantageous expatriation conditions by signing local employment contracts in some countries.¹⁴ Other procedures were also revised with the aim of harmonising these policies with those of Thales DIS.

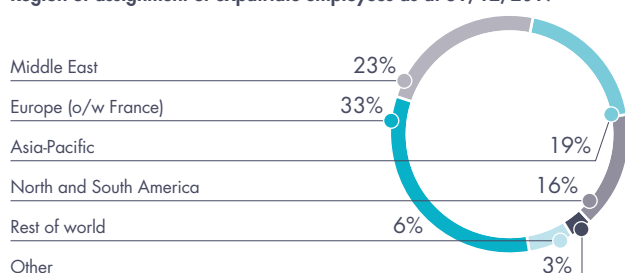
Thales has implemented several processes to encourage international mobility:

- long-term international secondments (long-term assignment, Thales Global Mobility, commuters) and short-term secondments (short-term assignments) depending on the Group's strategy and the needs expressed by the countries of operation and GBUs;
- the Career Plus programme matches operational needs with the desire of employees of all kinds to temporarily move overseas. At end-December 2019, a total of 90 employees (2018 scope¹⁵) were enrolled in this programme;
- at end-December 2019, the International Business Volunteers (VIE) programme had made it possible for 70 young people (2018 scope) aged between 18 and 28 from the European Economic Area to be posted to a foreign country for 6 to 24 months.

Thanks to these initiatives, at 31 December 2019, a total of 701 Group employees (2018 scope¹⁶) from 26 countries had been sent on international mobility assignments to 64 host countries across all business segments.

Assignments covered all regions worldwide.

Region of assignment of expatriate employees as at 31/12/2019 ^(a)



(a) Before the integration of Gemalto.

Participating employees were primarily from Europe, especially France (63%), with smaller numbers from Asia-Pacific (Singapore, Australia, etc.) and North America, as well as some emerging economies.

These programmes also contribute to the achievement of the Group's diversity goals.

• Dynamic and forward-looking skills management

All employees are divided into 15 job families, each of which benefits from the expertise of an operational leader and an operational committee, an HR contact person and a training support team to anticipate changes and future trends and put forward a collective professional development action plan.

In a highly competitive economic environment, employees' technical skills are a major advantage, and skills management provides substantial leverage in terms of professional development for the employee and anticipation for the company. To this end, the Group has developed a "skills management" approach for its key job families (R&D, Industry, Customer Services), centred on the identification and sharing of available technical skills. This approach means that the professional development plans deployed by the Group (skills transfer, coaching, training, recruitment of candidates with specific backgrounds) can be fine-tuned to anticipate future operational needs and maintain teams' key skills. This approach has been gradually expanded to the following job families: Quality & Customer Satisfaction, Finance, Purchasing, Bids and Project Management.

By the end of 2019, most employees of the job families concerned worldwide had indicated their skills using a special tool for this purpose. This tool is continuously improved and undergoes an analysis of additional needs and feedback. The data will be integrated into WorkDay in 2020.

• Training that meets the needs of the business and employees

Thales's commitment to training stems from the view that building a successful career path means maintaining every employee's expertise at all times. The Group's training policy has a dual aim:

- meeting the needs of the Group's companies by implementing growth and performance improvement projects and supporting transformation;
- taking into account employees' individual aspirations in terms of skills development with regard to their job or professional mobility.

The Talent & Culture International Learning Department contributes to the training and professional development of employees in the various countries where the Group operates by creating a shared training culture. Its tasks include helping employees to adapt their individual and collective skills to changing job roles while supporting the Group's strategic goals. It is also in charge of managing the Digital Learning portal, a user-oriented interface that offers customised experiences and follows the user's learning progress. Accessible to all Group employees, Digital Learning provides a significant portion of the training provided to Group employees.

Some Group countries also have a local Talent & Culture department. In the major countries where it operates, the Group has 11 corporate university campuses called Thales Learning Hubs, which have special facilities for organising seminars, training sessions and workshops.

The training sessions organised in 2019 focused in particular on "Capture" programmes for Bid management, "Financial Controller for Bids & Projects", cyber security, and on the protection of personal data, prevention of corruption and influence peddling (as part of the Group's compliance programme) and challenges related to diversity and inclusion.

In 2019, efforts to develop the training sessions offered continued with the introduction of new multimodal programmes comprising a range of different teaching methods provided through the Digital Learning portal.

Key training figures for 2019

Group employees received an average of 16 hours of training in 2019. Overall, a total of 1,272,261 training hours were received Group-wide in 2019.

In 2019, more than 145,900 hours of digital training were provided worldwide (an increase of 31.4% compared with 2018) and the Digital Learning portal was used by more than 42,800 employees in 2019 (an increase of 33.2% compared with 2018).

(1) Primarily Singapore, the United States, Canada and Australia.

(2) Before the integration of Gemalto

(3) Germany, France, Italy, the Netherlands, the UK, Canada, the United States, the United Arab Emirates for the Middle East and Africa, Australia and Singapore for Southeast Asia.

• Professional support for employees

Supporting employees primarily involves regular communication from the HR teams on the strategic developments of the company and its various business lines through the job families.

In 2019, the Group, which promotes the professional development of its employees, maintained the two mandatory meetings between managers and their employees to take stock of their professional development and skills improvement and also review the performance during the year through a review of professional objectives.

To constantly improve the employee experience, the Group has launched a new employee support strategy in five pilot countries. This new strategy favours more regular “check-in” interviews during the year between managers and employees during which objectives, feedback, professional development, training needs, workload, etc. are discussed. This system will be deployed throughout the Group in 2020.

5.4.2 Promote diversity and an inclusive culture

One of the Group's priorities is to build a diversified global company.

In 2016, Thales's Chairman and Chief Executive Officer committed to an ambitious long-term target for the percentage of women hires (40%), access for women to senior executive positions (30%) and the membership

of at least three women on each Management Committee. A holistic, proactive approach was adopted in order to make progress in this area and ensure that Thales is an open and welcoming company for all employees.

Female recruitment	Level of responsibility	Management committees
Long-term target: 40% of annual hires are women	Long-term target: 30% of top positions held by women (grades 10 to 12):	Long-term target: 32% of management committees with at least three female members
2019 status ^(a) : 33% of hires in 2019 (versus 30% in 2016)	2019 status ^(a) : 17.2% held by women (compared with 15.2% in 2016)	2019 status ^(a) : 50% of management committees with at least three female members (compared with 26% in 2016)

(a) The figures relating to the 2019 status include DIS.

To reflect its commitment to becoming a more diverse and inclusive company at all levels of the organisation, whether central or local, the Group has set up a dedicated governance structure based on the following principles:

- a Steering Committee made up of members of the Group's Executive Committee and chaired by the Chairman and Chief Executive Officer. The Steering Committee is responsible for defining the strategy, approving the resources allocated, promoting any commitments made for diversity and inclusion and monitoring their fulfilment;
- a central Diversity & Inclusion function;
- an international network of Diversity & Inclusion representatives in charge of promoting and supporting the deployment of the Group's strategy at GBU, regional and country level by adapting it to local characteristics;
- *Ad hoc* Diversity & Inclusion Steering Committees at GBU, regional and country level.

The governance structure also draws on existing HR (e.g., Talent & Culture and Recruitment) and Communication networks to pass on the actions taken within the organisation.

Policies implemented to increase employee commitment towards greater diversity

The Group has long been committed to proactively making advances with regard to professional equality. In 2004 in France, Thales took decisive action in this area, in cooperation with the representative trade unions (action plans were negotiated that were prepared on the basis of comparative situation reports). In Europe, the IDEA agreement signed in 2009 includes commitments in all areas of gender equality: recruitment, career development, equal pay and work-life balance.

In 2019, actions to promote gender equality on teams were stepped up internationally.

• Hiring

Steps taken to balance hiring resulted in Group companies hiring 2,268 women on permanent contracts in 2019, i.e. 29% of the employees on permanent contracts, versus 27.6% in 2018.

Altogether, Thales hired 3,589 women in 2019. Women accounted for 33% of new hires worldwide (permanent, temporary and work-study) and 32% of new hires in France. The data relating to hiring women reflects especially dynamic policies adopted in a number of countries. In Mexico, 57% of new hires were women, while in both Poland and Singapore, women accounted for 46%.

As from 2020, diversity and inclusion will be included in the CSR objectives that may be used to calculate the annual variable compensation of a large number of managers.

• Actions in favour of equal pay and equal career development

The Yearly Assignment Letters (YAL) audits were broadened in 2018, with an additional analysis based on indicators of equal treatment of men and women (recruitment, promotions, salaries). In 2019, the group carried out 25 audits.

A specific annual budget of 0.1% of the total payroll of each company in France is earmarked for actions to promote women and to fund initiatives to raise awareness and provide training to support women's professional development.

Mentoring is also actively encouraged in the Group as a powerful tool for developing an inclusive culture. The third edition of an international mentoring programme dedicated to women was launched in 2019. 62 women from 14 countries participated. Many similar initiatives were carried out in different ways at the initiative of Global Business Units, countries, certain departments and diversity networks (USA, Canada, Germany, TAS GBU, Finance, WIN Gennevilliers, etc.).



In Germany, Thales Deutschland was recognised once again when it received the three-year Total E-quality certification, which acknowledges its long-term commitment and the positive results achieved in terms of equal opportunity in the workplace and work-life balance.

To encourage the promotion and career development of women, the Group continued to roll out specific development programmes in Europe and North America.

In 2019, Group companies with more than 250 employees in France calculated their overall rating on the Gender Equality Index for the first year. Based on five indicators calculated on a scale of 100 points, the Index measures, for each legal entity, different data related to professional equality: pay gaps, gaps in the proportion of women and men receiving pay rises, gaps in the proportion of women and men promoted, systematic pay rises for women the year they take maternity leave, and the number of women in the top 10 highest paid positions in the company. When a company has fewer than 75 points out of 100, it has to define and implement necessary corrective measures within three years. The efforts that the Group has been making for many years now to promote professional gender equality are reflected in the scores obtained.

Thus, of the 11 Group companies in France with more than 250 employees, ten had scores over 75/100 and seven of them had scores of over 85/100.

• Organisation of diversity networks

Thales encourages and supports the creation of networks that promote gender equality in the workplace. At the end of 2019, there were 46 local networks with a total of nearly 3,200 members, both women and men, worldwide. A “WiTH” global governance system was set up at the end of 2019 to facilitate coordination and sharing among all these networks.

Thanks to these networks, some 100 Thales employees mobilised in 2019 to take part in a solidarity-based race to fight violence against women organised by Fondation des Femmes: la Nuit des Relais.

Policies implemented to boost inclusive team culture

Offering a work environment that is caring and respectful of people's differences in order to bring out the best of each and every employee is a major component of the Group's diversity and inclusion policy.

• Awareness of stereotypes and implicit bias

The awareness of stereotypes contributes to a more inclusive culture that is mindful of all differences.

Programmes to raise awareness about stereotypes have been in place since 2014. Over 4,300 employees worldwide have participated in these programmes, with different approaches depending on the country (face-to-face or e-learning). In 2019, the Group's recruitment teams received specific training on “inclusive hiring”.

• Committing to fight against everyday sexism

In December 2019, Thales joined the initiative (stop everyday sexism at work) to fight against everyday sexism in the workplace. By joining this group of 56 companies, Thales has made a commitment to implement concrete actions against sexism in 2020.

• Working with younger generations

Working in teams made up of several generations has become a major challenge, especially given that working lives are now longer. Thales has taken several types of initiatives to improve inter-generational understanding (mentoring, reverse mentoring) and to ensure the transfer of skills and expertise.

In Spain, Thales has partnered with Observatorio Generación & Talento, a corporate network that specialises in generational issues.

Furthermore, in a context of global growth, the YES (Young Employees Society) network offers new Group employees opportunities to integrate and learn about the Group's richness and plays an active role in the Group's skill transfer policy.

• Including LGBT+ employees

By signing the LGBT+ charter of the Autre Cercle association in France on 17 May 2019, Thales has affirmed its commitment to creating an inclusive environment for lesbian, gay, bisexual and transgender employees by taking a series of concrete actions.

• Taking specific cultural characteristics into account

The Group has implemented initiatives to raise employee awareness about specific cultural characteristics to foster more efficient cooperation within increasingly multinational teams, especially for large projects. The inclusion training programme offered to managers in India is a good example of these initiatives.

The commitments made by Australia through its Reconciliation Action Plan (RAP) to promote respect for the culture of Aboriginal people as well as their employment are also examples.

• Integrate employees with disabilities

For many years now, Thales has been engaged in an active policy to integrate people with disabilities, in particular through the actions deployed in France by the “Mission Insertion” task force. The execution of the multi-year Group agreements signed since 2004 has raised the employment rate for people with disabilities in the Group (2018 scope⁽¹⁾) in France to 6.71% at 31 December 2018⁽²⁾ (compared with 6.52% in 2017).

In addition to its traditional mission to include employees with disabilities, raise employee awareness through the creation of a disability employment Commission network, in 2019, the actions of the Group's Mission Insertion task force resulted in the following key achievements:

- the recruitment of 48 persons with disabilities, including 42 trainees and 23 young people on work-study programmes;
- the appointment of 59 disability advisers at the Group who will follow a three-year training course in partnership with Paris-Est Créteil University;
- the launch of a certification process for the AFNOR X50-783 “disability-friendly organisations” standard by all sites in France and the compliance of 31 sites with this standard by the end of 2019;
- the signing of partnerships with players of the disability-friendly sector representing a volume of purchases and subcontracting from specialised disabled work centres (EA) and rehabilitation centres for persons with disabilities (ESAT) totalling €4.8 million;
- participation in the HUGO programme aimed at training and employing young disabled people under work-study programmes in the software industry.

(1) Before the integration of Gemalto.

5.4.3 Offer a safe and healthy work environment

One of the Group's key priorities is to provide a safe and healthy work environment for all employees, in compliance with applicable law, by monitoring procedures, preventing health and occupational risks and training employees. To this end, Thales is committed to being attentive to everyone's needs, making sure that employees have the trust and support of their managers and benefit from resources that allow them to have a healthy work-life balance.

Thales is committed to a proactive, responsible approach to prevention and protection for the safety of the Group's employees. This commitment, included in its ethical principles, is reflected most notably in the policy to reduce health and safety impacts and risks in its activities worldwide, in its products and at the various levels of the organisation.

Within the Group, the Human Resources and Health, Safety and Environment Departments share the vast domain of quality of life at work and health and safety (H&S). They define health and safety strategies, policies and processes. They coordinate the best practices applied in-country and also implement practical measures to ensure workplace risk prevention, health and safety.

Actions undertaken to offer employees a good quality of life and well-being at work

- **Guarantee a work environment that is respectful of employees**

Creation of a network of advisers for harassment and sexist behaviour

In 2019, Thales created a structured network of advisers on sexual harassment and sexist behaviour at the various entities in France. This network comprises 11 operational sponsors on the companies' management teams who support prevention and awareness-raising initiatives in partnership with the 18 designated advisers at the companies and the 46 designated on-site advisers, who are responsible for receiving alerts, providing guidance to employees and implementing awareness-raising initiatives.

Personal data protection

In 2019, Thales continued to implement its programme to comply with the General Data Protection Regulation (GDPR).

To ensure that the personal data of employees and customers are processed in accordance with this regulation, the Group has established a policy on the protection of personal data and set up a dedicated framework comprising:

- at Group level: the appointment of a Data Protection Officer (DPO) and Data Protection Correspondents (DPC) in each Corporate department;
- at the local level (company or country): the appointment of Personal Data Representatives (RDP) in various departments, together with correspondents.

As part of the Group's digital transformation, many human resource management tools have been renewed or are being renewed. This has provided the people in charge of data protection at Thales with the opportunity to ensure the new processes comply with GDPR provisions. They conducted privacy impact assessments in 2019, in particular for the deployment of the new payroll and administrative file management tool for employees in France.

Lastly, training employees in personal data protection is a high priority for Thales. In 2019, it offered employees two types of e-learning:

- a general e-learning module on the principles of data protection;
- specific modules, by department, illustrated with real-life cases. At the end of 2019, 73% of the HR department had completed their specific training.

- **Pursue constructive labour relations**

In all areas of common interest, Thales promotes cooperation with its employees and their representatives and provides them with high-quality information, in particular by supporting and encouraging dialogue with employees. This cooperation has helped develop a high-quality working environment for all Group employees.

Specific forums for employee dialogue

Thales has a European Works Council made up of 39 members from the 13 main European countries, representing 61,779 employees in Europe.

The European Works Council met three times in 2019.

After signing two unanimous collective agreements in 2018 on Labour Relations²⁰ and Elected Employee Representation, in 2019, Group entities in France created the Social and Economic Committee, a new employee representative body, and appointed local representatives.

This organisation and the appointment of local representatives demonstrate the Group's commitment to pursue structured, constructive and sustained labour relations with its social partners.

Dynamic social dialogue

At the end of 2019, a total of 82% of Group employees worldwide were covered by collective agreements. 2019 was marked by the signing of two new structural agreements for the Group in France that reinforced the social protection floor shared by all Group employees:

- the Agreement on the dependency plan signed on 19 April 2019, which aimed to improve guarantees and strengthen coverage against the risk of dependency for all Group employees in France;
- The France Group Agreement, signed on 24 April 2019 with the goal of promoting professional development and employment through proactive initiatives, implements a proactive approach to employment and skills at the Group to enable all employees to secure their professional development and increase the visibility of their career paths and mobility opportunities. It will also enable companies to adapt their workforces to the needs of their business activities through an approach of active employment management.
- The France Group Agreement on individual employee mobility, signed on 25 November 2019, promotes individual mobility within the Group by creating support measures for all Group employees in France, regardless of which entity they work for.

(1) Agreement on social dialogue, trade union rights and career development of employee representatives, signed on 13 December 2018.

(2) Agreement on elected employee representation and local representatives, signed on 13 December 2018.

Monitoring of employee commitments

Group entities regularly conduct commitment surveys with their employees. These surveys are used to measure how supportive employees are of the Group's strategy and values and gather their opinion on key issues such as well-being at work, management and career management.

In 2019, the Group's Talent & Culture teams examined the timeliness of setting up a Group-wide commitment survey. This survey should be launched in 2020.

• Offer top-quality working conditions

Convinced that the quality of life at work is key for the Group's long-term performance and the commitment, well-being, loyalty and attraction of talent, the Group has reaffirmed its willingness to continue to put the improvement of the quality of life at work at the centre of a genuine, organised and structured social project based on a continuous improvement approach.

Working time that makes it possible to have a healthy work-life balance

Each country adapts its working hours to applicable laws, regulations and agreements. At the end of 2019, a total of 94% of Group employees were employed full-time; part-time contracts generally reflected a choice by employees.

In 2019, Thales continued its initiatives to promote parenthood and work-life balance. For instance, in 2019, 426 children of Group employees (2018 scope⁽¹⁾) in France were given spots at the company's day care centres (compared with 381 in 2018). Some sites in France also offer concierge services to their employees.

It also includes the proper use of digital tools and the right to disconnect, which is a decisive factor in the quality of life at work for employees, their work-life balance, and their personal lives. For example, Thales LAS France brought in the cognitive science consulting and research firm Cog'x to raise employee awareness about switching off through an approach that takes how the brain functions into account.

Actions taken to foster quality of life at work

In 2019, the various Group entities in France continued to carry out actions provided for in the applicable collective agreements and initiated in 2018 relating to quality of life and well-being at work and telecommuting.

"Quality of life at work" weeks, employee opinion meetings (170 individual and collective opinion sessions were held in 2019), training sessions and awareness-raising campaigns about the right to disconnect were some of the initiatives implemented at all Group entities in France.

In 2019, more than 500 managers took a course called "Managers: key players of quality of life at work" given by Talent & Culture International Learning. This course incorporated elements of the Thales Group's agreement on quality of life at work, signed in 2018.

As from 2020, workplace health and safety will be included in the CSR objectives that may be used to calculate the annual variable compensation of a large number of managers.

Actions taken to guarantee the workplace health and safety of employees

5.4.3.1 Preventing hygiene, health and safety risks at work

5.4.3.1.1 Policy and corporate governance

Risk policy and analysis

Since March 2016, Thales has reaffirmed its commitments to risk prevention and employee protection through one of the three fundamental priorities of its Hygiene, Health, Safety and Environment (HSE) policy. These commitments have featured among the Group's ethical principles for over 15 years.

This proactive, responsible approach to preventing risks and ensuring employee health and safety is coordinated by the Group's Hygiene, Health, Safety and Environment (HSE) Department. It has been implemented at the operational level in countries and GBUs through a series of concrete actions relating to a culture of prevention and the strengthening of managerial skills related to industrial hygiene and workplace health and safety (VHS). In 2019, the Group's Executive Committee defined an HSE vision and adopted new objectives for 2023, thus confirming this policy and reinforcing its implementation. This policy has two key areas of focus that are independent of compliance with applicable regulations and the anticipation of future regulations:

- provide a safe and healthy working environment for its employees and subcontractors on its own premises and at external sites;
- design, purchase, produce and provide solutions, products and services that are responsible when it comes to health, safety and environmental requirements.

Thus, as from 2019, the Group has included the performance of its tier 1 subcontractors in its own consolidated personal safety performance.

Health and safety risks are the subject of an annual self-assessment by each of the Group's operating entities that is coordinated by the Group Risk Supervision Committee. This ensures that good VHS management practices are implemented at external sites and worksites, which may lead, if necessary, to an annual improvement plan drawn up with the Group's experts.

A dedicated HSE structure

In order to keep improving its performance in terms of hygiene, health, safety, the environment and risk prevention, Thales has created a global network of HSE managers working in its organisations:

- a network of "Site/Operations HSE" managers at country, entity and site level, bolstered by a property management network of company premises;
- a dedicated network of "Products and Services HSE" managers at Group Business Unit and business line levels, bolstered by correspondents from cross-functional departments (engineering, industry, purchasing, services, bids and projects).

Cross-functional and international HSE Steering Committees meet twice a month. These committees are in charge of developing the HSE policy, coordinating the network and ensuring that prevention standards are rolled out. They define the key relevant actions and the feedback for improving the HSE culture. Operational management relies on these networks, which are coordinated within dedicated job families, to increase momentum and boost skills, determine recruitment and training needs, anticipate future developments and challenges and share them within a community.

(1) Before the integration of Gemalto.

Other operational and cross-functional departments (human resources, occupational health, industry, engineering, purchasing, etc.) are also involved in this work to ensure that policies on the prevention of workplace hygiene, health and safety and environmental risks are consistent.

The community of members of the extended international HSE network organises seminars once a year for sharing, feedback, implementation and best practices that underpin the Group's HSE policy. This meeting, held via a two-day web conference in 2019 (recorded as a podcast and associated with a collaborative sharing platform), brought together nearly 180 HSE managers from around the world.

In addition, the Group's Executive Committee verifies the progress of HSE performance objectives on a quarterly basis through an international summary scorecard covering health, safety and environmental factors.

Integration of Gemalto's facilities

In 2019, special attention was paid to the integration of the former Gemalto facilities into the Group's HSE network and to the management of health, safety and the environment. The corporate HSE teams and the newly integrated teams shared their culture, practices and experiences to ensure the successful transition and identification of the actions necessary for the 15,000 new employees to adopt the Group's HSE policy. The work carried out highlighted many similarities and synergies that will facilitate the adoption of common objectives for 2023. The Group has developed a roadmap and an action plan to integrate the new sites in terms of HSE management, including:

- adoption of Thales' HSE policy and development of synergies;
- adoption of a Group-wide reporting system and implementation indicators for monitoring performance;

This roadmap, introduced in 2019, will continue in 2020 and will make it possible from now on to manage and consolidate HSE performance consistently at Group level.

5.4.3.1.2 Maintaining skills and risk awareness

Training

Knowledge of operational risks and related prevention measures is crucial for managers and employees to maintain the right level of vigilance, as well as maintain their awareness of risks, measures to manage them and the appropriate behaviours to be adopted.

Thales's HR and HSE departments implement and maintain training courses on hygiene and workplace health and safety throughout the Group. They are implemented at the local level based on specific needs identified at individual premises or job sites or on programmes defined at the corporate level.

To underpin knowledge and skills relating to health and safety, dedicated training modules are delivered throughout the Group by in-house trainers, HSE managers or specialist independent bodies. E-learning modules are also available to all employees through the Thales Learning Hub. This catalogue, which was entirely revamped in 2019 (especially for ergonomics), now has additional specific modules on electrical risk, working at height, as well as a training module on road risk. These training courses are aimed at hygiene, health, safety and environment managers and different job families (purchasing, design, operational managers, etc.) and generally all Group employees.

The training courses involve:

- general workplace safety training courses (introduction and on-the-job training, fire safety, first aid, etc.);
- specific training courses on risks encountered (electrical, chemical, radiation, ergonomic, psychosocial, etc.);
- training courses on tools (risk analysis, regulatory monitoring, standards, audit and inspection techniques);
- training courses on management and best safety practices;

As an example, in 2019, more than 150,000 safety training hours were provided at the Group.

To improve support for managers and employees on HSE issues, in 2019, the Group defined a specific training program for HSE managers aimed at developing their operational leadership skills in this area, with a particular focus on support for local managers. Additionally, it also organised "HSE culture" training sessions for local management committees at certain units in France, the United Kingdom and Germany to strengthen HSE buy-in and improve the HSE culture on those facilities. Following the success of these initiatives, an "HSE Masterclass" was designed with an HSE culture consultant and will be launched at all sites from 2020.

Awareness – Communication

Programmes on awareness and communication, defined and promoted either locally by HSE managers based on specific needs or at Group level, are another way of making sure all employees are aware of potential risks and how to deal with them. For instance, the Group publishes a quarterly HSE newsletter and broadcasts an annual awareness campaign focusing either on a specific or more generalised risk. For example, for the past four years, it has addressed the following topics: best practices related to tripping risk, material handling risk, road risks, or good managerial practices to integrate hygiene, health and safety and the environment into everyday practices).

Lastly, a dedicated HSE portal is available to all employees on the Group intranet.

5.4.3.1.3 Risk management and operational control

Management on the ground

Thales has integrated the management of risks related to occupational safety into its Group management system, which can be accessed by all employees, at all Group entities, including DIS entities worldwide.

The dedicated process requires the implementation of a safety management system at all sites to ensure that risks are avoided, managed and limited, while complying with the general principles of prevention for the operational activities carried out.

Integrated into the different processes governing the Group's activities, it defines best practices and methodological guides and specifies the rules that must be followed at all levels of the organisation. It also defines the risk management and alert procedures in the event of an accident.

Thales produces risk analyses at all its sites and updates them on a regular basis according to its business activities, scientific and technical developments and emerging challenges. These analyses enable the Group's operational departments, with the support of HSE experts, to:

- check that the business activities carried out and the products used or placed on the market are compliant to ensure that facilities meet safety standards at all times;
- ensure that employees are not exposed to specific risks but know how to manage them if they are, and ensure that collective and individual means of protection are available;
- monitor business activities to make sure they are not likely to affect people and/or the environment through technological accidents;
- analyse and anticipate the impact of new regulations;
- make sure that employees and external partners adhere to instructions and procedures, including through the organisation of emergency scenario drills;
- integrate hygiene, health and safety into on-the-ground management.

Risk assessments and analyses of legal requirements and compliance obligations are based on active regulatory monitoring and formally documented at all Group facilities, as well as at external sites.

Furthermore, the deployment of lean culture combines HSE aspects with operational practices: team coordination, site inspections and improvement actions. At the same time, the Group's HSE experts provide support for the application of HSE standards at sites and worksites and also support employees to ensure consistency and monitoring on the ground, by drawing on the ISO 45001 management standard. For example, as at 31 December 2019, 77.5% of the Group's global workforce (consolidated with former Gemalto sites) worked on a site or in an organisation certified in this management standard (formerly OHSAS 18001).

Performance related to workplace health and safety (NFPS):

Number of employees working at OHSAS 18001/ISO 45001 certified sites in 2019: 77.5%

➤ CHANGE IN THE NUMBER OF EMPLOYEES WORKING AT OHSAS 18001/ISO 45001 SITES



(a) Drop in the % after the integration of Gemalto.

Employee performance reviews and continuous improvement

Certified sites carry out internal audits so they can share best practices on an ongoing basis and improve the Group's HSE management systems. In 2019, the Thales's United States companies qualified 12 new in-house HSE auditors. Monitoring audits are carried out by external bodies to ensure an external review. The Group has reinforced its internal tools by introducing a system to assess HSE maturity. It has been in use at all entities since 2017 and will be adopted by the former Gemalto sites as from 2020. This tool bolsters HSE culture and the commitment of managers and employees so as to strengthen the performance of the Group and that of its partners. HSE maturity self-assessments are conducted at all industrial facilities and are supported by assessments made by a team of 22 qualified auditors. These assessments have been conducted at 30% of Group sites worldwide, representing 46% of premises and worksites considered the most at-risk since 2017.

In addition, personal health and safety performance of Group employees, including former Gemalto sites, is monitored quarterly by the Group's Executive Committee and Operations and Operational Performance Committee (number of workplace accidents and achievement of accident reduction targets, accident severity and technological risk prevention).

The Group is mourning the tragic deaths of two of its employees in 2019. The first one was in France while the employee was commuting to work by bicycle, and second one was during an assignment in South America. These two tragic accidents led to specific internal communications aimed at increasing awareness about commuting to work and the security and support procedures for employees on assignment.

Performance related to workplace health and safety (NFPS):

Frequency rate of accidents at work worldwide:
2.32 in 2019 (2.53 with subcontractors)

➤ CHANGE IN FREQUENCY RATE (WORKING DAYS LOST DUE TO ACCIDENTS AT WORK)



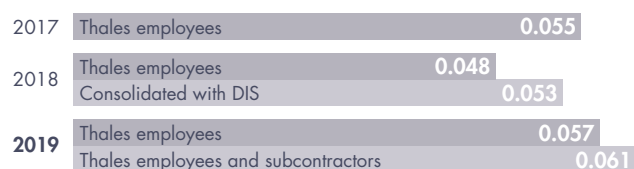
With regard to accidents at work, the frequency rate stood at 2.01 for 2018, a net improvement and relative decrease since 2012. The rates differ substantially for each country, depending in particular on the activities taking place there. This rate was re-consolidated at the end of 2018, after the integration of the former Gemalto facilities and now stands at 2.22. It dropped slightly in 2019 to 2.32.

The accident frequency rate was also consolidated in 2019 by including subcontractors who work permanently on our premises and at our worksites. This enables Thales to check whether safety practices are being properly developed in light of how operations are conducted. Although this consolidation is not yet exhaustive in all countries, it impacts the Group accident frequency rate, raising it to 2.52.

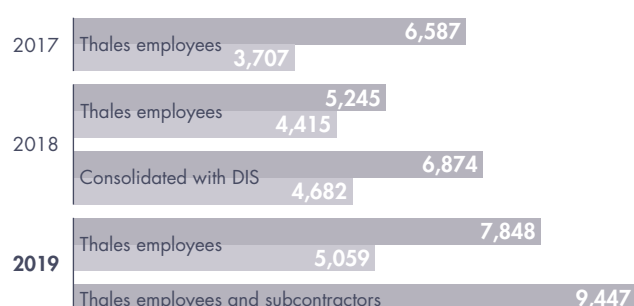
Performance related to workplace health and safety (NFPS):

Severity rate of accidents at work worldwide:
0.057 in 2019 (0.061 with subcontractors)

➤ CHANGE IN SEVERITY RATE



➤ CHANGE IN THE NUMBER OF DAYS LOST



■ Lost days related to workplace accidents.
■ Lost days during commuting times.

The severity rate of accidents at work was 0.048 in 2018 and 0.053 for the entire Group after consolidation following the integration of the former Gemalto facilities.

In 2019, the severity rate of accidents at work was 0.057 (0.061 with the integration of subcontractors), which was a slight increase compared with the previous year.

49.3% of Group sites did not have any days of absence due to accidents at work in 2019, and therefore had frequency and severity rates of zero. For example, Thales Middle East celebrated its excellent performance in Qatar by rewarding the country's best project team, which logged four million hours worked without a lost-time accident on the Doha metro project. In June, its Qatari customer rewarded the Lusail

Trail project team for the maturity of the safety culture it demonstrated throughout the project.

Furthermore, despite the inherent difficulty in defining the concept of occupational illness in various countries, the Group nevertheless consolidates this information for its entire scope of operations, as this figure is probably a little underestimated compared to the French definitions of occupational illness. The information on occupational illness is therefore for informational purposes only. There were 1,077 lost days in 2019.

Performance is managed by monitoring targets renewed for the period between 2019 and 2023, set by the Group's Executive Committee for all its entities:

Safety and security goals	2023 target 2019-2023 period	2018-2019 results
Maturity		
Completion rate of the assessment of the operational maturity of industrial sites	100%	100%
Workplace accidents		
Reduction in lost-time accidents (Tf1 ^(a) for Thales employees)	- 30%	+ 4.5%

(a) Frequency rate of accidents at work with subsequent lost work time.

To support the achievement of these targets, in 2019, the Group defined an "HSE culture" roadmap which provides for the following (in addition to training of HSE managers and the deployment of the "HSE Masterclass" workshops mentioned above) for a period of four years:

- the reinforcement of actions to help all employees develop a sense of ownership regarding the importance of HSE issues;
- support of teams in implementing best practices on the ground.

5.4.4 Other employment indicators

Breakdown of worldwide workforce

The integration of Gemalto entities has confirmed Thales's international footprint, which is a cornerstone of the Group's long-term development strategy. The diversity of the areas where the Group operates has increased with Thales's presence in new countries, including: Russia, Japan, Estonia, Hungary, Ukraine, Cameroon, Jordan and Pakistan.

With 63,501 active employees, i.e. 76% of the workforce, Europe continues to be the main employment zone. Mexico, Brazil, Poland, India and Finland were among the countries where the workforce grew the most.

(workforce as at 31 December 2019)		2018	2019
Major countries for the Group	Germany	3,157	3,668
	Australia	3,670	3,745
	Canada	1,633	2,094
	United States	3,108	4,823
	Netherlands	1,813	2,052
	United Kingdom	6,282	6,535
Rest of Europe	Austria	288	333
	Belgium	888	923
	Denmark	151	204
	Spain	1,055	1,269
	Finland	–	367
	Italy	2,635	2,792
	Norway	220	238
	Poland	345	1,380
	Portugal	387	464
	Romania	365	588
	Sweden	–	142
	Switzerland	288	504
	Other ^(a)	84	74
Emerging markets	South Africa	121	225
	Saudi Arabia	439	404
	Brazil	208	892
	China-Hong Kong	631	1,542
	Colombia	–	139
	Egypt ^{(b)(c)}	236	306
	India	433	1,345
	Israel	–	197
	Japan	–	135
	Mexico	280	1,311
	Middle East (excluding Saudi Arabia) ^{(c)(d)}	878	937
	Philippines	–	187
	Russia	–	124
	Singapore	719	2,091
	Taiwan	–	115
	Turkey	133	307
	Other ^(a)	565	623
France	France ^(e)	35,320	39,306
WORLD		66,332	82,718

(a) Other countries with fewer than 100 employees and permanent facilities: Algeria, Argentina, Azerbaijan, Botswana, Bulgaria, Cameroon, Chile, Croatia, Dominican Republic, Estonia, Gabon, Greece, Hungary, Indonesia, Ireland, Ivory Coast, Jordan, Kazakhstan, Kenya, Kuwait, Latvia, Malaysia, Morocco, New Zealand, Panama, Peru, Senegal, Slovenia, South Korea, Thailand, Tunisia, Turkmenistan, Ukraine, Uzbekistan, Venezuela, Vietnam.

(b) Thales's workforce in Egypt was included in the Middle East until 2016.

(c) Thales's workforce in these countries also includes the employees of permanent establishments belonging to Thales Communications & Security, one in Qatar and one in Egypt.

(d) The Middle East includes: Bahrain, Lebanon, Oman, Pakistan, Qatar and UAE.

(e) At 31 December 2019, the total workforce registered in France was 42,945.

Scope of consolidation

In 2019, the Group integrated 14,857 employees primarily after the acquisitions of Gemalto, Ercom and Sunéris.

➤ ADDITIONAL EMPLOYMENT INDICATORS

Employment indicators	2019 data	Scope covered
GLOBAL WORKFORCE ^(a) AT 31 DECEMBER 2019	82,718	100%
Workforce by gender		
% of women	26%	99.8%
% of men	74%	
Workforce by type of contract		
% of permanent contracts	98%	99.8%
% of full-time contracts	94%	99.8%
Workforce by age group		
<30	13%	99.4%
30-39	25%	99.4%
40-50	30%	99.4%
- 50	33%	99.4%
Departures		
Number of departures	7,909	100%
% of redundancies	17.1%	100%
Recruitment		
Total number of new hires	10,906	99.9%
% of women	33%	99.9%
Training		
Average number of hours of training per employee	16 hours	97.3%
% of employees covered by a collective agreement	82%	96%
Health and safety indicators		
Overall absenteeism rate – World	2.56%	95.3%
Severity rate of accidents at work – World	0.057	97.2%
Frequency rate of accidents at work – World	2.32	97.2%
Other		
Payroll – World ^(b)	€7,389 million	
Employment rate of people with disabilities in France	6.71%	
Number of jobs created by GÉRIS in 2019	300	

(a) Workforce shown corresponds to active workforce.

5.5 A COMMITTED APPROACH TO MEET ENVIRONMENTAL CHALLENGES

5.5.1 General policy on environmental issues

5.5.1.1 Long-standing commitments renewed and strengthened

In line with its values, social responsibility strategy and *raison d'être* for building a future of trust for everyone, Thales has been committed to a proactive and responsible approach to environmental protection. This commitment, written into the Code of Ethics, has been a driver for the Group for over 15 years and is reflected in a policy to reduce the environmental impacts and risks of its various business activities worldwide and its products at all levels of the organisation. Over and above ensuring compliance with applicable regulations and anticipating future regulatory changes, the policy has four key areas of focus:

- preventing impacts on people and the environment from the Group's activities;
- factoring the environment into product policies and services;

- significantly reducing the Group's own carbon footprint, as well as that of its customers and civil society; and
- fostering a spirit of innovation with regard to the environment.

To turn its commitments into action, the Group has set performance targets since 2007. These targets were renewed by the Group Executive Committee at the beginning of 2019 and set for a five-year period (2019-2023) with an extension until 2030 for greenhouse gas reduction targets.

Thus, in line with its commitments and as announced, the Group has strengthened its environmental strategy through its new strategy for a low-carbon future, with ambitious targets that involve its entire value chain. This policy can be consulted on the Thales website and is set out in section 5.5.2.1.

The Group is also organised to manage the anticipated gradual replacement of hazardous substances banned for use which could result in the obsolescence of our products.

Performance related to environmental impacts in connection with the Group's activities and anticipation of environmental standards in product design (NFPS):

> 2019-2023 TARGETS

	2019 target	2023 target	2030 target	2019 result	2018-2019 result
Natural resources					
Recycling rate of non-hazardous waste		75%		60%	
Eco-design					
New developments incorporating eco-design		100%		Indicator pending	
Percentage of Product Line Architects and Product Line Managers trained in or made aware of eco-design		75%		5%	
Climate					
Energy intensity (TOE/hours worked)	-3%				-4.6%
Reduction of direct operational emissions ^(a)		-20%	-40%		-1.8%
Reduction of indirect emissions ^(a)		-7%	-15%		-1.7%

(a) Expressed as an absolute value compared to 2018

Detailed values are given in the table in section 5.5.3, "Environmental indicators".

5.5.1.2 Shared momentum

5.5.1.2.1 Global organisation

Aiming to consistently improve its environmental performance and prevent risks, the Group has set up an organisation that reflects its challenges: a Group Health Safety Environment (HSE) Department that is responsible for defining its strategy, policy, processes, methods and associated standards, and for supervising and monitoring their implementation across the Group and coordinates a dedicated global HSE network. This organisation is described in section 5.4.3.1.1.

5.5.1.2.2 Awareness, training and involvement of employees

E-learning modules are available to educate Group employees on the basic aspects of environmental risk control, general themes such as eco-responsibility or specific issues such as managing chemicals, labelling hazardous materials or issues related to climate change. To further support environmental knowledge within the Group, the various job families (environment, purchasing, design, sales, etc.) are offered additional training modules through the Thales Learning Hub.

The Group HSE Department also takes part in the various conventions organised by other business lines to explain HSE commitments, targets and action plans described according to operational teams as well as their implications on the overall Group.

In 2019, the Group paid special attention to raising the awareness and training of managerial teams on rolling out the HSE 2023 vision, to the commitment of management committees to climate issues and the roll out of the Group's low-carbon future policy.

5.5.1.2.3 Relations with stakeholders

Thales is committed to communicating in a totally transparent way with local authorities, as well as with its local neighbours and civil society, sharing its challenges with them. Procedures are also in place to receive, deal with and communicate alerts and requests swiftly. It is also possible to send questions to the Group's HSE Department using a dedicated e-mail address.

To meet the requirements of its stakeholders, civil society, investors, rating agencies and customers, Thales provides its environmental data on its website and also participates in reporting for the Carbon Disclosure Project⁽¹⁾ the Dow Jones Sustainability Index 30 and the MSCI (see Chapter 5.1).

In the course of its partnerships, particularly with schools, Thales promotes the preservation of the environment through programmes on climate change and natural resources, or by working with universities.

2019 was also an opportunity to showcase Thales's actions regarding the environment and workplace health and safety at international events such as the Paris-Le Bourget International Air Show and Vivatech. There were also discussions organised by the Canadian newspaper "Les Affaires" in Montreal.

Thales's teams around the world have also made commitments to protect the environment through local and volunteer actions. For example, in 2019, there was a beach-cleaning initiative in Doha, an innovative way to organise work called smart working in the United Kingdom, which allowed employees to cut down on commuting trips and optimise the use of buildings, as well as dialogue with local authorities to develop environmentally friendly modes of transport and safe traffic lanes for accessing the Thales Bordeaux campus.

Lastly, the Group's HSE teams have been contributing to the work of the International Aerospace Environmental Group and the Thales Executive Vice-President for Health, Safety and Environment chairs the Environmental and Sustainable Development Commission of the French Aerospace Industries Association (GIFAS).

5.5.1.3 A moderate and controlled environmental footprint of our business activities

5.5.1.3.1 Continuous improvement and prevention process

Thales has integrated the control of environmental impacts and risks in its Group management system, which is available to all employees and in all entities worldwide.

The Environmental Management System has been implemented at all sites as part of a dedicated process for ensuring the management and limitation of environmental risks and the impacts of operational activities (buildings, industrial facilities, equipment and worksites), the supply chain (purchases, supplier audits) and products delivered (product policy, design, bids, projects and services).

Integrated into the different processes governing the Group's activities, it defines best practices and methodological guides and specifies the rules that must be followed at all levels of the organisation. It also defines the risk management and alert procedures in the event of an accident.

Performance related to environmental impacts in connection with the Group's activities and anticipation of environmental standards in product design (NFPS):

Employees working at ISO 14001 sites in 2019: **84%**

➤ CHANGES IN THE NUMBER OF EMPLOYEES WORKING ON AN ISO 14001 SITE

2016		89%
2017		89%
2018	Excluding former Gemalto sites	89%
2019	Excluding former Gemalto sites	90%
	Group	84%

(1) Carbon Disclosure Project: a not-for-profit international organisation that enables companies, cities, countries and regions to measure and manage their environmental impacts and allows investors and political decision-makers to make more informed decisions by explaining the consequences of climate change to them.

(2) DJSI: Each year, the Dow Jones Sustainability Index rewards companies with the best performance according to economic, environmental and social criteria.

At the end of 2019, 84% of the employees of the Group as it is currently organised who had integrated DIS sites were working on an ISO 14001-certified site. This means they manage the environmental impacts of products. Excluding DIS sites, this proportion was 90% in 2019. An annual audit schedule has been defined. Audits are conducted by the internal audit teams (audit policy, maturity assessment) as well as by external auditors for ISO 14001 certification or preventive inspections from insurers.

In addition, to provide support to sites, the eHSE risk management software suite was adapted to changes in standards, particularly in relation to taking into account of challenges of stakeholder demands, risks and opportunities related to environmental analysis and the effectiveness of actions and the associated resources.

Using a single tool, it allows all Group entities to report, record and manage action plans related to any environmental incidents or accidents that occur.

5.5.1.3.2 Environmental risk mapping

The risk of environmental impacts related to the Group's activities and the risk that product design may not keep up with environmental standards (see section 5.2, Risks Selected for the Non-Financial Performance Statement) are some of the risk factors that may impact the Group's financial position. For many years, Thales has conducted regular analyses and updates of environmental risks to keep pace with changes in its business activities, scientific and technical developments and emerging challenges and opportunities.

This analysis, incorporated into a risk map, is intended to:

- ensure that activities and products are compliant;
- ensure that employees and local residents are not exposed to health and environmental risks;
- check that activities do not present a threat to the environment;
- analyse and anticipate the impact of new regulations, including on product design.

Risk mapping consolidates an overview of areas for improvement, which are addressed via action plans either at Group level or locally. Since 2007, the Group's Risk Assessment Committee has overseen an annual evaluation of the risk management system by each of the Group's operational entities, leading, if necessary, to the development of an improvement plan in collaboration with Group experts. In consultation with the Group's global HSE Committee, it has made it possible to update the summary of the materiality of the impacts for the Group.

To enhance its analysis of the risk of damage to Group sites, Thales pursues an active prevention engineering policy with the support of external partners. The aim is to identify accidental strategic risks that could trigger a major loss and severely disrupt the supply chain, such as fire, industrial incidents, natural disasters, environmental damage, machinery breakdown and water damage. The prevention visits conducted on nearly 160 sites (2018 scope⁽¹⁾) lead to recommendations aimed at reducing the probability of incidents or limiting their consequences.

The risks of material damage related to natural disasters and water stress (risks associated with climate change) are also analysed (see section 5.5.2.1.1).

Management of environmental risks also encompasses disposals or acquisitions of assets, in respect of which it is important to limit the type, value and duration of any guarantees provided or risks acquired.

Materiality of impacts	Industrial type activities	Tertiary type activities	Comments
Greenhouse gas emissions (scope 1 and 2)	Low	Low	The Group's industrial activities are not energy-intensive.
Soil pollution	Moderate	Insignificant	
Energy consumption	Low	Insignificant	
Production of non-hazardous waste	Low	Insignificant	
Production of hazardous waste	Low	Insignificant	Given its industrial activities, the production of hazardous waste is limited and represents only 20% of total waste production.
Water consumption	Low	Insignificant	
Emissions in water	Low	None	Service sites discharge their sanitary waste water into local utility networks like any other municipal resident. Industrial sites collect and process their waste water before discharge.
Atmospheric emissions	Insignificant	None	

(1) 2018 scope before the integration of Gernalto.

5.5.2 Reduce the environmental impact across the entire value chain

5.5.2.1 Meeting the challenge of climate change

5.5.2.1.1 Adapting to climate change

The approach adopted by Thales for adapting to climate change is designed to reduce the Group's vulnerability to the effects of climate change such as the impacts of natural disasters (storms, floods, etc.), earthquakes, fires or the depletion of resources.

Over the past few years, Thales has assessed the exposure of Group sites to natural disasters as part of annual site visits focused on prevention. This analysis consists not only of identifying the potential risks of flooding, storms, earthquakes, and extreme drought but also of identifying the consequences of these events in terms of environmental impact, property damage, business continuity, etc.

Thales has mapped its risks related to water at around 160 sites worldwide, excluding Gemalto sites. This map will be updated in 2020 to include Gemalto sites. The analysis of existing and future risks included the social dimension (access to water and sanitation, availability of water for local inhabitants), economic aspects (conflict of use) and environmental concerns (water consumption relative to the level of water stress in the river basin). Only 10 sites out of more than 160 are located in vulnerable areas. The majority of them are offices, whose low water consumption only has a very minor impact.

In 2019, the Group had to deal with two events linked to climate/natural disasters, which caused flooding at its facilities in Cannes, France and Rydalmere, Australia.

Thales is also involved in the study being conducted jointly by AFEP (French private companies association) and French think tank the Shift Project to analyse energy and climate scenarios. The study will be accompanied by a set of recommendations that will be issued to companies. A total of 15 AFEP members are involved in the study, which aims to produce a factual assessment of the situation based on shared observations to gain more understanding of climate change, which will be a major topic of reporting for companies, including Thales, in the years to come.

5.5.2.1.2 Commitment to a low-carbon future

As a continuation of its past actions, Thales has affirmed its commitment to a low-carbon future, thus solidifying the declarations made during the "Business Proposals for COP21" in 2015 and later during the French Business Climate Pledge⁽¹⁾ in 2017 and 2019.

The strategy for a low-carbon future, adopted in November 2019, is based on three pillars:

1 Reduce direct emissions and emissions from products

Thales aims to reduce its greenhouse gas emissions ambitiously with targets expressed in absolute values aligned with the 2°C trajectory and by involving its entire value chain⁽²⁾:

- 40% reduction in operational direct emissions in 2030 (*internal operations, employee mobility*) with an interim target of 20% in 2023;
- 15% reduction in indirect emissions in 2030 (*purchasing, use of Thales equipment by customers*) with an interim target of 7% in 2023.

2 Offer our customers innovative and eco-responsible functions and services that will enable them to reduce their own greenhouse gas emissions

- by developing smart traffic management solutions (rail, road, sea and air), that will reduce emissions;
- by optimising the energy efficiency of the digital world with the development of solutions designed to be energy-efficient by design for digital data science, algorithms and artificial intelligence.

3 Contribute to the best understanding of climatic phenomena thanks in particular to the development of dedicated spatial systems

The progress relating to these targets is measured according to 2018. There will be regular monitoring and an annual mapping of the Group's carbon footprint.

The strategy for a low-carbon future adopted by the Group was determined using the certified and globally recognised methodology of the Science-Based Targets Initiative (SBTi). This international initiative was launched by the World Wildlife Fund (WWF), the World Resources Institute (WRI) and the Carbon Disclosure Project (CDP). It is also recognised by the Task Force on Climate-related Financial Disclosure (TCFD) established by the G20. The application of this methodology is a voluntary initiative used to determine greenhouse gas reduction targets that are consistent with the 2°C climatic scenarios in relation to pre-industrial levels set out in the Paris Agreement during COP21 in 2015.

This policy calls for the commitment of all the company's employees, who are responsible for applying and deploying it in their day-to-day operations in the organisation.

The targets of this strategy as well as the related action plans were formulated in collaboration with multidisciplinary working groups for each of the main sources of the Group's greenhouse gas emissions (operations, products, purchasing and mobility).

The Group conducted many awareness-raising and training sessions for its senior managers and support functions in 2019 to facilitate the implementation of the policy (over 600 people involved). It also created specific governance bodies to oversee the achievement of the objectives set out above:

- creation of a Group carbon supervisory board with representatives from the the Group's Executive Committee, Human Resources Department, the HSE Department, Finance teams, Global Business Units, Ethics, Integrity and Corporate Responsibility Department as well as representatives from each carbon steering committee;
- creation of four carbon steering committees for each strategic source of emissions: operations, products, purchasing and mobility, headed by a sponsor for each of these areas. The steering committees report to the Group Supervisory Board.

This policy also applies to the activities of the former Gemalto sites, which were gradually integrated in 2019 and have joined the other Group sites for the consolidation of performance.

(1) Agreement of French companies for the climate.

(2) The "2°C trajectory" means a reduction in greenhouse gas emissions that is compatible with the targets of the Paris Agreement to limit global warming to 2°C, with a methodology based on the recognised standard of Science Based Targets.

5.5.2.1.3 Reduce the carbon footprint of our operations

The Group's operational emissions (direct emissions), which take into account emissions related to energy consumption (electricity, fossil fuels and renewable energies) of Scope 1 and 2, total 230 ktCO₂. Scope 3 emissions relating to employee mobility (business trips) total 91 ktCO₂.

In 2018, the group set itself the target to reduce energy intensity by 3% (per hours worked) and exceeded its target with a reduction of 4.6% during the period between 2018 and 2019. The Group also decreased its ratio of energy efficiency to sales by 13% (energy consumption/sales) between 2015 and 2019.

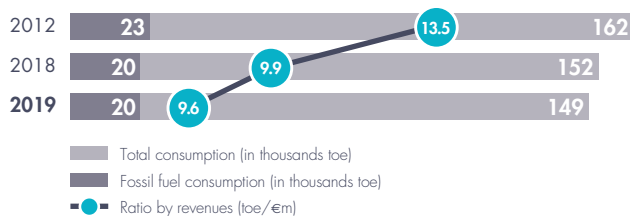
In 2019, the Group reaffirmed its commitment to reduce these emissions by 20% by 2023 and 40% by 2030 with reference to 2018 and in absolute value.

Reduce our energy consumption

In recent years, Thales has implemented initiatives to reduce its energy consumption and use of chemicals, which will in turn reduce greenhouse gas emissions and pressure on resources related to its activities. In 2019, we carried out an in-depth review in order to develop specific action plans to reduce energy consumption by country. Seven countries, covering nearly 90% of operational emissions, created working groups (made up of operations, property management, human resources and HSE departments) to work together to create the action plans to be implemented as from 2020.

To boost this momentum, various audits were conducted at some of the sites with the highest consumption and have led to reduction programmes. This is the case in Australia, for example, and in France, where a programme involving specific audits and energy performance initiatives has been rolled out since 2018, leading to the identification and planning of more than 240 energy performance actions in 2019 for a theoretical gain of 30 GWh. These actions will continue to be rolled out in 2020.

CHANGE IN ENERGY CONSUMPTION*



* At constant 2012 scope.

Some Group entities have been awarded ISO 50001 certification for energy management systems. At the end of 2019, a total of 32 sites were certified, encompassing 24% of the Group's workforce. 22 sites had also obtained a building environmental performance certification (HQE, BREEAM, etc.) encompassing 16% of the Group's workforce.

The Group's carbon footprint has also been reduced by restricting the use of fossil fuels (gas, fuel oil and coal). Fuel consumption in relation to revenues continued to fall in 2019 (down 17.3% compared with 2015). The share of electricity from renewable energies rose by 2% to reach 24% (including former Gemalto sites).

Refurbishing and renovating certain buildings to higher ecological standards continued, as was the case for example in the new Group premises in San Jose in the United States (surface area divided by four, new work organisation, use of the best possible techniques available to reduce the environmental footprint of buildings). Along with energy, products with high global warming potential, used mainly in refrigeration systems, were subjected to monitoring and reduction plans.

Lastly, to limit greenhouse gas emissions, many sites have continued to replace high-emitting refrigerants with equipment containing less emitting refrigerants and have implemented action plans to limit leaks and, in some cases, even replaced the less efficient equipment. This helped reduce emissions by 26% between 2015 and 2019. In 2019, SF₆ only accounted for 3% of CO₂ emissions due to refrigerant fluids, versus 11% in 2017.

Reduce the carbon footprint related to employee mobility

As part of its policy for a low-carbon future, Thales has made a commitment to reduce emissions related to employee travel across the globe, whether for commuting or business trips. Emissions related to business trips are valued at 93 ktCO₂ in 2018 and 91 ktCO₂ in 2019, representing a 2% drop (including business trips by newly integrated Gemalto employees).

An action plan has therefore been developed to propose safe and eco-responsible alternatives to employee travel.

Work organisation

One of the priority focuses is the revamping of work organisation by proposing alternatives to employee travel such as telecommuting, co-working and the flex office. These solutions optimise the use of space, promote efficient remote working solutions that enable the holding of meetings via videoconferencing, prefer the organisation of remote conferences through simultaneous broadcasts on the internet (webcasts), all the while guaranteeing dynamic and strategic discussions.

Business travel

For all professional trips that cannot be avoided, the Group encourages the use of modes of transport with low carbon footprints (train, energy-efficient vehicles, etc.). It is currently studying ways to enable employees to share their trips through dedicated online platforms.

Commuting

Furthermore, one of the approaches under consideration to reduce the carbon footprint of employee commuting is to optimise employee travel to and between existing and future Thales sites, in order to guarantee accessibility via eco-friendly modes of transport (bicycles, public transport, electric vehicles, car-sharing and carpooling) while ensuring employee safety.

Company car policy

France, which accounts for about half the vehicle fleet, has adopted a new car policy that will be gradually applied in 2019 and will enter into full force in 2020. The preferred models are those that emit less than 120 g of CO₂/km. Diesel engines are excluded for all small vehicles or for employees who travel less than 15,000 km/year and all models qualify for petrol engines since July 2019.

5.5.2.1.4 Reduce our indirect emissions

The Group's indirect emissions include emissions related to the purchase of goods and services as well as emissions related to products and services sold (scope 3). In 2019, the Group made a commitment to reduce these emissions by 7% by 2023 and 15% by 2030 in absolute value against a 2018 baseline.

Reduce emissions related to the purchase of goods and services

As part of its policy for a low-carbon future, Thales has undertaken to reduce its emissions related to its purchases of goods and services (scope 3).

Emissions related to the purchase of goods and services were valued at 2,384 ktCO₂e in 2018 and 2,289 ktCO₂e in 2019, i.e. a 4% drop (excluding purchases of the newly integrated DIS entity. It will be integrated into the analysis in 2020). The method used is the method of financial emission factors associated with each Group purchasing category.

An action plan has been developed to reduce emissions related to its supply chain, in particular by establishing dialogue with its suppliers, in order to:

- gradually gather real data about greenhouse gas emissions related to the production of the goods and services purchased;
- know and carry out actions to reduce the carbon footprint of these purchases;
- prefer the use of suppliers with a low carbon footprint, in particular through a responsible purchasing policy (see section 5.7.3.1).

In addition, as a member of a dedicated working group within the International Aerospace Environmental Group (IAEG), Thales took part in the drafting of a sector methodology guide for calculating emissions related to the purchase of goods and services and capital goods.

Reduce emissions of our products and services sold

In 2019, continuing the work launched in 2017, Thales fine-tuned and completed its methodology for valuing the CO₂ emissions of its products and services sold. It did this by updating the number of standard scenarios of use of equipment, as well as the number of platform models differentiating between built-in equipment and equipment that is periodically transported.

The estimates of CO₂ emissions related to the use phase of products placed on the market in 2019 were 14.5 million tCO₂e with an uncertainty of 15%.

The update of 2018 emissions using this refined methodology stood at 14.7 million tCO₂e with a similar uncertainty.

The 2018 and 2019 values do not integrate the impact of products from the DIS GBU, the models for which have not been finalised, but will be integrated in 2020.

5.5.2.2 Environmentally friendly product and system solutions for customers

Thales has embarked on a process to develop eco-responsible products and systems that meet different needs, specifically:

- compliance with and anticipation of environmental regulations for the purpose of managing obsolescence and the associated industrial risk;
- creation of value for customers and differentiators for the market through innovation;
- reduction in environmental impacts and compliance with the Group's commitments.

The three main guidelines of this process are:

- consideration for the environment throughout a product's life cycle;
- the development of features to improve customers' environmental performance;
- the development of products that strengthen the management and understanding of environmental issues.

The process is combined with other key processes undertaken by the Group, which include the Product Policy, Engineering, Industry and Purchasing. The Group is also developing methods and tools to help product designers and architects make eco-responsible choices, leverage environmental information and verify that chosen solutions comply with regulatory requirements.

Life cycle and environmental impact analyses of products performed in previous years have shown that for most of them, beyond the necessary replacement of hazardous substances, it is the use phase that generates the greatest impacts, especially in terms of CO₂ emissions. The analyses also showed that actions to reduce CO₂ emissions generally lead to a reduction in other environmental impacts, thus identifying the real areas of intervention.

For products built into mobile platforms, the main parameters in terms of environmental impact were the nature of the movement (within the aerospace, naval, rail, etc.) and its characteristics (service life, percentage of time spent in motion, etc.). This was largely due to the impact of the weight being moved and, to a lesser extent, the platforms' consumption. For fixed products, the predominant parameter was energy consumption.

Performance related to the anticipation of environmental standards in product design (NFPS):

Percentage of Product Line Architects and Product Line Managers trained in or made aware of eco-design **5%**

Creating awareness of environmental issues and taking these into account in new product development are an essential part of eco-design policy. In 2019, the Group provided training tools and sessions to various Group entities that reached several hundred employees. Furthermore, we are currently rolling out sessions more specifically focused on making those responsible for the Group's product policies take environmental impacts into account.

5.5.2.2.1 Innovation and eco-design throughout the product life cycle

The way we account for environmental challenges in how products are developed must also create value for customers (improved operating conditions, reduction of total ownership costs, optimisation of end-of-life management) in order to be a part of an overall sustainable process. This aspect is being addressed specifically through the product policy and the eco-design initiative that has been put in place, which is aimed at reconciling value proposition with reduced environmental impact. In the case of most Thales products, environmental impact mostly occurs during the use phase of equipment and systems at customer sites.

Research conducted in recent years to characterise Thales's main products has identified two priority areas for improvement:

- the use of sustainable resources for product design and manufacturing, with a particular focus on hazardous substances in newly developed products;
- the reduction of the energy consumed and CO₂ emitted during the product use phase.

A cross-functional Steering Committee, coordinated by the HSE Department and comprising HSE coordinators from all the GBUs, ensures responsible management that the Group's Executive Committee monitors quarterly.

Performance related to the anticipation of environmental standards in product design (NFPS):

New developments incorporating eco-design: indicator pending

Due to the variety of the Group's business and the very large number of products in its portfolio and under development, the basis for calculation was not finalised in 2019 and actions are being implemented for 2020.

The table below presents examples of products whose environmental impacts have been reduced using the measures discussed above:

Improvement type	Product	Action and results obtained
Reduction in the weight of moved equipment, and the use and length of cables	Expansion of efforts regarding weight and equipment in the Aerospace segment.	The Multi-Application Critical Controller (MACC) has been specially designed to meet the needs of auxiliary systems to cover all systems through a single box. Replacing five LRUs with a single LRU helps reduce both weight and raw material use by more than 60%.
Revisions to equipment architecture	Integration and miniaturisation of RESM (Radar Electronic Support Measurement) systems for surface vessels.	For the second time, the weight of the latest generation used for frigates of intermediate size (frégates de défense et d'intervention – FDI) will be reduced by nearly 50%. Overall, the weight will have been reduced to a quarter of what it was less than 20 years ago. The length of the cables for these systems has been reduced by a factor of three. These gains are reflected in a reduction in ships' weight and consumption, which amount to several hundred tonnes of fuel and CO ₂ after 20 years of operation. The Test Bedding Capability Review was completed at the end of 2019.
	Reduced weight of flight-control computers	The architecture of the A320 flight controls was compared to that of the previous version, enabling a transition from the use of nine computers to only six, while improving safety and reliability. This has allowed for a weight reduction of 24 kg (i.e., more than 30%) and a 7% reduction in associated consumption.
Power supply through renewable energy	Using solar panels to recharge the batteries of the G012 radar sensor	This mobile, autonomous radar is battery operated and requires around 100W of power. Solar panels may be used to charge the batteries, offering a particularly advantageous battery life which avoids the CO ₂ emissions caused by the use of the power supply of a vehicle or another energy source.
Environmentally friendly innovation	Multiple innovations geared towards the environment with the <i>Stratobus</i> project.	Launched in 2016, <i>Stratobus</i> is a standalone geostationary stratospheric platform with numerous applications. It runs on solar energy only and does not require a launcher to be put into position. It is made from recyclable subsystems and the use of hydrogen or helium considerably reduces the risk of pollution in the event of an accident. It features many innovative technologies. In 2019, testing was successfully completed for innovative, extra light, flexible, high-yield photovoltaic modules. All of the disruptive technologies have been laboratory tested and the transition to a larger scale is continuing in 2020. The development of the <i>Stratobus</i> is scheduled to be completed in 2021 and a maiden flight of an operational model is planned for the end of 2023.
Use of recycled or bio-sourced plastic	SIM cards, bank cards and card readers	New manufacturing processes have been developed allowing for recycled plastic to be used for the first time to manufacture our products (PET ⁽¹⁾ recycled before being released into the ocean and PS ⁽²⁾ recycled from electronics). Development as well as prototyping phases were completed in 2019. The start of production made it possible to manufacture more than 1 million cards out of recycled PET in 2019. This complements our offering of bank cards made from bio-sourced plastic.

(1) PET: Polyethylene terephthalate.

(2) PS: Polystyrene.

5.5.2.2.2 Innovative solutions for sustainable mobility

The solutions Thales offers to air and ground transportation operators are designed to optimise operating efficiency for customers while limiting environmental impact (reducing fossil fuel consumption and helping to reduce the emission of pollutants such as carbon, sulphur and hydrogen oxides).

In another area, the development of simulators, beyond just being an approach to eco-design, makes it possible to reduce the number of flight hours required for pilot training.

Also in the field of operator training, Thales has developed equipment that can be mounted on weapon systems that allows for the full engagement of trainee troops while preserving the target. This prevents the unmanned aerial vehicle (UAV) used to simulate the scenario of each training from being destroyed.

Thales is a founding member of the Movin'On LAB, a Think and Do Tank made up of key players in the mobility ecosystem. Thales contributes to several of these focus groups by using its expertise in the areas of digital and cybersecurity to promote sustainable mobility.

Aeronautics

For over 30 years, from flying to air traffic management, Thales has been developing features that improve performance and lower environmental impact during all phases of flight:

- navigational aids to optimise flight paths, take-off and landing phases (especially taxiing) that take weather conditions into account, thus reducing noise, emissions and consumption;
- systems for smoother air traffic management with less waiting time in airport stacks.

The programmes undertaken to achieve these goals are described in the table below.

Programme	Impact
The European SESAR programme coordinates R&D in the Air Traffic Management domain and highlights major challenges facing air traffic, such as increasing the safety and capacity of air space and airports; reducing environmental impact; optimising road networks; sharing information with all stakeholders; and capitalising on ground-to-air exchanges.	Thales helps with flight optimisation by providing more accurate information about an aircraft's position, for which software functionality was certified in 2018. In 2019, Thales unveiled PureFlyt, a fully connected next-generation flight management system. PureFlyt will improve aircraft performance and responsiveness during complex flight phases. The system will also allow for real-time calculation of new trajectories or rapid response to programme changes, helping to reduce fuel consumption. Tests with pilot companies began in 2019 and the first results are expected in 2020.
In 2018, the European Union's Global Navigation Satellite System Agency (GNSS) officially launched the EDG2E project (Equipment for Dual Frequency Galileo GPS and EGNOS) with a consortium led by Thales.	The goal is to optimise aviation navigation with the Galileo constellation. The new EGNOS contract signed at the end of 2019 will allow the development of new advanced features such as the geographic extension of SBAS (Satellite-Based Augmentation System) coverage.
Also in 2018, Thales signed the OneSKY programme in Australia, which will offer a global solution for controlling civil and military air traffic across 11% of the globe.	One of the goals of OneSKY is to reduce environmental impacts by ensuring better air traffic management resulting in reduced fuel consumption. It is also expected to reduce CO ₂ emissions and noise levels around airports. A review of the system's preliminary design has been finalised.
Thales is one of the partners working in "Aviation X Lab", an aviation-specific collaborative innovation incubator based in the United Arab Emirates.	Launched in November 2019, one of the Lab's two leading challenges is "Carbon negative aviation: solution to radically reduce CO ₂ emissions".

Railways

In an increasingly urbanised world where 75% of the population is expected to live in cities by 2050, creating the conditions for sustainable mobility is one of the most effective and fundamental factors that goes beyond merely fighting to control CO₂ emissions.

Domain	Impact
Urban mobility	Thales provides systems to operators that simplify access to transport through interconnections, improve traffic flow, reduce consumption and increase network capacity. Artificial intelligence improves the understanding and prediction of passenger flows to optimise the transport offering and associated energy use.
Major railway lines	Thales continues to promote the development of the European Rail Traffic Management System (ERTMS) with the aim of making it an essential component of road to rail freight transfer like the systems delivered in Switzerland for the Lötschberg and Gothard tunnels.

The Thales signalling systems are evolving towards more decentralisation with the development of individualised object controllers (switches, signals) capable of directly steering actuators (part of the switching system). This leads to the use of fewer safety relays (3w per relay) and more importantly, reduced cable requirements.

Solution	Impact
Thales is working toward a unified European specification of the automatic system for train driving (in the European Shift2Rail Joint Undertaking)	By making real-time, secure information exchange between the railway system and the train driver possible, the systems optimise driving and reduce CO₂ emissions . This technology is key for future autonomous trains. Following the acquisition of Cubris, more than 4,000 driver-assistance systems have been deployed (DK, SVV, UK, DE, FIN) that optimise train driving and CO ₂ emissions.
D-Cube Concept	Developed by Thales Middle East to be applied to transport projects, the D-Cube concept reduces the carbon footprint of the deployment and maintenance phases by reducing car journeys between sites and depots, paper documentation, and by optimising cable management (90% reduction in scrap cable).

Smart cities

Data analysis makes cities function more efficiently. Thales's solutions collect data on such parameters as water and energy consumption, subscriptions to various public and private services, and transport users, allowing city authorities to improve residents' quality of life and reduce their environmental footprint. Through its data analysis solutions, Thales helps city planners and managers:

- leverage massive connected city data reservoirs to better understand and anticipate the needs of residents and offer them services that make their lives easier;
- inform users via traffic information systems, giving motorists and train passengers information on traffic conditions in near-real time;
- manage day-to-day operations more effectively and facilitate the coordination of various stakeholders, especially in the event of an emergency. These solutions also improve the environmental efficiency of cities with regard to water and energy consumption, transport use, etc.

5.5.2.2.3 Understanding the effects of climate change

Thales has been involved in the development of satellites, optical instruments and high-performance radar to monitor the environment and climate change since 1974. As such, it is a key player in observing the earth, understanding climate change and monitoring the environment.

Some of these observation methods are also being used for control and prevention. They make it possible to manage fishery, agricultural and forest resources better and are supplemented by monitoring systems set up on ships and aircraft. Examples of some of the specific items that are being monitored so that action can be taken as needed to protect the environment include:

- pollution and tracking of pollution movements;
- forest fires and beach erosion;
- deforestation;
- illegal exploitation of mines or natural resources;
- improving maritime transport security.

They also include the entire family of geostationary weather satellites, optical measuring instruments, the ERS and COSMO-SkyMed radar satellites, altimetric satellites, and instruments used in oceanography and radars for monitoring ice. Today, Thales Alenia Space is in charge of the Sentinel radars S1 (A, B, C & D) and oceanographic S3 (A, B, C & D) and Jason CS S6.

Objectives	Project
Study of the topography of oceans and continental surface waters	SWOT (Surface Water and Ocean Topography) is a major breakthrough in a segment with very high strategic, economic and societal stakes. In oceanography, the satellite will provide measurements of ocean surface and wave height with higher resolution than its predecessor Jason satellites, resulting in more accurate models of the interactions between oceans and the atmosphere . The hydrology mission will evaluate continental surface water to study changes in water storage in wetlands, lakes and reservoirs, as well as flow rates in rivers. This system will be the world's first platform with controlled re-entry of the satellite at the end of life, leaving no debris in orbit, in compliance with the law on space operations that will definitively enter into force in 2020 . SWOT received preliminary approval for compliance with this law in December 2019. The launch of this satellite is scheduled for the end of 2021 on a Falcon 9 launcher.
Report on greenhouse gas emissions	Between 2012 and 2016 under the BridGES industrial chair and then from early 2018 under the Trace industrial chair, which succeeded it, Thales Alenia Space conducted research with climate scientists, most notably from France's Laboratory of Climate and Environmental Sciences (LSCE) and Dynamic Meteorology Laboratory (LMD), on optimising space mission concepts related to modelling (inversion, transport and radiative transfer models). This will allow high precision measurements of anthropogenic greenhouse gas emissions at the scale of a single industrial site to that of an entire country, and to ensure the effectiveness of emission reduction policies. Thales Alenia Space also conducts research with the French National Centre for Space Studies (CNES), the European Commission (the ongoing CHE: H2020 project) and internal development projects.
Measuring anthropogenic CO ₂ emissions	The programme that will position Europe as a major (and independent) contributor to anthropogenic CO ₂ emissions measuring is CO ₂ M, the future Copernicus mission that is still being designed. It will be the only CO ₂ imager with a swath width of approximately 200 km . Its advantage over other probes is that it will be able to cover considerably more anthropogenic emissions in a single sweep. After an A/B1 phase, Thales Alenia Space is preparing, in partnership, a proposal for the phase B2/CD of CO ₂ M-Copernicus.

5.5.2.2.4 Obsolescence and replacement of hazardous materials

The increase of and changes in environmental regulations have led to the restriction – and, in some cases, prohibition – of the use of certain substances. This has led to the growing risk that it may become impossible to manufacture or provide through-life support to a system or piece of equipment. For this reason, Thales has taken a proactive approach to its processes and practices which involves anticipating risks and implementing the measures required to manage them, with particular attention paid to technologies requiring the use of substances on the European REACH regulation Candidate List.

This approach relies on centralised regulatory monitoring that is constantly increasing in scope. The resulting information is then summarised and disseminated in the form of an alert stating the priority and criticality of the issue to all the Thales stakeholders concerned. It includes the collection of data on substances directly concerned by the regulations and which are present in the components and sub-components used in the products and solutions developed by the Group. All of these data are entered into Thales's central database (accessible to all Group entities) and in the PLM (product life cycle management) and ERP (enterprise resource planning) systems of these entities. An analysis tool developed by Thales enables the cross-referencing of all of this information to ensure compliance with regulations and perform the impact analyses needed to anticipate the risk of obsolescence.

Thales has developed replacement plans to keep obsolescence risks under control. These investigations into replacements, produced internally or with manufacturing partners, aim to assess the performance of alternative industrial processes and ensure that manufactured products remain compliant with technical requirements. In some cases, it is necessary to redesign products and interfaces and rescope industrial tools, a process that takes place over several years.

Performance related to the anticipation of environmental standards in product design (NFPS):

Industrial processes affected by the replacement of chromates – adherence to schedule regarding the cut-off date

In the case of chromates, for example, Thales began researching replacement processes in 2013 for more than 30 industrial processes used in its applications, making sure that its subcontractors would have the ability to handle them. To date, Thales has allocated more than €7 million to researching and rolling out replacement solutions for equipment and systems. It monitors the actual progress of these replacements, which were between 50% and 100% complete at the end of 2019, depending on the segment, to ensure completion by the required deadline. The Group also evaluates exposure to the potential risks linked to other substances such as lead and cadmium.

For rare situations without any appropriate technical solution at this time, Thales makes sure that it is covered by REACH authorisation dossiers and keeps track of decisions taken by the European Commission as well as compliance with the conditions of use linked to these authorisations.

5.5.2.3 Sound resource management

5.5.2.3.1 Moderate use of raw materials

Thales designs, develops and supplies equipment, systems and services in aeronautics, space, transport, security and defence. The raw materials consumed are natural resources and various materials used by Thales and its subcontractors to manufacture products.

Research into new technologies and the design of new equipment involve restricting the use of materials to cut down on size and weight and to facilitate dismantling (see section 5.5.2.2.2) and finding replacement solutions for substances that are the most toxic to human health and the environment (see section 5.5.2.2.4). These requirements are conveyed to suppliers of the equipment and components that Thales

assemblies at its sites. The manufacturing processes are also optimised to limit loss of materials and amounts of discharge and waste.

For example, using standard dimensions to produce plates and structural sections leads to fewer “shavings”. Moreover, Thales has been using additive manufacturing (also called 3D printing) since 2017 to manufacture parts for the space sector. There are ongoing studies to expand the scope of use of this technique, particularly in aeronautics. This technology, combined with the use of topological optimisation tools, limits the quantity of materials used to address a given need. It also makes it easier to repair parts and optimises service offerings.

Thales has reduced the use of materials such as wood, cardboard and plastic by limiting and reusing packaging, both for supplying Thales sites and for transferring equipment from one site to another.

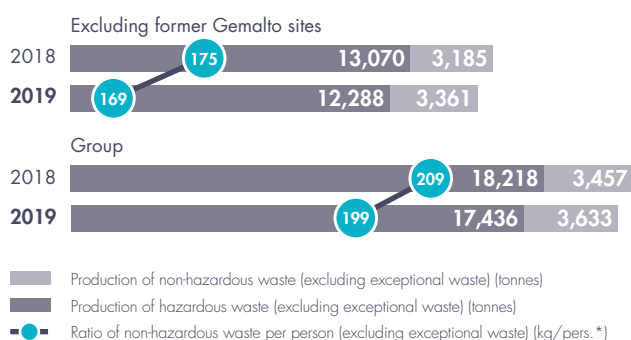
Thales also pays close attention to the availability of critical resources and responds to surveys conducted by European and French authorities. Thales has also reduced the use of materials such as wood, cardboard and plastic by limiting and reusing packaging, both for supplying Thales sites and for transferring equipment from one site to another.

5.5.2.3.2 Reducing, reusing and recycling waste

Thales’s responsible waste management commitments have sought to reduce the quantity of waste the company produces, limit the amount of waste sent to landfill and optimise recycling. These commitments have helped reduce total waste production per person by 5% between 2018 and 2019 (excluding exceptional waste), with a 6% drop in gross production (excluding former Gemalto sites) and 4% for the entire consolidated Group.

The landfilling rate also dropped between 2012 and 2019 from 25% to 14% (all waste including exceptional waste, excluding former Gemalto sites). When Gemalto sites are included, the rate dropped from 19% to 17% between 2018 and 2019.

➤ CHANGE IN WASTE PRODUCTION EXCLUDING EXCEPTIONAL WASTE*



* Based on the average annual headcount on site, including permanent employees, temporary employees, trainees and service providers permanently on site and excluding employees on permanent assignment or based at external sites.

As a result of measures taken, 80% of all waste was recovered and 60% of non-hazardous waste was recycled in 2019 (excluding exceptional waste).

To achieve this, various measures related to selective waste sorting, the search for recycling channels or optimum treatment channels and campaigns to change habits and behaviour (printing policy and reusing cardboard and other packaging, for example) have been introduced. These measures are aimed at reducing waste production and improving waste treatment. For example, the amount of paper and packaging waste fell by 3.4% compared to 2018.

Certain Group sites reuse packaging either for supplying Thales sites or for transferring equipment from one site to another.

Hazardous waste has also been a specific target. Dedicated areas for collection and storage have helped to manage this type of waste prior to disposal. The quantity of hazardous waste (excluding exceptional waste) has fallen by 17% since 2015. However, it increased Group-wide by 5% between 2018 and 2019. This increase primarily stems from:

- defective sewage treatment plants at two sites, which led to the disposal of this sewage as hazardous wastes at an external plant instead of being treated on site;
- an increase in waste electrical and electronic equipment after old machines were replaced at numerous sites.

Lastly, the majority of Thales sites have opted for food service companies to manage their corporate restaurants, therefore the Group does not have a direct impact on food waste. Nevertheless, Thales, works with these partner companies to set up responsible handling solutions that encourage less food waste, as does all its partners.

5.5.2.3.3 Preserving water

Water is a vital resource to be protected. Accordingly, since 2000, Thales has been engaged in a far-reaching programme to reduce its consumption by, among other things, dealing with leaks, centralising the management of its networks, replacing water-intensive equipment, optimising industrial processes and recycling water for reuse in industrial processes. Risks linked to water management have not been identified as material at Group level.

Furthermore, for the first time in 2019, Thales completed the CDP’s water security questionnaire, which helps assess how current and future water management risks are being accounted for, at both strategic and usage levels, including water reduction targets. Thales obtained a B-grade, which corresponds to the industry average.

Change	2012-2018	2015-2018	2018-2019
Water consumption (m ³)	-13%	-2%	+0.3% ^(a)

(a) Same after consolidation with Gemalto’s consumption in 2019.

The Group’s overall consumption is down 13% since 2012 (excluding former Gemalto sites), confirming the collective efforts made by all sites (including the Mulwala site, which alone accounts for 32% of the Group’s water consumption). These achievements are due to increased employee awareness and to making widespread use of best practices. Water consumption between 2018 and 2019 is stable, despite the integration of Gemalto.

5.5.2.4 Limiting emissions and managing industrial risks

5.5.2.4.1 Impact of our industrial activities

Industrial wastewater discharge

Thales's activities generate little in the way of industrial wastewater: 94% of wastewater is discharged from seven sites and 67% comes from the Mulwala, Australia site alone. Consolidated (excluding former Gemalto sites) wastewater discharges have fallen by 21% compared with 2012 as a result of ongoing plant optimisation, continuous modernisation measures, and wastewater recycling and reuse. The DIS sites account for less than 1% of the Group's industrial wastewater discharges.

Industrial atmospheric emissions

In general, Thales's activities do not generate atmospheric emissions, except for activities at a few specific industrial sites or activities linked to site operations (for example, heating). A few sites release industrial atmospheric emissions which are channelled and treated where necessary (with filters, scrubbers, etc.) and regularly checked. This primarily relates to solvents.

The quantities of solvents used are limited. A total of 80 (out of 180) sites purchase solvents, with eight of those sites accounting for 86% of purchases. The Mulwala site alone accounts for 71% of these purchases and 81% of emissions resulting from the manufacture of propellants requiring a large quantity of solvents. In 2019, the commissioning of a new process at the Mulwala site led to increased production and consequently a significant 39% increase in associated emissions compared to 2018. It should be noted that several sites have stopped using solvents or replaced them with detergents.

Combating noise and odour pollution

While Thales's activities generate very little noise or odour pollution, measures are still put in place to limit them. Cooling systems are the most common sources of noise pollution, and precautions are taken to limit noise levels associated with this equipment. Sound levels are checked periodically. The few sites where noise is a particular issue are equipped with acoustic attenuation systems, or only conduct noise-generating activities at specific times. The increased use of computer simulations for pyrotechnic testing, for example, also helps to reduce noise. Thales's activities do not generally generate odours, with the exception of five sites. The three sites that generate unpleasant odours have installed systems to capture atmospheric emissions that are regularly checked.

5.5.2.4.2 Land use and pollution prevention

Since 1998, the Group has implemented a responsible pollution risk and soil erosion management policy. Few sites have shown significant signs of contamination, and where contamination has been identified, it is usually due to earlier industrial activities (some of which are independent of Thales and related to past acquisitions). If any new situations of contamination are discovered, they will be handled consistently with this investigation and responsible management policy.

When available techniques allow, steps are taken to clean up pollution. The impact on available resources and the environment is then reduced to a minimum by using on-site treatment rather than transferring pollution to another site.

The water table is periodically monitored at industrial sites and sites located in industrial areas. The cases in question are monitored in a coordinated manner by the Group's HSE Department in conjunction with the Legal Department.

The Group considers environmental criteria when choosing locations for its sites, looking at climate and geological risks, the impact of its activities on the human and natural environment, and land use. The objective is to optimise compatibility between the Group's activities and the environment. Some activities, such as pyrotechnics, require a specific site due to the risks those activities generate and need to be bounded by extensive security areas and suitable geology. These areas account for approximately 79% of the area occupied by the Group (two sites in Australia and one in France). However, steps are taken to enhance their ecological value either by promoting biodiversity or by converting them into pasture or farm land. Excluding pyrotechnic sites, the Group's other sites are mainly located in industrial zones, which make up 51% of surface area.

5.5.2.4.3 Industrial risk management

Only one Group site in Europe is a Seveso upper-tier establishment. Three other sites are classified Seveso lower-tier, while two sites in Australia are classified as high industrial risk. Safety management systems (including measures such as a major accident prevention policy, a contingency plan, and a risk assessment and the associated risk management scenarios) are in place and are regularly inspected by the country HSE departments and regulatory authorities in accordance with applicable regulations. After the Lubrisol accident in Rouen, France, the Group assessed the regulatory status of the only four Seveso sites owned by Thales in Europe.

The insurance and compensation policies for victims of accidents, including technological accidents for which the Group may be liable, cover all sites insured by the Group, including Seveso-listed sites. Risks arising from accidents (such as fire or pollution) are managed locally, with the support of the relevant Group departments, if necessary. Accident prevention and management procedures, as well as procedures for handling specific complaints, are in place for such cases. An accident reporting tool makes it possible to analyse accidents that do occur and draw suitable lessons from them. In 2019, only eight incidents occurred, but none had a significant impact on health or the environment.

5.5.2.5 Protecting biodiversity

The preservation of species, their habitat and ecosystems, the preferential use of areas dedicated to flora and the protection of historical and natural heritage are taken into account in all decisions to help protect the environment. As early as 2006, Thales drew up a preliminary inventory of its sites in France located near or within protected areas and, at certain sites, assessed the impact of business activities on biodiversity and the degree to which the site depends on the surrounding ecosystem services provided by nature. It then consolidated this information into a map of biodiversity-related risks for Group sites located in the most vulnerable areas. Although the overall impact of the Group's activities on biodiversity is low, the Group encourages its sites and employees to continue to promote action to protect biodiversity. Inventories are carried out at some sites by volunteers or in partnership with local authorities or biodiversity protection agencies, and *ad hoc* management measures are put in place.

Several Australian sites have had habitat management plans in place for several years now.

Numerous sites have outdoor features to preserve the natural habitat and protect fauna (with bird boxes, beehives, feeders, species surveys by an

expert, etc.) or reintroduce native tree species, thereby guaranteeing a balance of habitats in terms of biodiversity and offering a relatively safe and protected habitat for a wide variety of plants, fungi and animals.

For sites with large areas of plains or forests, special precautions are taken to protect fauna and flora by promoting environmentally friendly and natural techniques for mowing and grazing and by eliminating crop protection products. Other sites raise employee awareness through photography exhibitions on forests, agroforestry and the species that can be found on site.

5.5.2.6 Disputes and environmental alerts

Thales was not cited in any environmental dispute that gave rise to compensation in 2018 and made no generic guarantees in relation to the environment. In addition, seven sites were the subject of a letter, request or environmental complaint (as defined by ISO 14001) from local authorities, employees or third parties. These have either been or are being dealt with. At 31 December 2019, total provisions for environmental risks at Group level amounted to €5 million.

5.5.3 Environmental indicators

The table below includes a number of items for assessing trends in Thales's environmental performance on a comparable basis. In 2018, the scope comprised 29 countries and 181 sites. This scope represents 94% of revenues and 95% of the Group's workforce. 2018 is the base year for all 2019-2023 goals. This chapter was reviewed for fair presentation by Mazars. Most of the indicators included in the table below are subject to a moderate assurance conclusion, the list of which is presented in the detailed opinion in section 5.8 Independent Third Party Report.

	Units	2015-2018 change	2018 Review w/o former Gemalto	2018	2019	2018-2019 change
Energy						
Electricity consumption	Thousand toe	0.3%	131	164	162	-1%
Electricity consumption per revenues	Toe/€m	-11%	8.5	9.5	9.3	-2%
Fossil fuel consumption	Thousand toe	-3.4%	20.4	21.6	21.1	-2%
Fossil fuel consumption per revenues	toe/€m	-15%	1.32	1.26	1.21	-4%
Total energy consumption	Thousand toe	0.50%	154	188	185	-2%
Total energy consumption per revenues	toe/€m	-11%	9.98	10.96	10.69	-2.5%
Total energy consumption per hours worked	toe/thousand hours worked	-	-	1.46	1.39	-4.6%
Water						
Water consumption	Thousand m ³	-2%	1,502	1,771	1,776	0%
Water consumption per revenues	m ³ /€m	-14%	97.1	103.2	102.4	-1%
Waste						
Total waste production ^(a)	Tonnes	2%	15,278	21,675	21,069	-3%
Total waste production per revenues ^(a)	Kg/€m	-10%	0.99	1.26	1.21	-4%
Ratio of non-hazardous waste ^(a)	%	8%	79	82	72	-12%
Non-hazardous waste per person ^(a)	Kg/pers.	4%	166.8	209.2	198.7	-5%
Non-hazardous waste recycling rate	%	-8%	59%	58%	65%	12%
Non-hazardous waste recycling rate ^(a)	%	2.7%	58%	57%	60%	5%
Hazardous waste recycling rate	%	112%	40%	38%	45%	18%
Industrial discharge						
Industrial wastewater discharge	Thousand m ³	12%	627	629	566	-10%
Atmospheric emissions (solvents)	Tonnes	-65%	325	351	488	39%
CO₂ emissions directly related to operations						
CO ₂ emissions from energy use	Thousand tonnes CO ₂	-0.3%	186	207	202	-1.8%
CO ₂ emissions from energy use per revenues	T CO ₂ /€m	-12%	12.1	12.1	11.6	-2.8%
CO ₂ emissions linked to Kyoto Protocol substances and R22	Thousand tonnes CO ₂	-29%	25	25	26	5%
O/w CO ₂ emissions linked to SF ₆	Thousand tonnes CO ₂	-81%	1.3	1.3	0.7	-46%
CO ₂ emissions from business travel	Thousand tonnes CO ₂	-2%	77	93	91	-2%
CO ₂ emissions from business travel per revenues	Kg CO ₂ /€m	-14%	5.0	5.4	5.2	-4%
Direct CO ₂ emissions from operations	Thousand tonnes CO ₂	-4%	290	327	320	-1.8%
Indirect CO₂ emissions						
CO ₂ emissions from the purchase of goods and services	Thousand tonnes CO ₂	-	-	2,384	2,289	-4%
CO ₂ emissions from the use phase of products sold	Million tonnes CO ₂	-	-	14.7	14.5	-1.4%
Indirect CO ₂ emissions	Million tonnes CO ₂	-	-	17.084	16.789	-1.7%
CO₂ scope according to GHG Protocol						
Scope 1 (gas, fuel oil, coal, substances, mobile energy sources)	Thousand tonnes CO ₂	-14%	75	79	78	-1%
Scope 2 (electricity, steam)	Thousand tonnes CO ₂	1%	138	155	152	-1.5%
Scope 3 (business travel, purchase of goods and services, use phase of products)	Thousand tonnes CO ₂	-	-	17,176.8175	16,879.874	-1.7%
TOTAL SCOPES 1, 2 AND 3	THOUSAND TONNES CO₂	-	-	17,411.31	17,109.216	-1.7%
TOTAL SCOPES 1, 2 AND 3 PER REVENUES	TONNES CO₂/€M	-	-	1.014	0.986	-2.7%
Other disclosures						
ISO 14001-certified sites		-	118	-	138	-
Staff concerned as percentage of total workforce	%	-	89%	-	84%	-

(a) Excluding exceptional waste.

5.6 A CORPORATE RESPONSIBILITY POLICY BASED ON STRONG ETHICAL COMMITMENTS

5.6.1 Prevention of corruption and influence peddling

Corruption and influence peddling represent a major risk for multinationals, particularly those with export operations. It exposes these companies, as well as their employees and managers, to criminal and civil sanctions and can be very damaging to their reputation.

At the end of the 1990s, in order to protect itself from these risks, Thales introduced a corruption risk prevention policy, which is continually being improved. This policy is regularly reviewed and the provisions are constantly adapted to reflect legislative and regulatory developments, including the entry into force in June 2017 of the French law on transparency, the fight against corruption and modernisation of the economy (known as the Sapin II law).

The policy is based on a programme of compliance, the various components of which are integrated into the operational procedures, and supported by a specific organisational structure.

5.6.1.1 Anti-corruption compliance programme

Thales's compliance programme is based on:

- clearly stated, shared principles. The Chairman and Chief Executive Officer, addressing all Group employees, reiterated the commitment of zero tolerance made by the Board of Directors and Corporate Management. The Group's Executive Committee approved the new anti-corruption compliance programme, which applies to all subsidiaries and companies controlled by Thales, both in France and abroad;
- a "Prevention of corruption and influence peddling" Code of Conduct, which, in keeping with the commitments of the Code of Ethics, defines the various types of behaviour that are prohibited due to their potential to be characterised as acts of corruption and influence peddling;
- a corruption risk map, drawn up in accordance with the Group's general methodology for risk mapping;
- a system for evaluating third parties (mainly customers, suppliers, subcontractors and partners), including preventive measures proportionate to the risks (due diligence, disclosures and commitments, etc.);
- accounting controls integrated into the Group's internal control rules to prevent and detect acts of corruption and fraud;
- an employee training programme reviewed in 2018 to provide innovative training tailored to employees' exposure to corruption risk. It comprises a new mandatory e-learning training module, which was launched in 2018 and has since been taken by 9,760 people, including 5,197 people in 2019, and a new classroom-based course rolled out for 4,723 employees in 2019 aimed primarily at roles identified as most at risk; as from 2020, corruption prevention training for 100% of new hires in positions with exposure is a mandatory objective for relevant staff and a large number of managers;

- an extensive alert system. Thales decided to upgrade its alert system to a single system open to employees and external and occasional workers for alerts that fall within the scope of France's Sapin II law and Duty of Care law. The system was designed to protect whistle-blowers and keep data confidential.

The Group's alert system received 34 workplace alerts in 2019, 26 of which were considered valid. Of these 26 alerts, six involved potential cases of harassment, five involved inappropriate conduct, five were related to suspected fraud, four reported allegations of corruption, three involved potential conflicts of interest, two were related to HSE issues and one involved a potential case of discrimination. In 2019, eight alerts out of the 26 were anonymous.

Of the four alerts relating to allegations of potential corruption, all four were dismissed as the internal investigations did not confirm any proven instances of corruption.

The increase in the number of alerts can be explained by increased internal communications efforts about the system and about the Group's ethics, integrity and compliance policies in general.

Performance related to the risk of non-compliance with the rules of ethical business conduct (particularly the fight against corruption and influence peddling) (NFPS):

Number of operational entities that assessed risks of corruption in 2019: **108**

Anti-corruption training (e-learning and classroom-based) in 2019: **9,920**

Alerts received via the Thales alert system in 2019: **34** including alerts about alleged acts of corruption: **4**

All measures implemented under this compliance programme are monitored on a regular basis.

The overall system is supplemented by Thales's active participation in various initiatives in the fight against corruption. Thales therefore actively participates in national professional organisations (including MEDEF⁽¹⁾, GIFAS⁽²⁾, ADS⁽³⁾, and others), and international organisations (Business Ethics Committee of the ASD⁽⁴⁾, ICC⁽⁵⁾, B2O⁽⁶⁾, IFBEC⁽⁷⁾ etc.) that deal with ethical business conduct, and has an active presence within the working groups of intergovernmental organisations (OECD, United Nations, etc.).

(1) Mouvement des Entreprises de France.

(2) Groupement des Industries Françaises Aéronautiques et Spatiales.

(3) Association of UK Aerospace, Defence, Security & Space Industries.

(4) AeroSpace and Defence Industries Association of Europe.

(5) International Chamber of Commerce.

(6) International business community made up of 22 employer organisations.

(7) International Forum on Business Ethical Conduct.

5.6.1.2 Clear operational measures

The pillars of this anti-corruption compliance programme are integrated into the various operational processes of Thales's reference system (Chorus 2.0). From the preliminary phase of a project, the processes which govern the management of offers and projects also provide for action plans to mitigate business risks, with a particular focus on anti-corruption and influence peddling.

5.6.1.3 A dedicated organisational structure

The Group's corruption risk prevention policy is underpinned by a dedicated organisational structure. Thales has governance bodies and an organisational structure designed to establish, manage and monitor the implementation of regulations on preventing corruption risk, as well as instil a culture of corporate responsibility throughout the Group.

In 2019, the Group enhanced and improved its organisational structure by:

- creating an Integrity and Compliance Committee;
- clarifying the missions of the different departments under the Company Secretary's Office on issues related to integrity and compliance;
- deploying a network of Chief Compliance Officers and Compliance Officers at Group entities;
- establishing compliance expertise hubs and appointing Compliance Experts; and
- coordinating the actions of these different parties within the Group Integrity and Compliance Programme.

Chaired by the Company Secretary, members of the Integrity and Compliance Committee include:

- the Chief Ethics, Integrity and Corporate Responsibility Officer;
- the Legal and Group Contracts Director;
- the Audit, Risks & Internal Control Director.

The Integrity and Compliance Committee meets once a month, and if necessary, at the request of one of its members. The Company Secretary reports periodically on the activities of the Integrity and Compliance Committee to the Executive Committee, the Risks Management Committee and the Board of Directors and/or its relevant committees (Audit and Accounts Committee and Strategic and Corporate Social Responsibility Committee).

The Ethics, Integrity and Corporate Responsibility Department has also been assigned redefined duties. It implements the policy defined by the Group, and in this respect:

- prepares and updates the anti-corruption compliance programme and other integrity-related programmes;
- prepares and updates the duty of care compliance programme;
- prepares and proposes to the Company Secretary's Office the main focus areas of other ethics, integrity and corporate responsibility policies on which the Group has to take a stand, in line with the values and priorities that it has defined and by anticipating societal and regulatory changes;
- prepares and updates internal rules of conduct and procedures in these areas (Code of Conduct, Code of Ethics, Group instructions, charters, etc.);
- defines the staff categories within the Group that are most exposed to the risk of corruption and who require training as well as the content of said training. It also verifies the staff in the defined categories take these training courses;
- receives the internal alerts sent using the Group alert procedure, decides whether they are valid after first notifying the Legal and Contracts Director and participates in their processing by the Alerts Monitoring Committee; and
- generally, defines and allocates resources for promoting and sharing a culture of ethics, integrity and corporate responsibility within the Group.

5.6.2 Actions to support Human Rights and fundamental freedoms

Thales signed the United Nations Global Compact in 2003 and complies with its ten principles relating to Human Rights, labour standards and environmental law inspired by the Universal Declaration of Human Rights and the International Labour Organization's Declaration on Fundamental Principles and Rights at Work. These ten principles are applied on the basis of agreements and best practices which ensure the Group's business activities are conducted responsibly. In 2019, for the eighth year in a row, Thales reached the Advanced level of the Global Compact differentiation programme which, with its 21 specific criteria, is the highest reporting and performance standard for responsible development. It should be noted that the Advanced level programme required an external evaluation, which Thales successfully passed in a peer review. Of the 13,607 companies that are members of the Global Compact, only 671 obtained the Global Compact Advanced level in 2019, including 117 French companies.

With regard to compliance with international business rules (including the export control process, restrictive measures and economic sanctions related to the export and re-export of armaments and related services, as well as commercial equipment and dual-use goods and technologies), Thales has established a global organisational structure and strengthens its internal measures and procedures on an ongoing basis. This strong commitment is intended to protect the national security of democratic states and specifically to contribute to the fight against the

spread of weapons of mass destruction. Accordingly, Thales and other European aerospace and defence companies support the United Nations Arms Trade Treaty, which came into force in late 2014.

Since 2004, Thales has ceased all business activities in the field of cluster munitions, opting to respond in a proactive manner to the expectations of the NGOs involved in Human Rights issues, as well as anticipate the principles and definitions of the Oslo Convention on Cluster Munitions.

In 2019, Thales made a public commitment to stop selling and producing weapons that use white phosphorus no later than by June 2022. This decision proactively addresses the concerns of some stakeholders, such as NGOs and investment funds.

Thales is very much involved in thinking about the Human Rights impact of its activities. For example, in November 2019, the company took part in the UN Forum on Business and Human Rights in Geneva for the second consecutive year. This is the world's largest annual gathering on business and Human Rights with more than 2,000 participants from government, business, community groups and civil society, law firms, investor organisations, UN bodies, national Human Rights institutions, trade unions, academia and the media. The UN Human Rights Council established the Forum in 2011 to "serve as a global platform for stakeholders to discuss trends and challenges in the implementation of

the Guiding Principles on Business and Human Rights and promote dialogue and cooperation on issues linked to business and Human Rights”.

Lastly, in December 2019, Thales joined Entreprises pour les Droits de l’Homme (Businesses for Human Rights), an association which offers a

platform where international companies can exchange, work together and propose solutions to better incorporate Human Rights into corporate policies and practices by implementing vigilance measures.

5.6.3 A responsible tax policy

Thales’s tax policy is a global policy that applies to all countries and incorporates the Group’s ethics rules.

As an international organisation, Thales pays significant taxes and duties in many countries. The Group rigorously applies tax rules and is careful to comply with local regulations, international treaties and the guidelines of international organisations.

The Group’s taxation is directly related to its business strategy and activities. Thales has offices abroad only for the purpose of developing its business or meeting operational needs.

The tax function is managed by the Group Tax Director, who reports directly to the Senior Executive Vice President, Finance & Information Systems, who is a member of the Group’s Executive Committee.

Tax risk is fully integrated into the risk-analysis role of the Audit, Risks & Internal Control Department and is one of the internal control assessment items of the “Yearly Attestation Letter”.

5.7 AN ORGANISATION THAT IS PROACTIVE TOWARDS ITS STAKEHOLDERS

5.7.1 Stakeholder mapping

The company's rapid transformation, the globalisation of trade and the spread of digital technologies are generating new challenges in terms of ethics and responsibility, not just for Thales but also for its stakeholders.

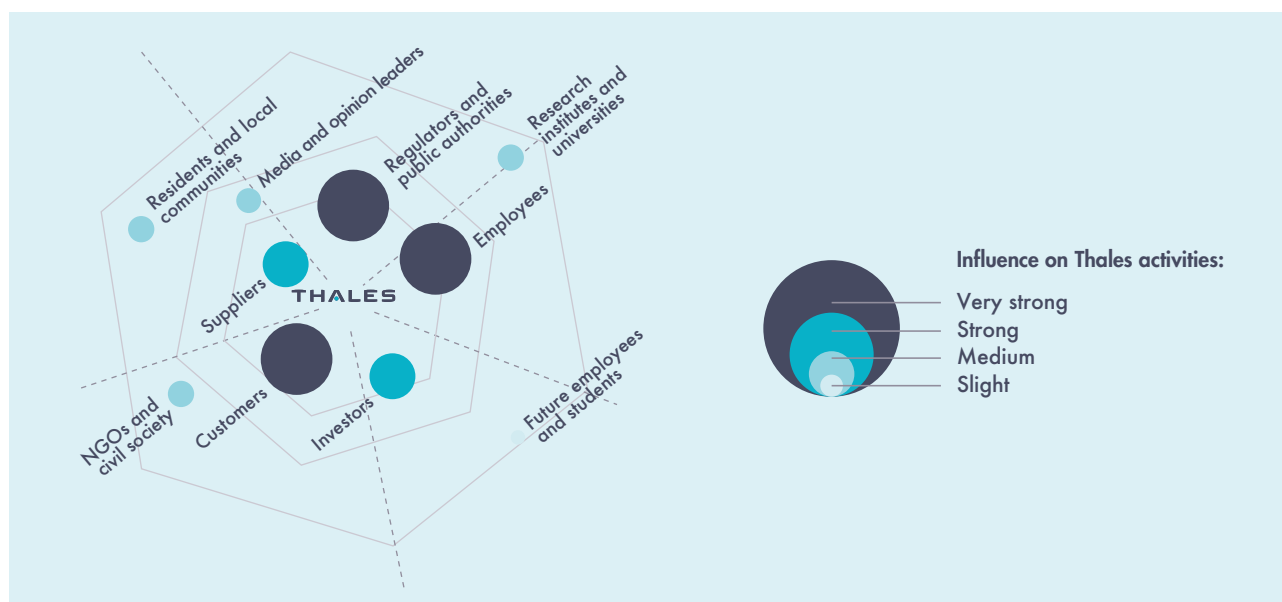
Teams at Thales promote dialogue with their ecosystems in the firm belief that listening to stakeholders is a precious source of knowledge and that decision-making is enriched by sharing different points of view.

Thales's interaction with its stakeholders is structured so that the relevant information channels, frameworks and forums for dialogue are appropriate to each stakeholder and to the issues at stake. In view of the Group's size, its international scale and the variety of its businesses, the head

office location, the international or country business divisions and the sites are selected according to the situation.

The dialogue policy and the method for identifying stakeholders are based on the stakeholders' power of influence, i.e. their capacity to influence and impact the Group's decisions, and the level of engagement that Thales wishes to develop with them.

Stakeholders have been grouped by priority concern to manage dialogue more effectively, improve feedback regarding their expectations and make sure their expectations are aligned with the Group's long-term objectives.



5.7.2 Relationships of trust with customers

Customer confidence is central to Thales's commitments and one of its key values. The very nature of Thales's activities requires a sustainable relationship and commitment. Thales must act as a strategic partner towards its customers, understanding their challenges, strategic objectives and operational needs. Thanks to its policy of ensuring a local presence, based on offering customers proximity, attentiveness and support over the long term, it has established itself as a major industrial player in its "traditional" countries with the ability to expand its presence in high-growth countries.

5.7.2.1 An organisation which promotes customer relations

Thales is structured to develop relationships as close as possible to its customers' environments and business activities:

- a global footprint providing a local presence, both commercially and in terms of operational capacity;
- a global network of 250 Key Account Managers (KAM) dedicated to managing customer relations, covering all the different areas and activities of the Group;
- Business Lines building a strategy and a range of products, systems and services tailored to the needs and strategic developments of markets and customers;
- a marketing department which ensures consistency between Thales's offering and the requirements of its markets and customers;
- project and support teams at the ready to satisfy contractual requirements and operational needs, working in close collaboration with customers and partners;
- a Quality and Customer Satisfaction department to support the teams and monitor customer interests.

5.7.2.2 Regular assessment of customer satisfaction and confidence

For Thales, assessing the satisfaction and confidence of its customers is a key indicator of its operational performance and a constant source of progress.

Thales therefore has a global system for gauging and managing the quality of customer relations based on:

- a satisfaction survey schedule with a frequency of 18 months to 2 years;
- a network of independent consultants across a hundred countries to meet customers and take stock of relations;
- a centralised digital platform for customer data and feedback;
- indicators and analyses for different market segments, types of customers, product lines, etc.;

- action plans coordinated by account managers to respond to the specific issues of each customer;
- cross-functional analyses, which can detect weak signals and showcase advantages and differentiating factors as well as recurring customer expectations for use in performance plans;
- special tours arranged with customers to share this information, implement actions and monitor developments.

The global scope of this approach is appreciated by customers, who clearly see Thales's desire to forge relationships based on trust and cooperation and that it is constantly striving to respond better their key challenges, both today and in the future.

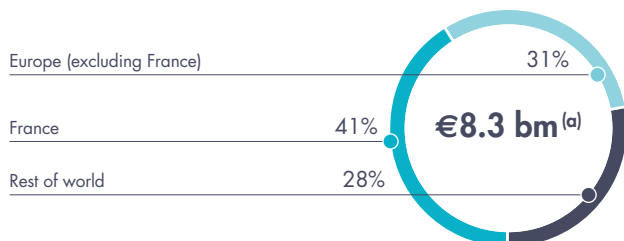
At the end of 2019, 72% of the Thales customers surveyed (1,452 customers) said they were satisfied or very satisfied; more than 40,000 comments were analysed to assess the quality of the Group's relationships with its customers.

It should be noted that new activities related to the Gemalto acquisition in April 2019 have not yet been incorporated into this customer satisfaction assessment, as the data provided could not be compared easily.

5.7.3 Incorporating the challenges of corporate responsibility in the supply chain

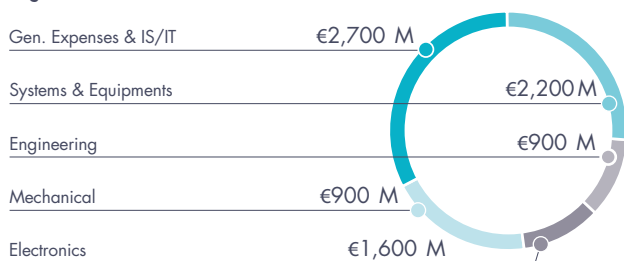
Thales designs and produces integrated solutions consisting of equipment, sub-systems or full systems, most of which are developed with the help of external partners. For example, purchases account for nearly half of the Group's revenues and, in a reflection of the Group's industrial footprint, more than 80% of purchases come from France, Europe and North America.

Geographic breakdown of 2019 Group purchases



(a) Including €1.4 billion from the DIS GBU – formerly Gemalto.

Segment mix



The quality and reliability of the supply chain therefore actively contribute to Thales's added value and to customer satisfaction, and as a result, the company has to adopt a responsible approach to this issue.

5.7.3.1 Sustainable procurement

5.7.3.1.1 A stringent procurement policy

Thales's procurement policy is designed such that the company works with a base of efficient, reliable suppliers who strictly comply with the domestic and international laws and regulations that apply to them, including international trade rules (export control, for example) and environmental, personal health and safety, ethical and social obligations. This policy and the Group's procurement procedures are applicable to all suppliers and sub-contractors.

It is based on ten sustainable procurement practices specified in the Responsible Supplier Relations Charter, which Thales signed in 2010. The aim of the charter is to develop a balanced relationship based on trust between suppliers and customers with full knowledge and respect for their respective rights and obligations. To this end, the Group has also appointed an internal mediator to liaise with suppliers to avoid or quickly resolve potential conflicts that could arise with them. The Thales internal mediator's actions are also in line with the initiatives carried out by the mediator of the French Aerospace industries association, GIFAS.

In France, Thales's commitment in this area was recognised in 2012 when it received the "Responsible Supplier Relations and Procurement Label" from Le Médiateur des Entreprises (the national French business mediation department) and the *Conseil National des Achats* (French purchasing board). Awarded for a period of three years, this label recognises companies committed to forging structured, collaborative relationships with their suppliers. Thales has received this label for the 2012-2015 and 2015-2018 periods and applied for renewal in 2019.

In 2019, Thales also published a document detailing its sustainable procurement commitments, which are an essential part of its corporate responsibility policy.

In 2019, Thales also formalised its sustainable procurement commitments, which are central to the Group's corporate responsibility policy.

Lastly, as part of Thales's strategy to build a low-carbon future, the Group Purchasing Department has defined a number of goals to be reached by 2020, 2023 and 2030 in order to reduce the carbon footprint of its supply chain (see section 5.5.2.1.3).

5.7.3.1.2 A responsible supply chain

Thales requires its suppliers around the world to adhere to its corporate responsibility approach by signing an Integrity and Corporate Responsibility Charter that requires them to uphold the principles of Thales's Code of Ethics, the principles of the United Nations Global Compact and OECD guidelines.

In 2019, Thales began to share the new version of this Charter with its suppliers. The Charter is intended to establish a relational and collaborative framework based on essential principles, such as human rights, employment practices, combatting corruption and influence peddling, managing conflicts of interest, the protection of information,

the protection of the environment, compliance with health and safety rules, attention paid to ethics, etc.

As the rollout of this new Charter began at the end of the year, 2019 should be considered a transition year; specific data will be available when the figures for 2020 are published.

Thales suppliers must also complete a self-assessment questionnaire that evaluates their corporate responsibility performance (nine questions on labour standards, five on environmental protection, two on corporate governance, one on ethical business conduct and one on export control). They are awarded an overall score which indicates their non-financial performance.

Year	Number of suppliers that have signed the Purchasing and Corporate Responsibility Charter	Supplier performance in the areas of corporate responsibility (labour standards, the environment, corporate governance, business ethics and export control) (average score out of 10)
2019	17,000	8.7
2018	15,610	8.7
2017	12,700	8.3
2016	10,500	8.7
2015	7,660	8.8

Moreover, as part of the selection process, potential suppliers are asked to complete a self-assessment enabling them to measure the maturity of their environmental management and commit to a process of continuous improvement. This self-assessment may be verified during supplier audits conducted by Thales, which may also lead to a request for an improvement plan or even prompt Thales to decide to remove a supplier from its list if certain essential criteria are not met. In this regard, Thales has already been working closely with certain suppliers for a number of years to jointly define and implement progress plans.

To achieve the goal of a responsible supply chain, the Group Purchasing Department set an objective of assessing the environmental management maturity of all its class A suppliers (group of suppliers accounting for 80% of purchasing volume), as well as each of its new suppliers, by the end of 2018. At year-end 2019, it had assessed 11,800 supplier facilities. However, supplier classification changed significantly in 2019 and the A, B and C categories were abandoned; the percentages referring to class A are therefore no longer available for this financial year.

New indicators related to the "Sustainable Procurement" goals will be published in the 2020 Universal Registration Document.

Year	Number of supplier sites assessed for environmental maturity	Class A suppliers assessed for environmental maturity
2019	11,800	N/A ^(a)
2018	10,400	84%
2017	7,500	67%
2016	4,900	60%
2015	2,400	50%

(a) To achieve the goal of a responsible supply chain, the Group Purchasing Department set an objective of assessing the environmental management maturity of all its class A suppliers (group of suppliers accounting for 80% of purchasing volume), as well as each of its new suppliers, by the end of 2018. At year-end 2019, it had assessed 11,800 supplier facilities. However, supplier classification changed significantly in 2019 and the A, B and C categories were abandoned; the percentages referring to class A are therefore no longer available for this financial year.

During calls for tenders, environmental responsibility is one of the procurement requirements and is included in the weighted criteria for supplier selection.

These initiatives, which are aimed at developing a more responsible supply chain, are fully in line with the implementation of France's law on contracting companies' duty of care (see section 5.7.3.2).

To assess the capacity of its suppliers to address these key challenges, the Group has improved the management of its supply chain risks by setting up specific tools such as enhanced questionnaires, due diligence,

etc., specifically with regard to the duty of care and anti-corruption and influence peddling compliance programmes; supplier commitment to addressing these corporate responsibility challenges is a major component of the long-term relationships established with Thales.

Just as for the new Charter, since the rollout of these specific tools for improving supply chain risk management began at the end of the year, 2019 should be considered a transition year; accurate data on these issues will be available when the figures for 2020 are published.

SPOTLIGHT: SPECIAL ATTENTION PAID TO CONFLICT MINERALS

Although Thales is not subject to section 1502 of the US Dodd-Frank Act, since it is not listed on the US financial market, the Group still exercises due diligence when it comes to conflict minerals to meet customer expectations and comply with its commitments.

Thales submits these queries to its supply chain to ensure that the origin of the metals covered by these regulations (tin, tantalum, tungsten and gold) can be verified to the greatest extent possible.

In 2019, Thales organised a survey to identify suppliers likely to use these metals in their manufacturing processes to check whether they have a policy on conflict minerals and/or an appropriate mechanism for answering questions on the matter.

If requested by a customer, Group entities fill in and provide the "Conflict Minerals Reporting Template" form.

Performance related to ensuring supplier compliance with corporate responsibility issues (for 2019) (NFPS)

Supplier performance in the area of corporate responsibility (average score out of a total of 10): **8.7**

This performance serves as a foundation for the multi-year targets set for the upcoming period from 2020-2023 that have been finalised in conjunction with internal stakeholders.

Sustainable procurement: Goals for 2019-2023**2023 target**

Percentage of new suppliers committed to the principles of Thales's new Integrity & Corporate Responsibility Charter	100%
Percentage of new suppliers assessed among those considered as "at risk" according to the duty of care mapping	100%

(a) 2019 is transition year.

5.7.3.2 Duty of care plan

France's law No. 2017-399 of 27 March 2017 on the duty of care of parent companies and contracting companies requires the implementation of "reasonable vigilance measures to identify risks and prevent serious violations of Human Rights and fundamental freedoms, the health and safety of persons and the environment resulting from the activities of the company or those of the companies it controls, directly or indirectly, as well as the activities of subcontractors or suppliers with whom the company has an established business relationship, when such activities are related to this relationship".

Article L. 225-104-1 paragraph 4 of the French Commercial Code requires that the requisite vigilance measures be grouped together in a "duty of care" plan that contains the following:

1. A risk map to identify, analyse and prioritise risks (see section 5.7.3.2.1).
2. Procedures for regular assessment of the situation of subsidiaries, subcontractors or suppliers with whom the company has an established business relationship, in respect of the risk map (see section 5.7.3.2.2).
3. Appropriate measures to mitigate risks or prevent serious violations (see section 5.7.3.2.3).
4. A mechanism for issuing or collecting alerts on the existence or occurrence of risks (see section 5.7.3.2.4).
5. A system for monitoring the measures implemented and assessing their effectiveness (see section 5.7.3.2.4).

Thales formed an internal, multidisciplinary working group to define its duty of care plan, also drawing on the work of the industry-specific trade associations of which it is a member. (French Aerospace Industries Association, GIFAS).

5.7.3.2.1 Risk map related to the duty of care

Thales worked to identify risks that could potentially seriously violate Human Rights (child labour, forced or clandestine labour, wages below legal minimums, sexual harassment and/or violence in the workplace, failure to comply with the ILO's rules on the maximum number of work hours and/or rest, failure to comply with the principle of equal treatment at work, failure to respect employees' privacy), the health and safety of workers (lack of prevention or monitoring of serious work accidents, the lack of an emergency policy in the event of an accident in the workplace, the absence of a policy or monitoring of health and safety in the workplace), as well as the environment (significant pollution due to industrial activities, non-compliance with regulations on hazardous products).

The risk assessment was conducted based on the Thales operations described in section 5.2 and on the activities of its suppliers and subcontractors with which Thales maintains an established commercial relationship that could present a serious risk in each of the risk categories cited above (e.g., operations that pollute or are hazardous for human health or the environment, services related to the management of manufacturing sites, temporary or construction work, etc.) and at-risk countries identified using the external benchmarks of the Environmental Performance Index (EPI), the International Trade Union Confederation (ITUC), and the Global Slavery Index.

5.7.3.2.2 Procedures for regularly assessing the situation of subsidiaries, subcontractors or suppliers with which an established commercial relationship is maintained

The situation of Group subsidiaries whose activities could potentially seriously violate Human Rights, the health and safety of persons and the environment is evaluated using an internal control questionnaire, the Yearly Attestation Letter (YAL), which is sent out annually by the Audit, Risks & Internal Control Department to the Group's operating entities (108 questionnaires sent out in 2019). The YAL questionnaire was updated in 2019 to incorporate the risks covered by the duty of care law.

The situation of the suppliers and subcontractors with which Thales maintains an established commercial relationship whose activities could

potentially seriously impact the aforementioned areas is the subject of a preliminary, systematic and in-depth assessment by the Thales Purchasing Department supported by an expert service provider in this field. This assessment consists of responses to several detailed questionnaires prepared in collaboration with the International Aerospace Environmental Group and the French Aerospace Industries Association (GIFAS), the provision of supporting documents (Code of Ethics, compliance process for suppliers or subcontractors, etc.), and the collection and comparison of data by consulting specific external databases that allow for a more detailed estimate of the level of risk of serious violations of Human Rights and fundamental freedoms, the health and safety of persons and of the environment.

5.7.3.2.3 Description of the procedure and appropriate actions to mitigate risks or prevent serious harm

The duty of plan provides that the activities of Thales, its suppliers and subcontractors that present a risk of serious harm to Human Rights, the health and safety of persons and the environment are subject to specific and proportionate preventive and attenuation measures adapted to the level of risk identified.

The Thales activities covered by duty of care are the subject of prevention policies deployed by employees at the Group that are described in sections 5.4 (prevention of hygiene, health and safety risks in the workplace), 5.5 (prevention of environmental risks) and 5.6 (actions to promote Human Rights and fundamental freedoms).

The activities of its suppliers and subcontractors are covered by a specific process managed by the Thales Purchasing Department with the support of the Legal and Contracts Department and the Group's Department of Ethics, Integrity and Corporate Responsibility. Depending on the level of potential risk assessed, Thales may decide not to enter into a business relationship or to end a commercial relationship with a supplier or subcontractor, or set up an action plan designed to correct situations that might generate risks of serious impacts from the supplier

or subcontractor, including a) systematic signing of the Thales Integrity and Corporate Responsibility charter for Partners and Suppliers, inspired by the Code of Ethics of the International Forum on Business Ethical Conduct (IFBEC) developed by the primary European and American operators in aeronautics and defence, b) the adoption of specific contractual obligations, and c) site audits conducted by an external service provide or by the Thales Purchasing Department.

5.7.3.2.4 Mechanism for issuing and dealing with alerts

Thales reviewed its internal alert system to bring it into compliance with France's law No. 2016-1691 of 9 December 2016 on transparency, anti-corruption and economic modernisation and law No. 2017-399 of 27 March 2017 on the duty of care of parent companies and contracting companies.

This process led to the expansion of the alert system to receive all internal or external alerts falling within the scope of these laws.

The updated alert mechanism was presented to Thales's main representative trade unions in 2018.

5.7.3.2.5 Procedures for monitoring the measures of the duty of care plan

The measures in the duty of care plan are assessed through a report and the indicators described in sections 5.3, especially: rates of frequency and severity of workplace accidents, percentage of employees working at OHAS 18001, ISO 45001 and ISO 14001-certified sites, the number of suppliers that have signed the Procurement and Corporate Responsibility Charter (17,000 in 2019 versus 15,610 in 2018), the evaluation of supplier and subcontractor corporate responsibility performance, and changes in the number of alerts received via the Thales alert system in 2019 (34 in 2019 versus 15 in 2018).

5.7.4 Thales commitments to civil society

In 2019, Thales began to redefine its social commitment strategy in order to enhance its social impact and to better harness its resources and internal networks to achieve common goals.

At the end of its five-year mandate in June 2019, the Thales Corporate Foundation took stock of the actions undertaken since 2014.

In December 2019, Thales announced the launch of its Thales Solidarity programme and a new special endowment fund whose first projects will begin in 2020.

5.7.4.1 Impact assessment of the Thales Corporate Foundation

Starting in 2014, the Thales Foundation actively worked with civil society stakeholders to contribute to two major challenges: **education**, through science teaching and innovative teaching methods; and support to **humanitarian aid** professionals by helping to prevent the risk of natural and environmental disasters and prepare for intervention.

In those five years, the Foundation supported a total of 81 projects in 22 countries across the globe impacting nearly 200,000 people.

Various partnerships in 2019 to promote education and training

In 2019, the Foundation supported eight projects, by renewing particularly successful partnerships from previous years and by selecting two new digital training projects.

Four projects to promote education involved more than 1,000 children and teachers in France. They were aimed at strengthening student interest, curiosity, critical thinking and students' aptitude for science through projects mainly centred on digital technology but also the physical sciences and mathematics. These projects included:

- in the same vein as the project funded for Hôpital de Bullion in 2018, four new scientific experiment kits for physics, chemistry and life and earth science were created to allow more than 100 sick children hospitalised in three hospitals in the greater Paris region to apply the theoretical lessons given by volunteer teachers in experiments and to stay connected to their schooling;
- supported since 2018, the Declick 14's programme has been a fun way of introducing digital technology to secondary school students in priority education districts. 298 junior secondary school students from schools in Toulouse, the Essonne department and Paris participated in beginner programming workshops where they learned to design their own video games around the theme of "changing the world".

In India, the Beautiful Earth, Care It, Share It project in the district of Chamarajanagar was renewed: actions to raise awareness about sustainable development were aimed at 1,000 school children, who were encouraged to launch and make their own water and forestry resource conservation projects, for example by planting close to 2,000 tree saplings in 2019. This model encourages leadership and encourages the entire community to participate to achieve long-term results.

With respect to digital training, the Foundation funded three projects with the following results:

- in Togo, near the multimedia and e-learning centre opened in Niamtougou in 2017 thanks to the support of the Foundation, the Five Hearts charity built a training centre dedicated to fixing broken computers and teaching software development. 140 young people mentored by the charity will be trained in 2020;
- Bordeaux Mécènes Solidaires prototyped the Quartiers Numériques programme, which involves training neighbourhood charities to give them the expertise required to train the people they help on how to use digital devices and run workshops with the charities, companies and partners based in the region to raise awareness about jobs in the digital sector. For this pilot, five City of Bordeaux Policy neighbourhood charities were able to assess the levels of 98 vulnerable beneficiaries, 80% of whom were women, and arrange 135 training sessions;
- in Paris, from September to December 2019, the Digistart programme started by the charity Konexio trained 29 people from the city's priority neighbourhoods, 76% of whom were recent immigrants and 31% of whom were women. This 16-hour introductory module on programming basics helps learners develop skills in HTML, CSS and Javascript as well as interpersonal skills useful for their job searches. The module also provides participants with a better grasp of jobs in the digital sector, which gives them the motivation to continue taking more in-depth courses.

SPOTLIGHT: ALLIANCE TECH & EDUCATION

A joint undertaking created in May 2019 by Accenture, Airbus, Engie, IBM, Sanofi and Thales as part of President Macron's Tech for Good initiative, Alliance Tech & Education seeks to promote initiatives that make science and technology accessible to all. To maximise their impact across the country, these initiatives are shared and open to volunteers from the six partner companies. As part of this effort, Thales highlighted the *Savanturiers du Numérique et des Technologies* programme, supported by the Foundation since 2015. This research-based education model, supported by the French Centre for Interdisciplinary Research, combines scientific culture with rigorous teaching to introduce students and teachers to engineering methodology through research and bring scientific innovation to schools. The partnership with Thales and the enlistment of other companies are a means for broadening the scope in France and for prototyping projects to benefit the entire educational community while mobilising the company's engineer mentors who are responsible for steering class projects and helping to design teaching tools. Since 2015, more than 4,000 students and 160 teachers have been trained and have participated in these research-based educational projects with the support of more than 90 volunteer mentors from Thales.

5.7.4.2 Employees stepping up to tackle the challenges facing society

In five years, the Foundation benefited from the engagement of more than 350 employees who supported various projects by offering their skills, time and energy. In 2019, Thales continued to encourage its employees to take action by proposing volunteer assignments focused on supported projects, developing a salary rounding initiative, and launching an outreach leave programme.

Continuous support for charitable organisations thanks to salary rounding

Launched in May 2016, the salary rounding initiative, designed by the social outreach company microDON, allows every Thales employee in France to support a charitable project by donating the cents from their pay every month, with an optional additional donation of up to €10 per month. 100% of the employees' donations is paid to the charities after being matched by Thales.

In 2019, this innovative support tool set a new record: 5,145 employee micro-donors at the Group's French companies used the program to raise over €359,425 for seven charities

A major campaign was launched in March to raise employee awareness about what the charities did with their donations in 2018. In April, following the fire at the Notre-Dame Cathedral in Paris, the Group decided to add the French Fondation du Patrimoine to the list of beneficiary organisations. These two events led to a 28% increase in the number of employee donors in two months, the equivalent of nearly 1,200 new participants in the salary rounding programme.

Below is a selection of key results from some of the projects supported in 2019 thanks to Thales employee donations:

- 31,189 school kits, manufactured locally, were distributed to 165 schools by *Planète Urgence* in Benin, Cameroon, Togo and Madagascar, a 35% increase compared to 2018. One third of the donations to the charity also helped fund renovations and refurbishing upgrades at these schools as well as several innovative initiatives developed with local charities aimed at raising awareness about environmental protection among children;
- 475 primary and secondary school children, 54.5% of them girls, attended academic support classes over nine months at the school in Phnom Penh run by the *Pour Un Sourire d'Enfant* (For a Child's Smile) charity, which fights against school drop-out in Cambodia;
- 1,800 teachers and carers in France were trained to use the digital tools developed by *Le Cartable Fantastique* to promote the academic inclusion of children with developmental coordination disorder (DCD). 993 kits were distributed to French National Education inspectors and teachers;
- 3,041 people and 115 humanitarian organisations were able to use *Télécoms Sans Frontières* technologies to communicate and coordinate with each other following the three major storms that affected the Bahamas and Mozambique more severely in 2019;

Launch of an outreach leave programme

In 2019, the Foundation proposed a new method for employees to show their commitment to service by funding Congés Solidaires®. This programme, implemented in partnership with the *Planète Urgence* charity, rapidly attracted dozens of applicants and allowed five employees to use their leave period to go on a two-week international outreach mission during the first half of 2019. These volunteers were able to contribute their skills in IT training, project management, marketing and digital communications to local charities in Togo, Cameroon, India and Peru. Their efforts made it possible to offer a total of 200 training and coaching hours to 100 people in those countries.

5.7.4.3 Launch of the Thales Solidarity programme

In 2019, Thales redefined its social commitment strategy in order to coordinate the Group's outreach initiatives around shared priorities and criteria and increase their impact. This development is the logical continuation of the efforts of the Thales Foundation after five years of significant achievements.

This strategy is now organised under the Thales Solidarity programme and supports a societal mission aligned on the Group's *raison d'être*. **Because trust is an essential ingredient for any company to thrive, innovation must be accessible to the largest number of people. Thales is committed to putting its expertise and talents at the service of civil society to allow everyone to actively participate today in the decisive transformations of tomorrow.**

Therefore, the outreach initiatives supported throughout the Group are in line with three commitment priorities that put technology and innovation at the service of **education and professional integration, digital citizenship, and environmental protection.**

These themes are aligned with the Thales culture of a company of research scientists, engineers, technicians and technology enthusiasts for whom education and collective intelligence are essential drivers for improving the world around us. It is by sharing its expertise and its ability to understand the technological and digital world that Thales can make significant contributions in these areas.

Commitment at every level of the Group

Created in December 2019, the **Thales Solidarity Endowment Fund** will continue the work started by the Thales Foundation. This philanthropic fund is one of the pillars of the programme and a tool to fund and support high-impact projects and outreach initiatives at the Group level. It ensures that projects are feasible and that funds are used properly.

The Thales entities – sites, countries, and business units – support and take community action locally or in their fields to strengthen the Group's impact in the communities where it operates. These actions will be aligned with the three shared commitment priorities and criteria of the programme and are approved in accordance with the Group's Patronage and Sponsoring policy.

A **network of Thales Solidarity delegates** is in charge of launching and promoting the programme in the business units and countries. They will be assisted in 2020 by **local ambassadors** at each site who will be acting as special contacts for employees and local charities.

Lastly, employees are invited to contribute by proposing projects or volunteer missions and community outreach initiatives throughout the year on the **volunteer commitment platform** implemented with microDON, the social impact company.

5.7.4.4 Other examples of local engagement initiatives outside France

Companies in the Group also help local or national charities by providing financial or equipment support and asking employees to volunteer their time for charitable initiatives. Several projects are boosting Thales's contribution to education in science, technology, engineering and mathematics⁽¹⁾, while multiple employee initiatives are being carried out in the outreach sector, especially in health.

In Australia, Thales is continuing its partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO), which aims to get young people interested in science and technology. Classroom activities encourage pupils aged between 7 and 17 to develop scientific thinking, carry out investigative work and communicate effectively. Thanks to Thales's involvement, they gain a better understanding of the industrial world and of the importance of science and technology.

In 2019, Thales and Victorian Tech Schools set up a pilot programme to organise an inter-school challenge and encourage pupils aged between 14 and 16 to get involved in STEM studies. Four Tech Schools in Ballarat, Yarra Valley, Bendigo and Casey represented the schools in their region at the finals organised by Thales in Melbourne. In total, 90 pupils participated in the competition and 22 were selected in the finals.

In North America, Thales supports the innovative Technovation Challenge programme, an international competition for girls aged between 10 and 18 designed to develop their skills in innovation and leadership. Supported by mentors, the teams learn to write code and design mobile apps to solve a problem in their community. The Thales teams at the Irvine, San Jose, Toronto, Montreal and Ottawa sites hosted regional pitches for the competition, which brought together nearly 1,000 people including 300 young girls. In total, 70 Thales employees participated as mentors or judges to support the teams.

At various Thales sites in the United States and Canada, employees participated in numerous fund-raising and local outreach initiatives to support underprivileged families or to promote health. At Canadian sites in particular, these fund-raising events helped raise more than \$52,000 for United Ways to fight local poverty.

Thales UK has developed a science education programme and trained more than 200 employees to become "STEM Ambassadors" and organise activities in more than 45 primary and middle schools, such as challenges in robotics and computer programming. By supporting the Primary Engineers programme, Thales UK has also helped to train 25 educators in STEM teaching and organised 30 sessions with around 200 students.

The charitable activities organised by Thales employees and donations from the company helped to raise more than €121,000 in 2019 for the charity of the year, the British Heart Foundation, whose goal is to furnish schools with CPR kits and train students in first aid.

Other countries

In China, as part of a partnership set up four years ago with the Shanghai Cedar Charity Foundation, 12 students from remote or disadvantaged areas were given support for their personal and professional development through workshops and organised tours of Thales.

In India, Thales funded the tuition of 80 young children in the Gurugram region and offered scholarships to four students selected for a master's programme at a top French university. Several volunteer actions brought together more than 100 employees to help the elderly and for actions linked to environmental protection.

Thales **Singapore** renewed its partnership with Passerelles numériques, an organisation which helps underprivileged young people in Cambodia, the Philippines and Vietnam access qualified jobs in the new technology segment. Through this partnership, Thales funded the education of 25 students for two years until they achieved their IT diploma, in addition to outreach leave assignments for employees wishing to offer their skills to the organisation.

In Mexico, for the second consecutive year, Laboratoria received funding from Thales that enabled several economically disadvantaged women to take an IT developer training programme and find a job quickly.

In Brazil, Thales financially supports the Pequeno Príncipe Hospital to put on performances for sick children and the Umberto Scarpa Foundation, which proposes different activities to underprivileged children.

In Europe: France, Germany, Spain, Italy

Numerous local outreach actions have brought together employees around fund-raising activities and initiatives in schools or for charities in the health sector. Examples include:

In France, partnerships with Fondation FACE and the *Arbre des Connaissances* (Tree of Knowledge) charity allowed several employees from the Chatou, Elancourt and Palaiseau sites to mentor approximately twenty motivated middle school and secondary school pupils in need. They offered the pupils insight into the corporate world or helped them build science projects.

In Germany, the NGO Mukoviszidose e.V. received financial support from Thales and the proceeds from a community race that brought together more than 100 Thales participants.

In Spain, more than 80 secondary school students near Thales facilities as well as 160 children of employees attended presentations on Thales's technological activities given by employees.

In Italy, several fund-raising events were organised by employees to benefit charitable organisations working on health research (multiple sclerosis, leukaemia, and spinal muscular atrophy).

5.7.4.5 Community outreach through teaching and research chairs

Creation of a Responsible Digital Identity chair

In 2019, Thales teamed up with Télécom ParisTech to create an international research chair on Responsible Digital Identity whose first research theme will focus on issues of trust in digital identity. Identity is central to the challenges of the digital world. It is also one of Thales's areas of expertise. By supporting this chair focused on the human and sociological aspects of digital identity, Thales would like to contribute to a holistic and forward-looking discussion beyond purely technological aspects.

Chair of Major Contemporary Strategic Issues

Developed in partnership with Université Paris Sorbonne and the Saint-Cyr Military Academy, the primary goal of the Major Contemporary Strategic Issues Chair is to make the students of these institutions aware of current and future geopolitical changes. The role of the chair is to make it easier to invite international experts by organising conferences and lectures that are also open to the public.

Chair of Defence Economics

Hosted by the IHEDN endowment fund and headed by a professor of economics from the University of Bordeaux, the purpose of this chair is to study the economic impact of the defence segment with the goal of conducting scientific studies and organising lectures on the subject.

Defence and Aerospace Chair

Created at the Bordeaux Institute of Political Studies, this chair has given itself the mission of making university students aware of the political and economic challenges of the defence segment by drafting scientific articles and organising summer schools.

5.7.5 Other Group community initiatives

The Group's strong commitments, formalised in its Code of Ethics, attest to its desire to act responsibly. Certain initiatives undertaken by Thales in connection with its corporate responsibility policy target stakeholders other than its own employees.

The Group's regional policies in France

Thales's regional policies involve the company in local economic and community life, benefiting all concerned. The Group's regional policy relies on the quality of its relations with economic, social and academic players and local institutions and communities.

The policy is based on knowledge of each of Thales's local labour pools and the key players. It has three priority focus areas:

- skills maintenance and development;
- integration of young people into the workplace, education and training;
- co-development of the industrial fabric and open innovation.

The Group agreement to promote professional development and employment through proactive initiatives, renewed for the third time on 24 April 2019, actively supports local action by creating a Commission on regional initiatives and relying on a Group Anticipation representative, as part of a joint framework, to coordinate the Thales Regional Initiatives community and monitor regional action.

In France, Thales has thus created nine labour pools in order to better coordinate its action. In each labour pool, regional initiatives are coordinated by a facilitator.

The "Territorialité – Mode d'Emploi" brochure, published in 2018 for all Thales employees and managers in France, clearly describes and illustrates the Group's approach to regional policies, which contribute to its CSR policy.

Thales in France also makes use of a dedicated local economic development company, Gêris Consultants, which, in collaboration with the Anticipation representative, assists with the roll-out of the Group agreement, specifically by providing institutional and economic advice, leading the network of 10 Thales "Engineers for Schools" at educational authorities in the Group's host cities, and helping Group employees take over or start a business (80 new projects in 2019).

Gêris Consultants also conducts HR engineering experiments to develop the performance and skills of Thales's suppliers and more generally of SMEs/SMIs in its labour pools, to support the professional development of employees from large companies, and to facilitate the integration of young people into the local industrial fabric.

The inter-company *Pass'Compétences* outreach initiative is designed to stimulate SME development by assigning them expert employee volunteers from large companies (Thales, Nokia, Schneider Electric, etc.) for pivotal assignments lasting between 12 and 18 months. Forty-one employees have been made available for this initiative since 2012.

In 2019, another Thales employee was made available and Gêris Consultants published feedback on the seven years of *Pass'Compétences* in the form of a white paper.

In addition, G ris Consultants, in partnership with Thales's HR teams, supports the professional integration of work-study employees by:

- promoting the "Shared Learning Path" initiative;
- inviting SMEs that are hiring (13 SMEs invited, 8 of which were given a booth, presented more than 53 job offers in 2019) at the annual Thales Talent Day forum held at the Centrale-Sup lec campus in Palaiseau;
- organising the participation of students on work-study programmes at Thales – and also awarding the innovation prize of €5,000 – in the Altern'Up competition held by the FIPA foundation.

G ris Consultants also shares its expertise with large companies and local authorities in order to provide assistance, in the form of advice and innovative financial engineering, to SMEs and SMLs that create long-term positions in regions impacted by the loss of industrial jobs. The revitalisation projects led by G ris Consultants since 2009 have led to the creation of more than 5,250 jobs in France (including more than 300 in 2019) at approximately 900 SMEs and SMLs.

5.8 METHODOLOGICAL NOTES

5.8.1 Human resources data

Social reporting method

The human resources data section of the Universal Registration Document provides detailed information on social data, the social policies implemented, and practices and action that fall within the Group's corporate social responsibility, and their impacts. It reflects Thales's international dimension. The information it contains reflects the position of the Thales Group at 31 December 2019.

Organisation and methodology

In 2019, information was reported through the WorkDay digital platform for Thales Group entities (excluding DIS entities) and through the Go HR tool for DIS entities. These two tools allow for reliable centralised information reporting. The country Human Resources Directors were previously encouraged to verify that the data in the local payroll systems or in their local WorkDay tool were accurate and updated. The information contained in this Universal Registration Document was subsequently retrieved centrally. The country Human Resource Directors of all Group entities complete a qualitative and quantitative questionnaire covering indicators that, while satisfying current legislative requirements, are also based on the indicators proposed by the Global Reporting Initiative⁽¹⁾ or negotiated with social partners, particularly at European level. Since some companies joined the group in 2019 or were not included in the WorkDay tool, a quantitative and qualitative questionnaire comprising all the indicators printed in this document was sent to the Human Resources Directors/HR correspondents of the entities or countries, as appropriate.

All the data sent are consolidated by the Group HR Department, which checks for consistency before drafting the Universal Registration Document.

Scope

The definition of the companies taken into account for the purposes of preparing the social report and the Universal Registration Document was not modified this year and is in accordance with IFRS 10 and 11 on financial consolidation. The workforce under Group management as at 31 December 2019 thus includes only the workforce of companies controlled by Thales pursuant to Article L. 233-3 of the French Commercial Code, as well as companies meeting those criteria but below the threshold for financial consolidation.

In 2019, the Group's scope of consolidation expanded considerably with the integration of all Gemalto entities meeting the rules described above. There were also slight changes due to acquisitions and disposals⁽²⁾.

Moreover, the scope of the social report is specified for each figure: for greater transparency, the percentage of employees covered is stated for all responses. For each item of quantitative data, the table of scope of verification of quantitative data provides the percentage of the workforce covered.

Details

- Workforce under Group management as included in the Universal Registration Document comprises all employees in each country, regardless of their contract type (open-ended, short-term or full-or part-time). It does not take into account apprenticeships or vocational training contracts (however, the number of these types of contracts entered into is given in the recruitment section), employees on unpaid leave, employees on sick leave (of over three months), employees on parental leave, or employees on unworked notice periods as at 31 December of the year in question.
- As from financial year 2019, employees on maternity leave and employees whose last day of work was 31 December of the year in question are counted as active employees.

(1) The Global Reporting Initiative (GRI) is a non-profit organisation that has developed a shared framework for drafting sustainability reports. Founded in 1997, the GRI published an initial version of its guidelines in 1999. Companies' adherence to these guidelines is completely voluntary.

(2) In France : Ecom Engineering Reseaux Communications, Suneris Solutions, Crystal; in Denmark : CUBRIS.

- The total number of new hires includes the work-study contracts entered into in 2019 but does not include the conversion of short-term employment contracts or apprenticeship contracts into open-ended employment contracts during the year. Nor does it include the conclusion of internship contracts, International Business Volunteer (VIE) agreements or CIFRE Research Training Fellowships or the transition from active to inactive employee status or vice versa.
- The total number of departures includes resignations, redundancies (for economic reasons or personal reasons), mutually agreed contract terminations, retirements, deaths and other types of termination, as well as expiries of short-term employment contracts.
- The number of non-French employees and expatriates in French teams takes into account non-French employees, working in France with a French contract or in a situation of international mobility in France.
- For calculating the percentage of Management Committees (CODIRS) with at least three female members, the figure includes Corporate Management Committees, GBUs, major countries, the DEOs (Europe & International Operations Departments), DGDs (International Development Departments), and Business Lines.
- The percentage of women in top positions measures the percentage of women in grade 10 to 12 positions relative to the total number of employees in positions at the same level.
- Data relating to absenteeism and rates of frequency and severity of accidents at work are calculated according to a number of days theoretically worked in a country and based on active headcount and paid inactive employees (employees on unpaid leave due to

long-term illness do not fall within the scope of calculation of this indicator). These figures have been obtained by reconciling data entered in the HR and Environment Departments' reporting tools.

- The overall absenteeism rate corresponds to the percentage of days lost for any reason, work-related or otherwise, relative to the number of days theoretically worked in the various countries. Authorised absences such as annual leave, studies, parental leave or time off for family events are excluded. Leave for which the employee is no longer paid by Thales is also excluded.
- The total rate of absenteeism in France, calculated in accordance with the social report, corresponds to the percentage of days lost for any reason, work-related or otherwise, relative to the number of days theoretically worked. It includes authorised leave, parental leave and leave for family events. By contrast, leave for which the employee is no longer paid by Thales is excluded.
- The frequency rate is the number of lost-time accidents at work over the course of the year, multiplied by 1,000,000 and divided by the number of hours theoretically worked during the year.
- The severity rate is the number of days lost due to accidents at work, multiplied by 1,000 and divided by the number of hours theoretically worked during the year.
- The employment rate for workers with disabilities corresponds to the overall number of beneficiaries (disabled workers and use of subcontracting from the social enterprise sector) as reported in the Mandatory Declaration on the Employment of Disabled Workers.

5.8.2 Environmental data

Scope of consolidation

The scope of consolidation of environmental data is based on the financial consolidation scope. However, due to restricted activity and/or workforce or the absence of operational control by Thales, certain establishments have not been included.

For this report, the 2019 indicators are provided on a comparable basis with 2018.

Only companies meeting the following criteria are included:

Equity interest and operational control

- Thales equity interest of 50% or more;
- Thales exercises operational control over the company.

Subsidiaries and joint ventures not meeting the above criteria are not included in Thales's environmental reporting.

Activity/workforce

- "establishment/site" carrying out an activity covered by Operating Model 4, regardless of headcount;
- "establishment/site" carrying out an activity covered by Operating Model 3, with a headcount of more than 50;
- "establishment/site" carrying out an activity covered by Operating Model 2, with a headcount of more than 100.

The instruction "Definition of HSE Management System levels" provides details of the operating model levels (classified according to type of activity: industrial, semi-industrial, tertiary).

Changes to the scope of consolidation

- Disposals/acquisitions: company to be included as soon as one full calendar year has elapsed and if the company meets the scope selection criteria.
- New business: company to be included as soon as one full calendar year has elapsed and if the company meets the scope selection criteria.
- Inter-site transfers: data taken into account in the reporting:
 - of the departure site from 1 January Y to the date of transfer,
 - of the arrival site from the date of transfer to 31 December Y.
- Intra-Group merger: integration of data for the absorbed entity for the period from 1 January Y to the date of absorption into the data of the absorbing entity.

Reporting procedure

The Group-wide reporting system includes an environmental reporting procedure with instructions for each successive stage of data entry, validation and consolidation. It also defines the roles of each person involved and promotes the recording of data (traceability, archiving, etc.).

Indicators

Environmental concerns change over time. Environmental performance indicators therefore have to evolve to remain aligned with developments and reflect the Group's policy priorities. Different interpretations of certain indicators can lead to conflicting data from different countries. Thales is therefore adapting the indicators to make the environmental reporting system more efficient, building on lessons learned from previous years and refocusing the reporting effort on current and future environmental concerns. The indicators are described in the reporting tool. Information is also available on the calculation of the carbon footprint.

Reporting tool

An environmental reporting and management tool for the entire scope of consolidation of the Thales group is available on the corporate intranet. This tool consolidates the data from each entity, country and geographic area, and for the Group as a whole. It checks data consistency and suggests country-specific units of measurement, conversion factors, etc. The same tool provides access to the rules for data entry, validation and consolidation defined in the reporting procedure.

Analysis of performance

For easier analysis of results, the Group reporting system incorporates the following principles:

- changes in scope specifically related to disposals and acquisitions. For each family of indicators, a gross figure is given (e.g., water consumption in cubic metres) and a ratio supplements the information to account for changes in scope (e.g., water consumption per person);
- Group targets are set for a given period. During that period:
 - changes in performance are assessed on a like-for-like basis (i.e. at constant scope of consolidation),
 - coefficients such as emission factors for CO₂ emissions are constant;
- with respect to former Gemalto sites, the 2018 data were obtained from extrapolating 2019 values (for sites included in the 2019 Group reporting scope), since the benchmark for the Gemalto indicators in 2018 was incomplete and the Gemalto sites that met the Thales reporting criteria did not all report in 2018;
- if emission factors are modified at the start of a new period, the performance data for the reference year are recalculated using the new coefficients;
- the principles and methods for reporting data are described in the methodological guides to environmental reporting and calculation of CO₂ emissions, which are available in the Group reporting system.

5.9 REPORT BY THE INDEPENDENT THIRD PARTY ON THE CONSOLIDATED NON-FINANCIAL STATEMENT

This is a free translation into English of the independent third party's report issued in French and is provided solely for the convenience of English speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

To the shareholders

In our capacity as independent third party, accredited by COFRAC number 3-1058 (scope available at www.cofrac.fr), and member of the Mazars network of one of the company's Statutory auditors, we hereby report to you on the non-financial statement for the year ended 2019 (hereinafter the "Statement"), included in the management report pursuant to the requirements of articles L. 225-102-1, R. 225-105 and R. 225-105-1 of the French Commercial Code (*Code de commerce*).

The entity's responsibility

The Board of Directors is responsible for preparing the Statement, including a presentation of the business model, a description of the principal non-financial risks, a presentation of the policies implemented considering those risks and the outcomes of said policies, including key performance indicators.

The Statement has been prepared in accordance with the entity's procedures (hereinafter the "Guidelines"), the main elements of which are presented in the Statement and are available on request at the company's headquarters.

Independence and quality control

Our independence is defined by the requirements of Article L. 822-11-3 of the French Commercial Code and the French Code of Ethics (*Code de déontologie*) of our profession. In addition, we have implemented a system of quality control including documented policies and procedures regarding compliance with applicable legal and regulatory requirements, the ethical requirements and French professional guidance.

Responsibility of the independent third party

On the basis of our work, our responsibility is to provide a report expressing a limited assurance conclusion on:

- the compliance of the Statement with the requirements of Article R. 225-105 of the French Commercial Code;
- the fairness of the information provided in accordance with Article R. 225-105 I, 3° and II of the French Commercial Code, i.e., the outcomes, including key performance indicators, and the measures implemented considering the principal risks (hereinafter the "Information").

However, it is not our responsibility to comment on the entity's compliance with other applicable legal and regulatory requirements, in particular the French duty of care law and anti-corruption and tax avoidance legislation nor on the compliance of products and services with the applicable regulations.

Nature and scope of our work

The work described below was performed in accordance with the provisions of articles A. 225-1 *et seq.* of the French Commercial Code, as well as with the professional guidance of the French Institute of Statutory auditors ("CNCC") applicable to such engagements:

- we obtained an understanding of all the consolidated entities' activities and the description of the principal risks associated;
- we assessed the suitability of the criteria of the Guidelines with respect to their relevance, completeness, reliability, neutrality and understandability, with due consideration of industry best practices, where appropriate;
- we verified that the Statement includes each category of social and environmental information set out in Article L. 225-102-1 III as well as information regarding compliance with Human Rights and anti-corruption and tax avoidance legislation;
- we verified that the Statement provides the information required under Article R. 225-105 II of the French Commercial Code, where relevant with respect to the principal risks, and includes, where applicable, an explanation for the absence of the information required under Article L. 225-102-1 III, paragraph 2 of the French Commercial Code;
- we verified that the Statement presents the business model and a description of principal risks associated with all the consolidated entities' activities, including where relevant and proportionate, the risks associated with their business relationships, their products or services, as well as their policies, measures and the outcomes thereof, including key performance indicators associated to the principal risks;
- we referred to documentary sources and conducted interviews to:
 - assess the process used to identify and confirm the principal risks as well as the consistency of the outcomes, including the key performance indicators used, with respect to the principal risks and the policies presented, and
 - corroborate the qualitative information (measures and outcomes) that we considered to be the most important presented in Appendix 1; concerning the risk of environmental standards non-anticipation regarding product design, our work was carried out on the consolidating entity, for the others risks, our work was carried out on the consolidating entity and on a selection of entities⁽¹⁾;
- we verified that the Statement covers the scope of consolidation, i.e. all the consolidated entities in accordance with Article L. 233-16 of the French Commercial Code within the limitations set out in the Statement, paragraph "5.8 Methodological Notes";
- we obtained an understanding of internal control and risk management procedures the entity has put in place and assessed the data collection process to ensure the completeness and fairness of the Information;

(1) **Social information:** the legal entities of Thales France and Thales - DIS Finland.

HSE Information: Thales Land Australia (Mulwala), Thales Alenia Space (Turin), Thales Nederlands B.V. (Hengelo), Thales Deutschland GmbH (MLS) (Ditzingen), Trixell Moirans, TED Moirans, Thales UK Crawley Hub, Thales Alenia Space UK (Bristol), DIS - Gemenos, sub-consolidation: Netherlands

Societal Information: Corporate Responsibility Department, Legal Department, Purchasing Department.

- for the key performance indicators and other quantitative outcomes that we considered to be the most important presented in Appendix 1, we implemented:
 - analytical procedures to verify the proper consolidation of the data collected and the consistency of any changes in those data;
 - tests of details, using sampling techniques, in order to verify the proper application of the definitions and procedures and reconcile the data with the supporting documents. This work was carried out on a selection of contributing entities and covers between 9% and 100% of the consolidated data relating to the key performance indicators and outcomes selected for these tests⁽¹⁾;
- we assessed the overall consistency of the Statement based on our knowledge of the all the consolidated entities.

We believe that the work carried out, based on our professional judgement, is sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures.

Means and resources

Our work was carried out by a team of 12 people between October 2019 and February and took a total of 15 weeks.

We conducted around 10 interviews with the people responsible for preparing the Statement, representing CSR, Audit and Risk, Legal, Human Resources, HSE and Purchasing directions.

Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the non-financial statement is not presented in accordance with the applicable regulatory requirements and that the Information, taken as a whole, is not presented fairly in accordance with the Guidelines, in all material respects.

Paris-La Défense, 25 february 2020

The Independent Third-Party

Mazars SAS

Grégory Derouet
Partner

Edwige REY
CSR & Sustainable development Partner

Appendix 1: information considered to be the most important

Qualitative information (actions and results) on key risks

- Diversity and inclusiveness.
- Occupational health and safety.
- Environmental impacts related to the Group's activities;
- Environmental standards non-anticipation regarding product design.
- Compliance with business ethics rules (including anti-corruption and bribery).
- Vigilance on suppliers' compliance with corporate responsibility issues.

Quantitative indicators including key performance indicators

Social indicators

- Total headcount.
- Absenteeism rate.
- Percentage of departures by resignation.
- Hiring percentage of women.
- Percentage of women in the highest responsibilities; percentage of Executive Committees with at least 3 women.
- Average number of hours of training per employee in the Group.

HSE indicators

- Energy intensity (CO₂/hours worked).
- Reducing CO₂ emissions (scope 1 and 2) in tCO₂/M€ in turnover.
- Non-hazardous waste recycling rate.
- Frequency rate of work-related accidents (Thales employees) and severity rate.
- Percentage of employees working on ISO 14001 certified sites.
- Percentage of employees working on an OHSAS 18001/ISO 45001 certified site.
- Rate of Product Line Architects and Product Line Managers trained or raised awareness of eco-design.

Societal indicators

- Number of operational entities that have conducted a corruption risk assessment.
- Number of alerts related to corruption issues.
- Number of people trained regarding corruption.
- Suppliers performance in terms of corporate responsibility.

COMPANY AND SHARE CAPITAL



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6.1 GENERAL INFORMATION ABOUT THE COMPANY

Company name

Thales

Legal structure

Thales is a public limited company with a Board of Directors. It is governed by French law, particularly the French Commercial Code and certain provisions of the amended law on privatisation of 6 August 1986, since the French State owns more than 20% of the share capital.

Registered office

Tour Carpe Diem – Place des Corolles – Esplanade Nord – 92400 Courbevoie – France. Telephone: +33 (0)1 57 77 80 00.

Registration

No. 552 059 024 in the Nanterre Register of Trade and Companies; APE business identifier code: 7010 Z. Legal Entity Identifier (LEI): 529900FNDVTQJOWPZ19.

Term

Initially incorporated on 11 February 1918 for 99 years, the Company's term was extended by the Annual General Meeting of 24 May 2013. The expiry date is now set at 23 May 2112.

Corporate purpose

The corporate purpose is, directly or indirectly, in all countries:

1. the design, construction, installation, maintenance, operation, manufacture, purchase, sale, exchange, supply or hire of all equipment, tools, stations, appliances, finished or semi-finished products, materials, substances, components, systems, devices, processes and, in general, all products relating to electronic applications in any domain.

For this purpose, the registration, purchase, sale, exchange, supply, concession or use of all business and manufacturing patents, licences and trademarks;

2. the research, obtaining, acquisition, disposal, exchange, supply, hire or use of all concessions or undertakings, whether private or public, training of staff, and the provision of all services pertaining thereto;
3. the formation of any company or association, or investment in any form whatsoever in any company or undertaking, having a similar or related purpose to that of the Company;
4. and in general, all commercial, industrial, financial and movable or immovable property transactions that relate directly or indirectly to the aforementioned activities.

Financial year

The Company's financial year covers a period of 12 calendar months from 1 January to 31 December.

Corporate documents and information about the Company can be consulted at the Group Secretary and General Counsel's office at the Company's registered office.

Distribution of profits as per the articles of association

Profits are distributed in compliance with current legislation. Under the Articles of Association, the Annual General Meeting called to approve the financial statements for the previous financial year is empowered to grant each shareholder the option to receive payment of all or part of the dividend distributed either in cash or in shares.

Notifications concerning the crossing of statutory thresholds

Any natural person or legal entity owning a number of shares equal to or exceeding 1% of the share capital (but not voting rights), or any multiple thereof, is required to inform the Company of the total number of shares held within five trading days of the date on which this threshold is exceeded.

This obligation to inform the Company applies, under the same conditions, when the number of shares held falls below one of the thresholds mentioned in the previous paragraph.

In the event of failure to comply with this obligation, the shareholder shall be deprived of the voting rights attached to any shares exceeding the first undeclared threshold, subject to the conditions and limitations defined by law.

As part of its regulated information, every month, the Company publishes on its website the number of shares comprising the capital and the total number of voting rights attached – based on all threshold excesses (statutory and legal).

Annual General Meeting: notice of meetings and conditions for attendance, double voting rights and exercise of voting rights

Information on these sections can be found in Chapter 4, Governance and compensation, section 4.2.7.

6.2 SHARE CAPITAL AND SHAREHOLDERS

6.2.1 Information on the distribution of capital issued

At 31 December 2019, the share capital stood at €639,952,518, divided into 213,317,506 shares with a par value of €3 each.

Pursuant to the applicable regulations, each month the Company publishes on its website (www.thalesgroup.com), the information pertaining to the total number of voting rights (theoretical and exercisable) and the number of shares making up the share capital, and forwards this information to the news distribution service.

Changes in share capital and shareholders' rights are governed by the applicable laws.

Shares in the Company may be held in either registered or bearer form, at the shareholder's discretion. The share register is kept on behalf of the Company by Société Générale (Securities Services – 32, rue du Champ-de-Tir – BP 81236 – 44312 Nantes CEDEX – France).

The share capital is fully paid up. It includes a golden share resulting from the conversion of an ordinary share belonging to the French State, as decided by decree No. 97-190 of 4 March 1997, implementing the law on privatisation of 6 August 1986 (see page 169).

6.2.1.1 Changes in the share capital over the last five financial years

Date	Type of transaction	Acquisition, issue and merger premiums (€)	Number of shares created	Nominal amount of the changes in capital	Amount of share capital (€)	Aggregate number of shares making up the capital (€)
31 December 2014		3,889,876,836			623,523,333	207,841,111
Financial year 2015	Exercise of stock subscription options	105,567,702	3,120,293	9,360,879		
31 December 2015		3,995,444,538			632,884,212	210,961,404
Financial year 2016	Exercise of stock subscription options	41,484,459	1,233,362	3,700,086		
31 December 2016		4,036,928,997			636,584,298	212,194,766
Financial year 2017	Exercise of stock subscription options	16,276,572	463,959	1,391,877		
31 December 2017		4,053,205,569			637,976,175	212,658,725
Financial year 2018	Exercise of stock subscription options	14,940,842	445,356	1,336,068		
31 December 2018		4,068,146,411			639,312,243	213,104,081
Financial year 2019	Exercise of stock subscription options	6,192,050	213,425	640,275		
31 DECEMBER 2019		4,074,338,461			639,952,518	213,317,506

6.2.1.2 Changes in the distribution of capital and voting rights over the last three financial years

At 31 December 2019, the total number of exercisable voting rights was 314,237,765. This includes double voting rights attached to shares that have been registered for at least two years under the conditions set out in the Articles of Association (see section 4.2.7).

As previously mentioned, the number of shares and voting rights (theoretical and exercisable) is published monthly on the Company's website (www.thalesgroup.com, under "Investor/Publications/Regulated information").

	31 December 2019			31 December 2018			31 December 2017		
	Number of shares	% of share capital	% of voting rights	Number of shares	% of share capital	% of voting rights	Number of shares	% of share capital	% of voting rights
TSA ^(a)	54,786,654	25.68%	34.87%	54,786,654	25.71%	35.68%	54,786,654	25.76%	35.75%
French State (including 1 golden share)	2,060	—	—	2,060	—	—	2,060	—	—
Public Sector ^(a)	54,788,714	25.68%	34.87%	54,788,714	25.71%	35.68%	54,788,714	25.76%	35.75%
Dassault Aviation ^(b)	52,531,431	24.63%	29.81%	52,531,431	24.65%	28.39%	52,531,431	24.70%	28.44%
Thales	560,866	0.26%	—	648,295	0.30%	—	568,739	0.27%	—
Employees	6,183,434	2.90%	3.58%	5,575,167	2.62%	3.37%	6,181,444	2.91%	3.50%
Other shareholders	99,253,061	46.53%	31.74%	99,560,474	46.72%	32.56%	98,588,397	46.36%	32.31%
TOTAL	213,317,506	100%	100%	213,104,081	100%	100%	212,658,725	100%	100%

(a) Under the terms of the shareholders' agreement with Dassault Aviation (the "Industrial Partner"), the "Public Sector" (the French State) is represented by TSA, excluding the French State directly. Since 29 January 2018, public institution EPIC Bpifrance has held all TSA capital apart from one preferred share that is held by the French State. EPIC Bpifrance and the French State have also agreed to consult with TSA under the terms and conditions described in AMF Notice No. 218C0137 of 16 January 2018. All Thales shares held directly and indirectly by the French State have been in directly registered form for more than two years and thus have a double voting right on 31 December 2019.

(b) As at 31 December 2019, Dassault Aviation held 42,154,349 shares in directly registered form, including 41,154,349 for more than two years, thus granting it double voting rights, and also held 10,377,082 shares in bearer form.

6.2.1.3 Major changes in share ownership over the last five years

During 2015, the number of treasury shares was reduced due to the following transactions:

- 807,144 shares were purchased under a liquidity contract;
- 822,144 shares were sold under a liquidity contract;
- 535,532 shares were assigned as free shares;
- 29,350 shares were assigned under an allocation of stock options;
- 457,596 shares were sold to employees as part of the 2015 employee shareholding scheme.

Treasury shares thus represented 0.4% of the capital, i.e. 839,254 shares, at 31 December 2015.

During 2016, the number of treasury shares was reduced due to the following transactions:

- 575,000 shares were purchased on the market;
- 513,001 shares were purchased under a liquidity contract;
- 472,001 shares were sold under a liquidity contract;
- 607,381 shares were assigned as free shares;
- 56,600 shares were assigned under an allocation of stock options;
- 41,714 shares were sold to English employees as part of the 2015 employee shareholding scheme.

Treasury shares thus represented 0.35% of the capital, i.e. 749,559 shares, at 31 December 2016.

During 2017, the number of treasury shares was reduced due to the following transactions:

- 852,000 shares were purchased on the market;
- 819,512 shares were purchased under a liquidity contract;
- 743,512 shares were sold under a liquidity contract;
- 606,653 shares were assigned as free shares;
- 40,000 shares were assigned under an allocation of stock options;
- 462,167 shares were sold to employees as part of the 2017 employee shareholding scheme.

Treasury shares thus represented 0.27% of the capital, i.e. 568,739 shares, at 31 December 2017.

During 2018, the number of treasury shares increased due to the following transactions:

- 220,000 shares were purchased on the market;
- 838,402 shares were purchased under a liquidity contract;
- 702,128 shares were sold under a liquidity contract;
- 238,750 shares were assigned as free shares;
- 850 shares were assigned under an allocation of stock options;
- 37,118 shares were sold to employees as part of the balance of the 2017 employee shareholding scheme.

Treasury shares thus represented 0.30% of the capital, i.e. 648,295 shares, at 31 December 2018.

During 2019, the number of treasury shares increased due to the following transactions:

- 730,000 shares were purchased on the market;
- 906,402 shares were purchased under a liquidity contract;
- 993,676 shares were sold under a liquidity contract;
- 223,640 shares were assigned as free shares;
- 506,515 shares were sold to employees as part of the 2019 employee shareholding scheme.

Treasury shares thus represented 0.26% of the capital, i.e. 560,866 shares, at 31 December 2019.

6.2.2 Potential capital

6.2.2.1 Maximum potential capital at 31 December 2019

	In number of shares with par value of €3
Share capital at 31/12/2019	213,317,506
Current stock option plans	93,803
Of which 23 September 2010 plan: 39,200 options at €26.34	
Of which 15 September 2011 plan: 54,603 options at €26.34	
Maximum potential capital (+ 0.04%)	213,411,309

6.2.2.2 Outstanding securities giving access to share capital (bonds, warrants and options)

At 31 December 2019, excluding the exercise of stock options, if any, there were no other outstanding securities giving immediate or future access to the share capital.

For convenience, even though they have no impact on the potential capital since they involve existing shares, share purchase options have been presented with stock subscription options in Note 15 to the financial statements of the parent company.

Share purchase and stock subscription options

At 31 December 2019, a total of 93,803 stock subscription options were outstanding at a weighted average exercise price of €26.34, of which 93,803 are subject to performance conditions.

All share purchase option plans have reached maturity.

Thales decided to stop granting options in 2012.

➤ SHARE SUBSCRIPTION OPTIONS

Date of Board decision	15/09/2011	23/09/2010
Discount at grant	Nil	Nil
Performance conditions	Yes	Yes
Exercise period	from 15/09/2015 to 14/09/2021	from 23/09/2014 to 22/09/2020
Exercise price	€26.34	€26.34
NUMBER OF OPTIONS OUTSTANDING AT 31/12/2019, NET OF OPTIONS CANCELLED ^(a) AND EXERCISED	54,603	39,200
Of which exercisable options at 31/12/2019	54,603	39,200
Of which outstanding options at 31/12/2019 held by:		
• the Chairman & Chief Executive Officer, Patrice Caine ^(b)	1,538	1,900
• the other members of the Executive Committee	—	—
NUMBER OF BENEFICIARIES OF OUTSTANDING OPTIONS	25	16
Of whom members of the Executive Committee (excluding the Chairman & Chief Executive Officer) at 31/12/2019	—	—
Total grant to top ten beneficiaries (at plan date)	124,000	161,500

(a) Primarily because of the termination of the employment contract between the beneficiary and the Group since the grant date or because of cancellation related to partial or complete failure to achieve the performance conditions.

(b) Grant prior to his appointment as Chief Executive Officer.

Conditions of exercise

All Thales share subscription options are granted for a 10-year period, at no discount to the market price.

Share subscription options may be exercised in full.

The options granted on 15 September 2011 were contingent upon the achievement of internal performance conditions over the three financial

years following their grant date. The three criteria used were EBIT, operating cash flow and order intake, with these criteria having a weighting of 60%, 25% and 15% respectively.

The rights were validated in one-third tranches at the Board of Directors' meetings to close the accounts for the three financial years concerned, resulting in the validation of 80.90% of the options granted.

➤ RECAP ON PERFORMANCE CONDITIONS FOR EXISTING PLANS

Option plans subject to performance conditions	Validation of the 1st tier of the award		Validation of the 2nd tier of the award		Validation of the 3rd tier of the award	
	Reference year	% achievement of performance conditions	Reference year	% achievement of performance conditions	Reference year	% achievement of performance conditions
23 September 2010	2011	100%	2012	100%	2013	100%
15 September 2011	2012	100%	2013	100%	2014	42.71%

➤ OPTIONS GRANTED AND EXERCISED IN 2019

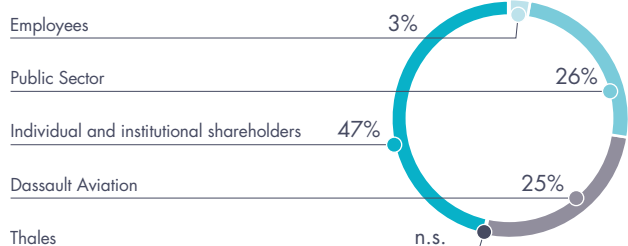
	Number of options granted/shares subscribed or purchased	Exercise price	Maturity date	Date of plan
1. Directors				
Options granted in 2019	None			
Of which Patrice Caine	None			
2. The ten biggest option awards granted to employees				
Options granted in 2019	None			
3. The ten biggest exercises of options by employees^(a)				
Options exercised in 2019	5,000	€32.88	–	25/06/2009
	5,000	€32.88	–	25/06/2009
	4,000	€32.88	–	25/06/2009
	3,300	€32.88	–	25/06/2009
	3,000	€32.88	–	25/06/2009
	2,500	€32.88	–	25/06/2009
	2,500	€32.88	–	25/06/2009
	2,500	€32.88	–	25/06/2009
	2,500	€32.88	–	25/06/2009
	2,400	€32.88	–	25/06/2009

(a) All Group companies combined.

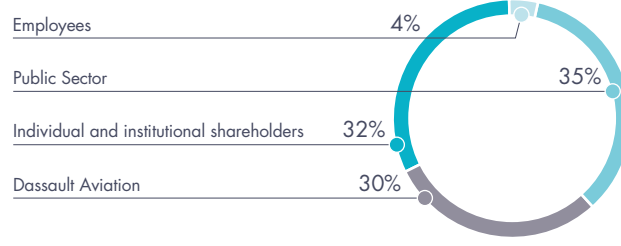
6.2.3 Shareholders

6.2.3.1 Breakdown at 31 December 2019

Breakdown of shareholders



Breakdown of exercisable voting rights



6.2.3.2 Shareholders acting in concert

6.2.3.2.1 “Public Sector” (TSA)

TSA is a holding company wholly owned at 31 December 2019 by EPIC Bpifrance with the exception of one preferred share, kept by the French State. TSA directly holds 54,786,654 Thales shares.

The French State directly holds 2,060 shares, including a golden share, which gives it the principal rights⁽¹⁾ described in section 6.2.3.3.5.

6.2.3.2.2 “Industrial Partner” (Dassault Aviation)

Dassault Aviation, whose shares are listed on the Euronext Paris market, is a public limited company that owns 24.63% of Thales’ share capital, i.e. 52,531,431 Thales shares at 31 December 2019.

Dassault Aviation is controlled by Groupe Industriel Marcel Dassault (GIMD) which at 31 December 2019 held 62.24% of the share capital and 76.78% of the exercisable voting rights of Dassault Aviation.

6.2.3.3 Shareholders’ agreement, agreement on the protection of strategic national interests, specific agreement and golden share

By signing an “endorsement agreement” with the French State and Alcatel-Lucent in 2009, Dassault Aviation assumed the rights and obligations of Alcatel-Lucent, subject to certain amendments, endorsing the agreements signed on 28 December 2006 – namely the shareholders’ agreement and the agreement on the protection of strategic national interests in Thales⁽²⁾.

6.2.3.3.1 Shareholders’ agreement between the “Public Sector” and the “Industrial Partner”

On 28 December 2006, TSA and Alcatel-Lucent signed a shareholders’ agreement that governs relations between the Public Sector and the Industrial Partner within Thales. This agreement came into effect on the date of transfer of assets from Alcatel-Lucent Participations (5 January 2007).

The agreement was signed pursuant to the cooperation agreement entered into on 1 December 2006 between Thales, Alcatel-Lucent and TSA, which replaced the previous cooperation agreement signed on 18 November 1999 by Alcatel, Thales and GIMD⁽³⁾. This agreement essentially adopted the provisions of the shareholder agreement entered into on 14 April 1998, which it replaced⁽⁴⁾.

On 19 May 2009, when Dassault Aviation acquired the Thales shares previously owned by Alcatel-Lucent, an agreement took effect under which Dassault Aviation endorsed the shareholders’ agreement existing

between Alcatel-Lucent and the Public Sector, subject to amendments. The agreement under which TSA and Dassault Aviation act in concert with regard to Thales under Article L. 233-10 of the French Commercial Code, as TSA has a majority within the concert, sets out the following provisions⁽⁵⁾:

Members of the executive bodies of Thales

Thales’s Board of Directors, which has 16 members, has to adhere to the following breakdown at 31 December 2019:

- 5 members proposed by the Public Sector;
- 4 members proposed by Dassault Aviation;
- 2 employee representatives;
- 1 representative of employee shareholders;
- 4 external individuals, selected jointly by the Public Sector and Dassault Aviation.

The number of directors appointed upon the proposal of Dassault Aviation may not be higher than the number of directors appointed upon the proposal of the Public Sector. The number of Directors for each will be at least equal to the greater of the following two numbers: (i) the number of directors other than the employee representatives and external individuals, multiplied by the percentage of Thales shares held by Dassault Aviation, compared to the amount of Public Sector and Dassault Aviation holdings and (ii) the number of directors representing employees.

Should Dassault Aviation’s shareholding exceed that of the Public Sector, the parties to the agreement will increase the total number of Thales directors from 16 to 17, so as to be represented by five directors each.

The Chairman and CEO is chosen on the joint proposal of the parties.

Furthermore, the parties have agreed that, in the event of a change of Chairman and CEO in accordance with the terms of the shareholders’ agreement, they do not intend to propose as a candidate any employee, manager or senior executive belonging to the Dassault group or having recently left this group.

Finally, it is specified that at least one director representing each of the parties must sit on each of the committees of the Thales Board of Directors.

Decisions to be submitted to the Thales Board of Directors

The parties undertake to submit for mandatory approval by the majority of the Directors representing Dassault Aviation, decisions of the Thales Board of Directors relating in particular to the appointment and dismissal of the Chairman and CEO, the adoption of the annual budget and the multi-year strategic plan, and significant acquisitions and disposals of shareholdings or assets (in excess of €150 million) as well as strategic alliance agreements on technological and industrial cooperation.

However, Dassault Aviation has expressly undertaken to forego the exercise of the right of veto which it has, by virtue of the agreement, over some of Thales’ strategic operations; this decision concerns a series of potential acquisitions or disposals. In return, the Public Sector has foregone its right to terminate the agreement in the event of persistent disagreement regarding a strategic operation likely to have an adverse impact on its strategic interests.

Should Dassault Aviation exercise its right of veto over the appointment of the Chairman and CEO, after a consultation period of three months, either of the parties may terminate the agreement.

(1) Pursuant to Article 3 of Decree No. 97-190 of 4 March 1997.

(2) See Decision No. 207C0013 of 2 January 2007, published in the French Legal Gazette (Bulletin officiel des annonces légales obligatoires, BALO) of 5 January 2007.

(3) Published in the Official Journal of the French Republic on 12 December 2006 (see the Official Journal website: www.journal-officiel.gouv.fr) pursuant to the provisions of Article 1-1° of Decree 93-1041 of 3 September 1993 and pursuant to law No. 86-912 of 6 August 1986 mentioned above.

(4) This agreement is set out in the appendix to the Thales Board of Directors’ report to the Extraordinary General Meeting of 5 January 2007, registered by the AMF on 19 December 2006 under number E.06-194 (www.thalesgroup.com).

(5) With regard to a proposal to separate the functions of CEO and Chairman, an amendment to the shareholders’ agreement regarding Thales was concluded between the Public Sector and Dassault Aviation on 7 April 2015, designed to amend the shareholders’ agreement so that the Board of Directors of Thales is composed of 18 members including six proposed by the Public Sector, five by the Industrial Partner (Dassault Aviation), two employee representatives, one representative of employee-shareholders and four external individuals. As the proposal to separate the functions of CEO and Chairman was rejected, the shareholders’ agreement was reverted to its initial version dated 19 May 2009 through a second amendment signed on 13 May 2015, and the stipulations of the agreement therefore remain unchanged. For more details on these amendments, refer to D&I 215C0404 of 7 April 2015 and D&I 215C0643 of 15 May 2015 published on the AMF’s website.

(6) Acquisitions or disposals identified by the French State as having potentially significant importance with regard to its strategic defence interests and having the objective of strengthening the industrial and technological defence base in France.

Shareholder interests

Dassault Aviation must hold at least 15% of the share capital and voting rights in Thales and remain the largest private shareholder in Thales. The Public Sector must take whatever measures are required to enable Dassault Aviation to comply with this undertaking.

The Public Sector undertakes to restrict its shareholding to 49.9% of Thales' capital and voting rights.

Term of the shareholders' agreement

In the absence of termination on expiry of the contract on 31 December 2016, the agreement was tacitly renewed for another period of five years, expiring on 31 December 2021. It may be tacitly renewed for five-year periods.

The agreement will be automatically terminated and the concerted action between TSA and Dassault Aviation will also automatically cease should one of the parties commit, without prior consultation with the other party, an action which creates an obligation to make a public offer for Thales.

Option of unilateral termination of the agreement and agreement to sell to the Public Sector

The Public Sector has the option of terminating the agreement and asking Dassault Aviation to suspend the exercise of the voting rights that it holds above a threshold of 10%, or to reduce its shareholding to less than 10% of Thales' capital, in the event of:

- a serious breach by Dassault Aviation of its obligations so as to substantially compromise the protection of the strategic interests of the French State, given that said obligations are subject to an "agreement on the protection of strategic national interests in Thales" (see below);
- a change in control of Dassault Aviation.

In this respect, Dassault Aviation gives the Public Sector an irrevocable and definitive undertaking to sell all shares held by Dassault Aviation upon confirmation that Dassault Aviation's shareholding of Thales has remained above 10% of Thales' capital in the six months following the Public Sector's request to reduce its shareholding.

The Public Sector was bound by an undertaking to hold a stake in Thales granting it at least 10% of the voting rights. This undertaking expired on 31 December 2014.

6.2.3.3.2 Agreement on the protection of strategic national interests

Furthermore, on 19 May 2009 Dassault Aviation endorsed the "agreement on the protection of strategic national interests in Thales" signed on 28 December 2006 by Alcatel-Lucent and the French State in the presence of TSA. This endorsement gives rise to the following obligations for Dassault Aviation:

- Dassault Aviation's registered office and operational headquarters must remain in France;
- directors of Thales proposed by Dassault Aviation must be nationals of the European Union;
- access to sensitive information concerning Thales is strictly controlled within Dassault Aviation;
- managers who are responsible for Dassault Aviation's holdings in Thales are French nationals;

- Dassault Aviation uses its best endeavours to prevent any action or influence in the governance and businesses of Thales by foreign national interests. In this respect, in the event of (i) a serious and unremedied breach by Dassault Aviation of its obligations under the agreement on the protection of strategic national interests or if it emerges that the application of a foreign law by Dassault Aviation creates constraints for Thales that substantially compromise the protection of the strategic interests of the French State, or (ii) a change in control within Dassault Aviation, contrary to the strategic interests of the Public Sector, the Public Sector may:
 - terminate the rights that Dassault Aviation enjoys under the shareholders' agreement; and, if it sees fit,
 - ask Dassault Aviation either to suspend the exercise of any voting rights it holds in excess of 10%, or
 - ask it to reduce its shareholding to less than 10% of Thales' capital through the divestment of shares on the market (under conditions consistent with its financial interests and market constraints). At the end of a six-month period from the date on which it was asked to reduce its shareholding, if the shareholding of Dassault Aviation is still in excess of 10% of Thales' capital, the French State may proceed with the aforementioned undertaking to sell.

6.2.3.3.3 Crossing of thresholds and declaration of intent

- Following the substitution of Alcatel-Lucent Participations by Dassault Aviation, within the concert formed with the Public Sector *vis-à-vis* Thales and the disposal of Thales shares owned by GIMD to Dassault Aviation, on 19 May 2009 the latter exceeded, jointly with the Public Sector, the thresholds of 25% of the voting rights, 1/3 of the capital and voting rights and 50% of the voting rights of Thales and, on 20 May 2009, the threshold of 50% of the capital of Thales.

On 20 May 2009, the Public Sector, together with Dassault Aviation, exceeded the threshold of 50% of the capital of Thales.

These changes were granted dispensation from the obligation to submit a proposal for a public offer. This decision is reproduced in Decisions 208C2115 of 27 November 2008 and published in the BALO of 1 December 2008.

It is available on the BALO website at <https://www.journal-officiel.gouv.fr/balo/index.php>.

- Dassault Aviation announced it had individually exceeded the 25% threshold of voting rights on 9 July 2012 and individually held 52,531,431 Thales shares representing 86,531,431 voting rights, equal to 25.96% of the capital and 29.33% of the voting rights at that date.

This threshold was crossed due to the allocation of double voting rights to Dassault Aviation on a portion of its holding.

- Dassault Aviation announced that, on 13 January 2016, it had "fallen below the threshold of 25% of the capital of the Company and that it individually owns 52,531,431 Thales shares representing 87,185,780 voting rights, or 24.90% of the capital and 28.59% of the Company's voting rights."

Dassault Aviation also revealed that this threshold crossing was due to an increase in the total number of Thales shares and voting rights and that, on this occasion, the concert party formed by TSA (Public Sector) and Dassault Aviation had not exceeded any thresholds.

(1) TSA and Sofivision in accordance with the terms of AMF Decision No. 208C2115. Sofivision was taken over by TSA in the second half of 2012.

(2) See AMF Decision No. 208C2115 of 27 November 2008 published in the French Legal Gazette (Bulletin officiel des annonces légales obligatoires, BALO) of 1 December 2008, available for consultation on the AMF's website.

"The Public Sector shall agree to hold, following the standard expiry of the shareholders' agreement, a stake in Thales granting it at least 10% of the voting rights, up until the earliest of the following three dates: (i) 31 December 2014, (ii) three years as from the termination of the shareholders' agreement or (iii) date on which Dassault Aviation ceases to hold at least 15% of Thales' share capital."

(3) See AMF Decision No. 216C0199, available for consultation on the AMF's website.

- On 15 January 2018, the French State and EPIC Bpifrance entered into an allocation agreement under which the State decided to allocate EPIC Bpifrance 109,999,999 TSA shares, or 99.99% of TSA's capital (the State keeping one TSA share), it being specified that TSA holds 54,786,654 Thales shares representing 109,573,308 voting rights.

This allocation agreement provides in particular for EPIC Bpifrance to act in concert with the French State with regard to TSA and, through TSA, alongside the French State, to act in concert with Dassault Aviation *vis-à-vis* Thales.

EPIC Bpifrance's joint exceeding of the 30% threshold of Thales's capital and voting rights was the subject of a prior decision by the AMF to waive the obligation to file a public offering. This was reproduced in Decision No. 217C0137 dated 16 January 2018.

In this occasion, the EPIC Bpifrance exceeded indirectly, on January 29th, 2018, through TSA, the thresholds of 5%, 10%, 15%, 20% and 25% of the capital and voting rights and 1/3 of the voting rights of Thales. The disclosure mentioned in particular that this transaction did not modify the terms and conditions of the concert between TSA and Dassault Aviation or the percentages of the joint stake in the capital and voting rights of Thales, that the French State remains the dominant party within this concert, and that, in accordance with the allocation agreement, EPIC Bpifrance will not ask to be represented on the Thales Board of Directors, such that the representation of the French State and Dassault Aviation on said Board will remain unchanged.

6.2.3.3.4 Specific agreement

On 28 December 2006, the French State (Ministry of Defence and Ministry of the Economy) and Thales signed an agreement to give the French State control not only over the transfer of assets already mentioned in the appendix to Decree No. 97-190 of 4 March 1997, but also over shares in Thales Alenia Space SAS (hereinafter referred to as the "Strategic Asset"). The main elements of this agreement are as follows:

a) Where the Strategic Asset is a company (the "Strategic Company")

- Any proposed transfer of shares in the Strategic Company to a third party such that the third party exceeds the threshold of 33.3% of the share capital.
- Any proposed transfer of shares in the Company that directly or indirectly controls the Strategic Company to a third party such that the third party exceeds the threshold of 33.3% of the share capital.

b) Where the Strategic Asset is an isolated asset, unincorporated division or branch of the business (the "Strategic Division")

- Any proposed transfer of shares in the Company that owns the Strategic Division to a third party such that the third party exceeds the threshold of 33.3% of the share capital.
- Any proposed transfer of shares in the Company that directly or indirectly controls the company referred to in the previous paragraph to a third party such that the third party exceeds the threshold of 33.3% of the share capital.

c) Any proposed transfer of sensitive assets to a third party

d) And any proposal intended to confer or having the effect of conferring particular rights on a third party

Shall be disclosed to the French State, which undertakes to issue its acceptance or refusal decision within thirty (30) working days from the receipt of said notification. Failure by the French State to communicate its decision during said time is deemed to signify acceptance of the proposed transaction.

6.2.3.3.5 Golden share held by the French State and other restrictions related to foreign investments in France

The golden share held by the French State⁽¹⁾ entitles it to the following rights:

- "Any increase in the direct or indirect holding of securities, irrespective of the nature or legal form, beyond a threshold of one-tenth, or a multiple thereof, of the capital or voting rights of the Company, by any natural person or legal entity, whether acting alone or in concert, must be approved in advance by the Minister for the Economy (...);"
- "Upon the proposal of the Minister of Defence, a representative of the French State, appointed by decree, sits on the Board of Directors of the Company as a non-voting director";
- "(...) decisions to dispose of or assign by way of guarantee the assets specified in the appendix to this decree may be opposed."

At 31 December 2019, these assets consisted of the majority of the share capital in the following companies:

Thales DMS France SAS (formerly known as Thales Systèmes Aéroportés SAS), Thales (Wigmore Street) Ltd, Thales SIX GTS France SAS (formerly known as Thales Communications & Security SAS), Thales IAS France SAS (formerly known as Thales Air Systems SAS), Thales Nederland BV, Thales AVS France SAS (formerly known as Thales Avionics SAS), Thales Underwater Systems NV.

In addition, as a result of some of Thales's activities, particularly in the defence sector, shareholders and investors may be subject to certain restrictions applicable to foreign investments in France in accordance with Article L. 151-3 of the French Monetary and Financial Code and Article 10 of law No. 86-912 of 6 August 1986 on the terms and conditions of privatisation

(1) See AMF Decision No. 216C0199, available for consultation on the AMF's website.

(2) Pursuant to Article 3 of Decree No. 97-190 of 4 March 1997.

6.2.3.4 Treasury shares

At 31 December 2019, Thales held 560,866 treasury shares (0.26% of the capital), i.e. the balance after shares bought and sold in the market or otherwise under the authorisations described below granted to the Board of Directors by the Annual General Meeting.

Treasury shares are not subject to any restrictions and are freely transferable.

6.2.3.4.1 Authority to trade in the Company's shares

At its meeting of 5 March 2018 at which it delegated to the Chairman & Chief Executive Officer the authority to trade in the Company's shares, the Board of Directors set the maximum purchase price at €125 per share. By decision of the Board of Directors of 3 March 2019, the maximum price was increased to €140 as from the Annual General Meeting on 15 May 2019.

The transactions carried out in 2019 show a net sale of 87,429 treasury shares, the details of which are as follows:

- transactions related to the delivery of securities to employees (net sale of 155 shares):
 - delivery of free shares to employees (–223,640 shares),
 - shares sold to employees under the 2019 employee shareholding scheme (–506,515 shares),
 - shares purchased directly in the market to meet the commitments of the delivery of free shares (730,000 shares);
- liquidity contract, net sale for the period: 87,274 shares.

6.2.3.4.2 Authority to cancel Company shares

The 24-month authorisation granted to the Board of Directors by the Annual General Meeting of 17 May 2005 to cancel – on one or more occasions – shares held by the Company, up to a limit of 10% of share capital, as part of an authorisation to buy back its own shares, was renewed by the Annual General Meetings of 16 May 2007, 15 May 2009, 18 May 2011, 24 May 2013, 13 May 2015, 17 May 2017 and 15 May 2019, without that authorisation ever being used.

6.2.3.4.3 Share buy-back programme

6.2.3.4.3.1 Description of the share buy-back programme proposed to the Annual General Meeting of 15 May 2019

- Maximum proportion of capital subject to repurchase: 10%, on the buy-back date.

The balance of 2019 trading was the net disposal of 87,429 shares, broken down by objective as follows:

a) Net disposal or allotment of shares to Group employees and directors in the manner stipulated by law, particularly when share purchase options are exercised or existing free shares are allotted, and employee shareholding plans	(155)
b) Regulation of the market price by a liquidity contract drawn up in accordance with the AFEI Code of Conduct	(87,274)

Breakdown of treasury shares by objective at 31 December 2019

The total number of shares held at that date was 560,866, representing 0.26% of Thales's share capital. The breakdown by objective was as follows:

a) Disposal or allotment of shares to Group employees and directors as stipulated by law, particularly when share purchase options are exercised or existing free shares are allotted	385,866
b) Regulation of the market price by a liquidity contract drawn up in accordance with the AFEI Code of Conduct	175,000

- Maximum number of shares that may be purchased: 21,310,408.
- Maximum amount of the programme: 2,983,457,120.
- Maximum unit purchase price: €140.

Objectives of the programme

- To sell or allot shares to Group employees under the conditions and in the manner stipulated by law, particularly when share purchase options are exercised or existing free shares are allotted, or when shares are sold and/or supplemented under an employee shareholding scheme transaction on existing shares;
- to retain shares for later use in connection with acquisitions, mergers, demergers or contributions;
- to ensure trading in the shares through a liquidity contract prepared in accordance with a Code of Conduct approved by the AMF;
- to cancel shares in accordance with an Annual General Meeting resolution in force;
- to deliver shares upon the exercise of rights attached to securities conferring the right in any way to the allotment of Company shares.
- **Duration of the programme:** 18 months from the date of approval of the resolution that will be submitted to the Annual General Meeting of 6 May 2020, i.e. no later than 3 November 2021.
- **Liquidity contract:** In November 2004, Thales entered into a liquidity contract, in accordance with the AFEI Code of Conduct, in order to regulate share trading. The contract was amended to comply with the AFEI Code of Conduct appended to the AMF decision of 22 March 2005 and since January 2019 with AMF Decision No. 2018-01 of 2 July 2018 establishing liquidity contracts on equity securities as an accepted market practice.

6.2.3.4.3.2 Trading in Company shares during 2019

In 2019, Thales traded in Company shares as part of its share buy-back programme drawn up in accordance with the AMF General Regulations (Article 241-1 *et seq.*).

These transactions were carried out as part of the share buy-back programme authorised at the Annual General Meeting of 23 May 2018 for transactions performed between 1 January 2019 and 15 May 2019, and in accordance with the authorisation given by the Annual General Meeting of 15 May 2019 for transactions performed between 15 May 2019 and 31 December 2019.

At 1 January 2019, Thales held 648,295 treasury shares, representing 0.30% of the capital, compared with 560,866 at 31 December 2019.

Market value of the portfolio at 31 December 2019

€51,891,322, at the closing price on 31 December 2019 of €92.52.

	Aggregate gross amounts from 1 January 2019 to 31 December 2019	
	Purchases	Sales
No. of shares	1,636,402	1,723,831
Average transaction price (in euros) including possible discounts and free shares	101.1	78.547
Amounts (in euros)	165,440,242	135,401,133

Thales did not make use of derivatives (futures sales) as part of this redemption programme.

6.2.3.5 Free share, unit or phantom share plans subject or not subject to performance conditions

The Group regularly grants its employees and executives free shares as part of its performance management policy for Group employees. The various plans are described below.

6.2.3.5.1 Allotment of free shares

Allotment of free shares and/or performance shares

In 2019 the Board of Directors, with the approval of the Annual General Meeting, set up an eleventh free share allotment plan.

The Chairman and Chief Executive Officer (the only Company representative) is not entitled to benefit from this plan.

The allotment on 25 September 2019 took the following form:

Performance shares

- The allotted shares are all subject to the fulfilment of internal performance conditions during the three financial years following the grant date. The performance criteria are EBIT, free operating cash flow and order intake, with weightings of 60%, 15% and 25%, respectively;
- shares may be validated in tranches of one-third once the Board of Directors has approved the Group's consolidated financial statements for the three financial years concerned;
- the number of shares vested will not exceed the number of shares initially allotted;
- all designated beneficiaries of the plan are allotted shares validated at the end of a four-year vesting period subject to compliance with the employment conditions stipulated in the plan's rules.

Date of Board decision	25/09/2019	27/09/2018	28/09/2017	27/10/2016	
	Performance shares	Performance shares	Performance shares	Free shares	Performance shares
Number of beneficiaries at grant date	917	738	764	550	232
Share price at grant date	€104.50	€121.75	€94.66	€83.10	€83.10
Number of shares allotted	325,865	181,515	212,540	88,020	148,070
Number of free shares at 31/12/2018	N/A	181,335	210,900	86,020	145,370
Cancellation of allotments during the financial year 2019 ^(a)	320	1,545	2,690	1,730	2,780
Early allotments during the financial year 2019 ^(b)	—	—	—	—	—
Number of shares delivered on expiry of the plan	N/A	N/A	N/A	N/A	N/A
Number of beneficiaries of delivery on expiry	N/A	N/A	N/A	N/A	N/A
Balance of free shares net of cancellations and early allotments at 31/12/2019	325,545	179,790	208,210	84,290	142,590
Number of beneficiaries remaining at 31/12/2019	915	728	745	526	222
Vesting period	from 25/09/2019 to 25/09/2023	from 27/09/2018 to 27/09/2022	from 28/09/2017 to 28/09/2021	from 27/10/2016 to 27/10/2020	

(a) Due to the departure of the beneficiary or, for the plans concerned, to cancellations related to partial or complete failure to achieve of the performance conditions.

(b) Due to death of the beneficiary during the vesting period.

Allotment of shares in financial year 2019

The ten biggest share allotments granted to employees during the year	Number of shares allotted	Share price at grant date	Date of plan
Performance shares	46,700	€104.50	25/09/2019

During 2019, the allotment of shares subject to performance conditions to employees of the Company or its subsidiaries, excluding Thales executive officers, was between 110 and 12,000 shares.

6.2.3.5.2 Allotment of units or units subject to performance conditions indexed to the Thales share price

No plan for the allotment of units was set up for employees in 2019 except for that granted for the only Company representative (page 171).

Unit plan subject to employment condition awarded in 2015

- Each unit allotted confers the right, at the end of the four-year vesting period and subject to the employment condition stipulated in the regulations, to the payment of a monetary value;
- this monetary value will be calculated at the end of the vesting period, and will be equal to the average of the daily opening prices for the Thales share during the vesting period. Extreme upwards or downwards variations in the stock market price will be neutralised;
- the amount due on the expiry date to the beneficiaries who meet the employment conditions will be equal to the number of units allotted multiplied by the value of the unit. Half of the payment will be made in shares, while the other half will be paid in cash.

Unit plan subject to employment and performance conditions

- The units subject to performance conditions follow the same rules as for units, i.e. vesting period and employment conditions, but the number of units that are actually issued on the expiry date will depend on the fulfilment of internal performance conditions over the three financial years following their allotment date; units may be validated in tranches of one-third once the Board of Directors has approved the Group's financial statements for the three financial years concerned;
- the number of units validated may not exceed the amount initially allotted;
- the three performance criteria used for the 2015 plan are EBIT, free operating cash flow and order intake, with weightings of 60%, 15% and 25%, respectively.

Date of Board decision	17/09/2015	
	Units	Performance units
Number of beneficiaries at grant date	3,885	293
Unit price at grant date	€61.75	€61.75
Number of units allotted	376,840	232,000
Balance of units at 31/12/2018	350,460	222,950
Cancellation of allotments during the financial year 2019 ^(a)	10,750	500
Early allotments during the financial year 2019 ^(b)	–	–
Number of shares delivered on expiry of the plan	339,710	222,450
Number of beneficiaries of delivery on expiry	3,469	274
Balance of units at 31/12/2019	–	–
Number of beneficiaries remaining at 31/12/2019	–	–
Vesting period	from 17/09/2015 to 16/09/2019	

(a) Due to the departure of the beneficiary or, for the plans concerned, to cancellations related to partial or complete failure to achieve of the performance conditions.

(b) Due to death of the beneficiary during the vesting period.

6.2.3.5.3 Allotment of phantom shares or phantom shares subject to performance conditions indexed to the Thales share price

In September 2019, a phantom share plan based on the Thales share price was put in place for certain international employees. This plan is equivalent to the performance-based free share plans offered to employees in France.

Through this plan, 551 people received 212,980 phantom shares under the same performance conditions as the free shares allotted on the same date.

6.2.3.5.4 Validation of performance conditions for financial year 2019

Option, share, unit and phantom share plans subject to performance conditions	Validation of the 1st tier of the award		Validation of the 2nd tier of the award		Validation of the 3rd tier of the award	
	Reference year	% achievement of performance conditions	Reference year	% achievement of performance conditions	Reference year	% achievement of performance conditions
27 October 2016	2017	100%	2018	100%	2019	100%
28 September 2017	2018	100%	2019	100%	2020	—
27 September 2018	2019	100%	2020	—	2021	—
25 September 2019	2020	—	2021	—	2022	—

6.2.3.6 Shares owned by the public

The Company is entitled at all times, as provided by law, to ascertain the identity of and the number of shares held by holders of bearer shares, which now or in the future, represent a specific fraction of its share capital (the "TPI" Identifiable Bearer Security procedure).

Based on the most recent surveys of identifiable holders of bearer shares carried out by Euroclear France, and the Company's information on employee shareholders, private ownership of Company shares is estimated as follows:

(in thousands of shares)	31/12/2019	12/31/2018
French institutional investors	26,377	26,769
Non-resident institutional investors	60,556	64,405
Others (e.g. brokerage firms)	9,141	3,087
Employee share ownership	6,183	5,575
Individual shareholders and associations ^(a)	5,363	4,743
Not identified	816	557
Subtotal entire public	105,436	105,135
TOTAL NUMBER OF SHARES	213,318	213,104

(a) Mainly French residents.

	As % of the total capital		As % of the free float (excluding treasury shares)	
	31/12/2019	31/12/2018	31/12/2019	31/12/2018
French institutional investors	12.4	12.6	25.0	25.5
Non-resident institutional investors	28.4	30.2	57.4	61.3
Others (e.g. brokerage firms)	2.9	1.4	5.8	2.9%
Employee share ownership	2.9	2.6	5.9	5.3
Individual shareholders and associations	2.5	2.2	5.1	4.5
Not identified	0.4	0.3	0.8	0.5
ENTIRE PUBLIC	49.4	49.3	100.0	100.0

➤ GEOGRAPHIC BREAKDOWN OF INSTITUTIONAL INVESTORS

31/12/2019	Number of shares held (in thousands)	As % of the total capital	As % of the free float	Number of investors
France	26,377	12.4	25.0	99
Continental Europe (exc. France)	11,954	5.6	11.3	130
North America	27,823	13.0	26.4	120
United Kingdom & Ireland	17,828	8.4	16.9	68
Rest of world	2,951	1.4	2.8	45
TOTAL	86,933	40.8	82.5	462

6.2.3.7 Employee shareholdings at 31 December 2019

At 31 December 2019, current or former Group employees held 6,183,434 Thales shares, representing 2.9% of the capital (and 3.58% of voting rights) within the meaning of Article L. 225-102 of the French Commercial Code.

Holding by country	In number of shares	As % of employee shareholding	In % of capital	Related voting rights as % of total voting rights
Shares held through the Group savings scheme (PEG) – France and world (2 dedicated funds ^(a))	3,941,133	63.74%	1.85%	2.37%
Shares held through the Group savings scheme (PEG) – Netherlands (1 dedicated fund ^(b))	77,582	1.25%	0.04%	0.04%
Shares held through a Trust/SIP ^(c) – United Kingdom	210,131	3.40%	0.10%	0.07%
Shares held directly – United States	75,237	1.22%	0.04%	0.02%
Shares held directly – France and world	114,092	1.85%	0.05%	0.06%
Shares held directly as a result of the allotment of free shares (Article L. 225-197-1 of the French Commercial Code) – France and world	1,765,259	28.55%	0.83%	1.02%
Total number of shares held by current or former employees	6,183,434	100%	2.90%	3.58%
TOTAL SHARE CAPITAL	213,317,506	–	–	–

(a) "Actions Thales" and "World Classic" funds.

(b) "Netherlands Classic" fund.

(c) Share Incentive Plan equivalents.

6.3 RELATED-PARTY AGREEMENTS

6.3.1 Commitments and agreements authorised after year end

The Board of Directors has not authorised any new related-party commitments or agreements since year end.

6.3.2 Commitments and agreements authorised during 2019

No new related-party commitments or agreements were authorised by the Board of Directors in 2019.

6.3.3 Agreements authorised during previous financial years

The agreements authorised by the Board of Directors and approved by the Annual General Meeting in previous financial years that continued to be performed in 2019 have been disclosed to the statutory auditors in accordance with the applicable regulations. They are also described in a special report presented in section 6.3.4

Board of Directors' meeting held on 5 March 2018

The Board of Directors authorised the renewal, under the terms and conditions specified below, of three remuneration items which had been authorised by the Board on 25 February 2015 and put in place for the benefit of the Chairman & Chief Executive Officer upon termination of his employment contract. These renewed commitments took effect after they were approved by the Annual General Meeting of 23 May 2018 and after Patrice Caine was subsequently reappointed as Chairman & Chief Executive Officer.

- **Compensation payments likely to be payable to Patrice Caine, Chairman & Chief Executive Officer, upon termination of his term of office as Company representative**

Subject to the fulfilment of the performance conditions imposed by the Board of Directors and if so decided by the Board, compensation may be paid to Mr Patrice Caine, if his term of office as Company representative should be terminated, except in the case of resignation, serious misconduct or gross negligence.

The amount of compensation is fixed at 12 months of his reference salary (fixed and variable compensation paid over the last 12 months of activity, excluding long-term compensation).

Payment of this compensation will be subject to the fulfilment, as recorded by the Board, of performance conditions established by the latter subject to compliance with the following condition: payment will be made if the average rate of achievement of the annual operational profitability objectives is 80% or more over the past three years.

If that is not the case, no compensation payment will be due.

- **Renewal of private employment insurance for Patrice Caine, Chairman & Chief Executive Officer, subscribed to by the Company**

Entitlement to this insurance is subject to the same performance condition as the above-mentioned compensation for termination.

- **Commitment related to the deferred progressive and conditional compensation scheme applicable to Patrice Caine since his appointment as Chairman & Chief Executive Officer**

The amount of this compensation is calculated based on the point allocation method identical to that used for employees entitled to the group supplementary pension scheme applicable within Thales group.

This deferred compensation is only deemed to have been acquired on condition that the Company representative has carried out a full term in office. Entitlement is subject to the same performance condition as the above-mentioned compensation for termination.

An increase in this deferred compensation will be applied provided that the Chairman & Chief Executive Officer has a minimum of 10 years' service as part of the Thales Executive Committee.

More information on these three related-party commitments is provided in section 4.4.1 pages 91 and 106.

Board of Directors meeting held on 6 March 2008

FSTA: commitments to be undertaken by the parent company, authorised by the meeting of the Board of Directors on 6 March 2008

Having noted the characteristics of the "FSTA" public-private partnership, which has significant importance and high visibility for the Group, and which thus consolidates its presence in the United Kingdom, the Board of Directors:

- has approved the transaction to be concluded by Thales UK Ltd in its capacity as a member and subcontractor of the consortium (Thales UK Ltd has since assumed the subcontracting commitments of the companies Thales Avionics Ltd, Thales Training & Simulation Ltd and Thales Air Operations Ltd);
- has approved the issue of the three guarantees required (Resources and Materials parent company Guarantee, Opco Primary Subcontracts parent company Guarantee and Deed of Indemnity and Security) as per the terms submitted to it;
- has delegated to the Chairman, who may sub-delegate, all powers necessary for the fulfilment of these guarantees, for the signature of any deeds or documents, and in general to do what is necessary for carrying out this operation.

For the period 27/10/2018 to 27/10/2019, Thales invoiced Air Tanker the amount of £312,668 (or €355,010), pursuant to letters of credit in force.

6.3.4 Statutory auditors' report on regulated party agreements

To the General Shareholders' Meeting of Thales S.A.,

In our capacity as your company's statutory auditors, we hereby report to you on regulated party agreements.

It is our responsibility to report to the shareholders, based on the information provided to us, on the main terms and conditions of agreements that have been indicated to us or that we may have identified as part of our engagement, as the well as reasons why they benefit the company, without commenting on their relevance or substance or identifying any undisclosed agreements. Under the provisions of Article R. 225-31 of the French Commercial Code, it is the responsibility of the shareholders to determine whether the agreements are appropriate and should be approved.

Where applicable, it is also our responsibility to provide the shareholders with the information required by Article R. 225-31 of the French Commercial Code in relation to the implementation during the year ended 31 December 2019 of the agreements previously approved by the Shareholders' Meeting.

We performed the procedures that we deemed necessary in accordance with the guidance issued by the French Institute of statutory auditors (*Compagnie nationale des commissaires aux comptes*) for this type of engagement. These procedures consisted in verifying that the information given to us is consistent with the underlying documents.

Agreements submitted for approval to the General Shareholders' Meeting

Agreements authorized and concluded during year ended

We have been informed of no agreements authorized during the year and requiring the approval of the Shareholders' Meeting by virtue of Article L. 225-38 of the French Commercial Code.

Agreements previously approved by the General Shareholders' Meeting

Agreements approved in previous years whose implementation continued during the year ended 31 December 2019

In accordance with Article L. 225-30 of the French Commercial Code, we have been informed of the following agreement approved in prior years and which continued during the year ended 31 December 2019.

- **With Thales UK, a wholly-owned subsidiary of your company**

Commitments undertaken within the framework of the "FSTA" public-private partnership

Under the "FSTA" public-private partnership, your company granted guarantees to Thales UK Ltd, as a member of the Air Tanker consortium (Thales UK Ltd had taken over the subcontracting commitments of Thales Avionics Ltd and Thales Training & Simulation Ltd).

At its meeting held on 6 March 2008, the Board of Directors approved the issuance of the three required guarantees ("Resources and Materials parent company Guarantee", "Opco Primary Subcontracts parent company Guarantee" and "Shareholder Deed of Indemnity and Security") as per the terms submitted to it.

Pursuant to letters of credit in force to cover the following period from 27 October 2018 to 27 October 2019, your company invoiced Air Tanker the total amount of GBP 312,668 (EUR 355.010,05).

Paris-La Défense and Courbevoie, 25 February 2020

The statutory auditors

Mazars

Dominique Muller

Gregory Derouet

Ernst & Young Audit

Jean-François Ginies

Serge Pottiez

6.4 STOCK MARKET INFORMATION AND FINANCIAL COMMUNICATION

6.4.1 Thales shares

6.4.1.1 Listing markets

Thales's share is listed on the Euronext Paris regulated market (Compartment A). It is eligible for the SRD deferred settlement system.

ISIN code: FR0000121329

Reuters: TCFP.PA

Bloomberg: HO FP

6.4.1.2 Index listing

At 31 December 2019, Thales's stock was included in the following main indices:

- NYSE Euronext Paris indices: CAC 40, SBF 120, SBF 250, CAC Large60 and CAC All-Shares;
 - international indices: DJ Euro Stoxx, FTSEurofirst 300.
- Thales' stock is listed on the CAC 40 since June 21st, 2019

6.4.1.3 Share price and trading volumes on Euronext Paris

6.4.1.3.1 Monthly data from January 2018 to December 2019 (share prices in euros)

	No. of trading days	No. of shares traded	Total value traded (€m)	Average daily volume	Weighted average price (€)	Share price High (€)	Share price Low (€)	Closing price (€)
2019								
January	22	6,747,527	669.34	306,706	99.20	105.200	94.320	96.660
February	20	6,786,821	706.88	339,341	104.15	109.200	96.380	108.250
March	21	5,496,065	592.35	261,717	107.78	110.900	104.500	106.750
Q1 2019	63	19,030,413	1,968.57	302,070	103.443	110.900	94.320	106.750
April	20	5,357,891	578.62	267,895	107.99	112.500	104.550	106.450
May	22	7,054,348	709.54	320,652	100.58	105.500	96.840	98.560
June	20	8,671,571	913.44	433,579	105.34	108.850	97.400	108.650
Q2 2019	62	21,083,810	2,201.60	340,061	104.421	112.500	96.840	108.650
July	23	6,369,170	666.37	276,920	104.62	109.750	101.150	102.050
August	22	6,184,876	630.91	281,131	102.01	106.750	97.300	105.150
September	21	6,702,986	715.78	319,190	106.79	112.050	102.850	105.500
Q3 2019	66	19,257,032	2,013.07	291,773	104.537	112.050	97.300	105.500
October	23	13,055,203	1,220.63	567,618	93.50	107.200	86.200	87.640
November	21	10,229,848	906.00	487,136	88.56	92.300	84.960	88.920
December	20	8,623,538	770.25	431,177	89.32	93.920	85.780	92.520
Q4 2019	64	31,908,589	2,896.87	498,572	90.787	107.200	84.960	92.520
2019	255	91,279,844	9,080.11	357,960	99.475	112.500	84.960	92.520

	No. of trading days	No. of shares traded	Total value traded (€m)	Average daily volume	Weighted average price (€)	Share price High (€)	Share price Low (€)	Closing price (€)
2018								
January	22	7,123,954	643.80	323,816	90.37	92.180	87.360	90.211
February	20	6,599,411	588.87	329,971	89.23	93.460	84.300	91.610
March	21	8,276,899	793.29	394,138	95.84	99.620	89.020	99.056
Q1 2018	63	22,000,264	2,025.96	349,211	92.088	99.620	84.300	99.056
April	20	5,628,787	572.96	281,439	101.79	105.000	98.000	104.719
May	22	6,604,032	716.54	300,183	108.50	111.300	104.300	108.841
June	21	6,822,736	745.54	324,892	109.27	113.100	106.250	110.210
Q2 2018	63	19,055,555	2,035.04	302,469	106.795	113.100	98.000	110.210
July	22	5,801,108	653.20	263,687	112.60	116.750	108.800	112.450
August	23	4,590,720	534.96	199,597	116.53	122.600	111.900	121.350
September	20	5,579,916	672.39	278,996	120.50	124.450	117.300	122.350
Q3 2018	65	15,971,744	1,860.55	245,719	116.490	124.450	108.800	122.350
October	23	9,219,359	1,057.55	400,842	114.71	123.800	107.850	113.000
November	22	5,968,146	664.75	271,279	111.38	116.250	107.000	108.300
December	19	5,148,158	536.16	270,956	104.15	109.850	98.380	102.000
Q4 2018	64	20,335,663	2,258.46	317,745	111.059	123.800	98.380	102.000
2018	255	77,363,226	8,180.01	303,385	105.735	124.450	84.300	102.000

6.4.1.3.2 Annual data from 2018 and 2019

> SHARE PRICE AND PERFORMANCE

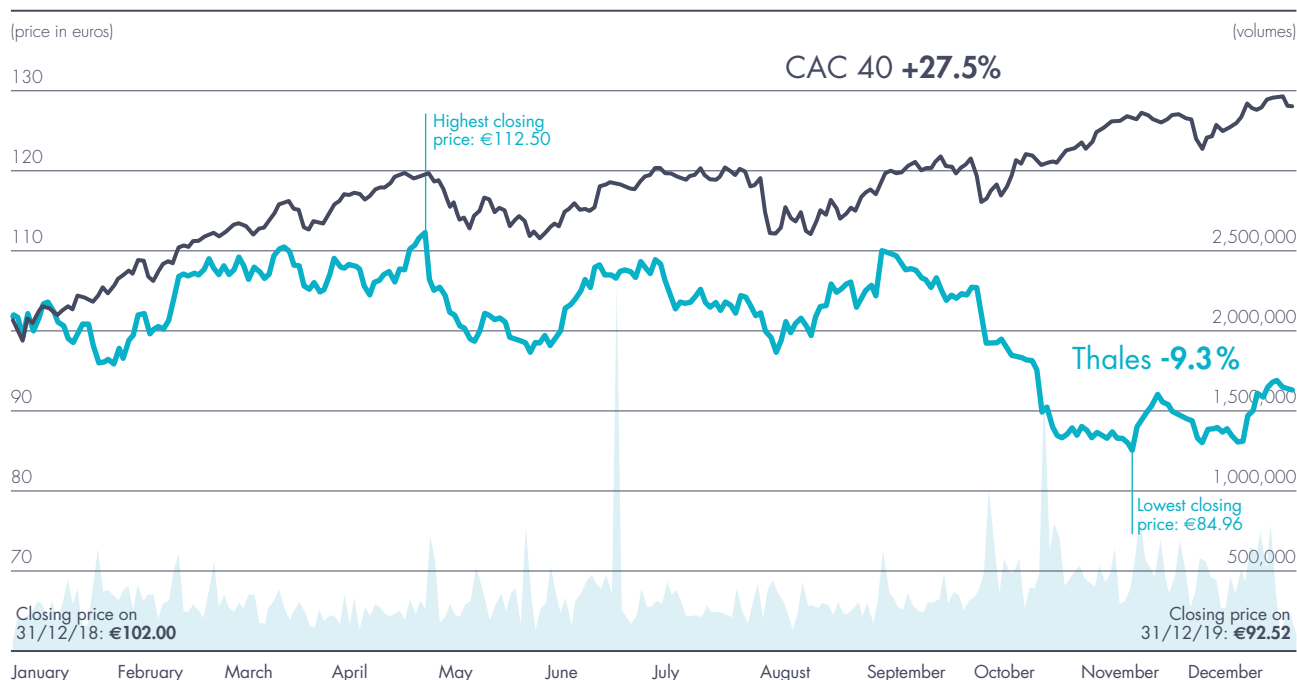
	2019	2018
Closing price (in €)	92.52	102.00
Session high (in €)	112.50	124.45
Session low (in €)	84.96	84.30
Weighted average price (in €)	99.48	105.74
Net dividend in respect of the previous year (in €)	2.08	1.75
Total Shareholder Return (TSR) ^(a) (%)	-7.2%	+13.8%
Change in Thales stock over the period (%)	-9.3%	+11.9%
CAC 40 performance over the period (%)	+27.5%	-10.6%

(a) Total Shareholder Return: differential between annual closing prices, plus dividend paid during the year in respect of the previous year, relative to the opening price.

	2019	2018
Average number of shares traded daily (thousands)	358.0	303.4
Total number of shares traded over the period (millions)	91.3	77.4
Total value traded over the period (€ million)	9,080.0	8,180.0
Average number of shares traded per month (thousands)	7,607	6,447
Average value traded per month (€ million)	756.7	681.7
Total number of shares in capital (period-end, in millions)	212.8	213.1

6.4.1.3.3 Chart and comments on the change in price and volumes traded from 1 January 2019 to 31 December 2019

➤ CHANGE IN SHARE PRICE AND TRADED VOLUMES FROM 1 JANUARY 2019 TO 31 DECEMBER 2019



Comments on share price in 2018 and 2019

- In 2019, with a drop by 9%, the Thales share largely underperformed its benchmark indice, the CAC 40 growing by more than 27.5% during the same period.
- In 2018, the Thales share price rose by nearly 12%, largely outperforming the CAC 40 and CAC Next 20 benchmark indices, which fell by 10.6% and 8.2% respectively.

Comments on traded volumes in 2018 and 2019

- 2019 was another year of increased trading with over 91 million shares changing ownership (up by 18.2%). Daily trading volumes also rose to 356,888 shares per day.
- 2018 was a year of increased trading, with more than 77 million shares changing ownership (up 6.4% on 2017). Daily trading volumes also rose, to 303,385 shares per day. Traded volumes experienced one-off increases throughout the year, typically when the annual and half-year results were announced.

6.4.1.4 Dividend policy

Dividends are paid to the holders of shares in accordance with the law. The Company uses the Euroclear direct payment procedure.

In a spirit of responsibility *vis-à-vis* all Group stakeholders, and in order to preserve funding capacity if the Covid-19 crisis were to last, the Board of Directors decided, during its meeting of 6 April 2020, to modify its 2019 dividend proposal.

A proposal will therefore be put forward at the Thales Annual General Meeting on 6 May 2020 to pay a dividend of €0.60 per share for 2019, corresponding to the interim dividend already paid in December 2019.

Per-unit dividend information is provided below. In accordance with the French General Tax Code (Article 158-3, point 2), dividends paid in respect of 2016, 2017 and 2018 qualified for a possible tax credit.

➤ DIVIDENDS PAID FOR THE PAST FOUR YEARS

(in €)	2019 ^(a)	2018	2017	2016
Dividend	0.60	2.08	1.75	1.60

(a) Subject to the approval of the Annual General Meeting of 6 May 2020.

6.4.2 Financial communication policy

6.4.2.1 General overview

Thales's policy is to provide its shareholders with regular, clear and transparent information, in compliance with the financial reporting rules and practices on disseminating information applicable to listed companies.

In addition to this Universal Registration Document filed with the French financial markets authority (AMF), which includes details of all the consolidated financial statements and associated analysis, business activities and results by business segment, the main statutory information about the Company and its corporate responsibility policy, Thales also publishes an interim report and a letter to shareholders as well as press releases. Other publications include an integrated report and a social report providing a detailed description of its commitments and achievements in these areas.

All Thales's information documents, presentations and financial press releases are available on the Thales website at www.thalesgroup.com.

Thales also holds briefings for the financial community, by teleconference where appropriate, particularly when announcing results (annual and interim financial statements and quarterly information) or important strategic or financial operations.

Regular meetings between Thales executives and institutional investors are held in Europe and North America, typically as part of roadshows, Capital Markets Days or visits to operational sites. These include a more detailed presentation of the Group's business activities and strategy.

Thales also regularly exchanges information on its corporate social responsibility policy with the Socially Responsible Investor (SRI) community. These reports cover corporate, social, environmental, governance and international trade issues, especially regarding anti-corruption measures and control over the export of defence equipment and technologies or dual-use goods and technologies.

Finally, Thales also maintains an ongoing dialogue with international financial analysts and institutional investors to provide them with information about the Group's business activities and strategy.

6.4.2.2 Provisional financial reporting calendar for 2020

28 April	Q1 2020 financial information
6 May	Annual General Meeting
24 July	2020 interim consolidated results
22 October	Q3 2020 financial information

6.4.2.3 Contacts

Investor Relations Department

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6.4.2.4 Documents on Display

Thales's articles of association, minutes of the General Meetings and Board of Directors' reports to the General Meetings, reports of the statutory auditors, financial statements for the last three years and, more generally, all documents provided or made available to shareholders pursuant to the law may be viewed at Thales's registered office.

Some of these documents are also available on the Group's website (<https://www.thalesgroup.com/en/investor/regulated-information>).

6.4.3 Other market securities

As of 31 December 2019, seven of the Group's bonds were listed. Their amounts and main characteristics are set out in Note 6.2 to the consolidated financial statements (page 204).

6.5 HISTORY

1893

Compagnie Française Thomson-Houston (CFTH) established to exploit the patents of the US company Thomson-Houston Electric Corp. in France, in the field of power generation and transport.

1918

Compagnie Générale de Télégraphie Sans Fil (CSF), a pioneer in broadcasting, electroacoustics and radar technology, set up.

1968

CSF and the professional electronics businesses of Thomson-Brandt merge to form Thomson-CSF.

1982

Thomson-CSF nationalised.

1983

Civil telecommunications businesses sold to Compagnie Générale d'Électricité (now Alcatel-Lucent).

1987

Medical imaging business (CGR) sold to General Electric; semiconductor business merged with that of the Italian company SGS to form SGS-Thomson.

1989

Acquisition of the defence electronics business of the Philips group.

1997

Interest in SGS-Thomson (now STMicroelectronics) divested.

1998

Thomson-CSF privatised; Alcatel and Groupe Industriel Marcel Dassault (GIMD) contribute assets and become shareholders. Satellite businesses of Alcatel, Aerospatiale and Thomson-CSF merge to form Alcatel Space, jointly owned by Thomson-CSF (49%) and Alcatel (51%).

1999

Thomson-CSF acquires 100% control of Sextant Avionique, the avionics joint venture between Thomson-CSF and Aerospatiale (now Airbus Group).

2000

Takeover of Racal electronics in the United Kingdom. Thomson CSF changes its name to Thales.

2001

Thales sells its stake in Alcatel Space.

2007

Thales acquires the transport, security and space businesses of Alcatel-Lucent and sells its French naval surface business to DCNS. At the same time, acquisition of a 25% stake in DCNS from the French government.

2009

Acquisition by Dassault Aviation of Thales shares held by Alcatel-Lucent and GIMD. Dassault Aviation becomes a shareholder of Thales, with a 26% stake in the Company.

2011

Thales increases its interest in DCNS to 35%.

2014

Launch of the "Ambition 10" strategy.

2019

Acquisition of Gemalto finalised on 2 April 2019.

CONSOLIDATED FINANCIAL STATEMENTS



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7.1 CONSOLIDATED FINANCIAL STATEMENTS

7.1.1 Consolidated profit and loss account

(in € millions)	Notes	2019	2018
Sales	Note 2	18,401.0	15,854.7
Cost of sales		(13,877.3)	(11,870.3)
Research and development expenses		(1,098.5)	(881.4)
Marketing and selling expenses		(1,382.9)	(1,097.6)
General and administrative expenses		(636.7)	(554.3)
Restructuring costs	Note 10.3	(122.2)	(48.3)
Income from operations	Note 2	1,283.4	1,402.8
Disposal of assets, changes in scope of consolidation and other	Note 3.2	218.6	(73.0)
Impairment on non-current assets			—
Income of operating activities before share in net income of equity affiliates		1,502.0	1,329.8
Share in net income of equity affiliates		142.0	144.7
• of which, share in net income of joint ventures	Note 5.1	85.8	98.9
• of which, share in net income of associates	Note 5.2	56.2	45.8
Income of operating activities after share in net income of equity affiliates		1,644.0	1,474.5
Interest expense on gross debt		(62.9)	(26.5)
Interest income on cash and cash equivalents		19.6	19.6
Interest income (expenses), net	Note 6.1	(43.3)	(6.9)
Other financial income (expenses)	Note 6.1	(84.4)	(78.3)
Finance costs on pensions and other employee benefits	Note 9.3	(68.9)	(47.2)
Income tax	Note 7.1	(301.0)	(314.2)
NET INCOME		1,146.4	1,027.9
Attributable to:			
Shareholders of the parent company		1,121.9	981.8
Non-controlling interests		24.5	46.1
Basic earnings per share (in euros)	Note 8.2	5.28	4.62
Diluted earnings per share (in euros)	Note 8.2	5.26	4.60

Segment information (including EBIT calculation) is detailed in Note 2.3.

The Group has adopted the IFRS 16 standard ("Leases") on 1st January 2019. In accordance with the transition method chosen, the comparative information has not been restated (Note 1.2).

7.1.2 Consolidated statement of comprehensive income

(in € millions)	2019			2018		
	Total attributable to:			Total attributable to:		
	shareholders of the parent company	non-controlling interests	Total	shareholders of the parent company	non-controlling interests	Total
NET INCOME	1,121.9	24.5	1,146.4	981.8	46.1	1,027.9
Currency translation adjustment ^(a)	35.9	(0.3)	35.6	(11.1)	1.9	(9.2)
Deferred tax (Note 7.2) ^(a)	—	—	—	—	—	—
Joint-ventures (Note 5.1)	0.7	—	0.7	0.3	—	0.3
Associates (Note 5.2)	7.8	—	7.8	3.9	—	3.9
Net (Note 8.1)	44.4	(0.3)	44.1	(6.9)	1.9	(5.0)
Cash flow hedge ^(a)	(65.4)	1.1	(64.3)	(124.1)	1.8	(122.3)
Deferred tax (Note 7.2) ^(a)	24.6	(0.5)	24.1	36.2	(0.5)	35.7
Joint-ventures (Note 5.1)	0.3	—	0.3	11.6	—	11.6
Associates (Note 5.2)	(4.9)	—	(4.9)	6.4	—	6.4
Net (Note 8.1)	(45.4)	0.6	(44.8)	(69.9)	1.3	(68.6)
Items that may be reclassified to income	(1.0)	0.3	(0.7)	(76.8)	3.2	(73.6)
Actuarial gains (losses) on pensions ^(a)	(510.9)	(8.8)	(519.7)	293.9	0.6	294.5
Deferred tax (Note 7.2) ^(a)	56.7	2.2	58.9	(7.0)	(0.1)	(7.1)
Joint-ventures (Note 5.1)	(15.6)	—	(15.6)	(0.8)	—	(0.8)
Associates (Note 5.2)	(0.1)	—	(0.1)	(0.2)	—	(0.2)
Net	(469.9)	(6.6)	(476.5)	285.9	0.5	286.4
Financial assets at fair value	(12.4)	—	(12.4)	—	—	—
Items that will not be reclassified to income	(482.3)	(6.6)	(488.9)	285.9	0.5	286.4
Other comprehensive income (loss) for the period net of tax	(483.3)	(6.3)	(489.6)	209.1	3.7	212.8
TOTAL COMPREHENSIVE INCOME FOR THE PERIOD	638.6	18.2	656.8	1,190.9	49.8	1,240.7

a) Fully consolidated entities.

7.1.3 Consolidated statement of changes in equity

(in € millions)	Number of shares outstanding (thousands)	Share capital	Additional paid-in capital	Retained earnings ^(a)	Cash flow hedge	Cumulative translation adjustment	Treasury shares	Total attributable to shareholders of the parent company	Non-controlling interests	Total equity
AT 1 JANUARY 2018	212,090	638.0	4,053.2	464.8	21.2	(218.2)	(52.5)	4,906.5	216.8	5,123.3
Net income	–	–	–	981.8	–	–	–	981.8	46.1	1,027.9
Other comprehensive income	–	–	–	285.9	(69.9)	(6.9)	–	209.1	3.7	212.8
Total comprehensive income for 2018	–	–	–	1,267.7	(69.9)	(6.9)	–	1,190.9	49.8	1,240.7
Employee share issues	445	1.3	14.9	–	–	–	–	16.2	–	16.2
Parent company dividend distribution (Note 8.1)	–	–	–	(382.1)	–	–	–	(382.1)	–	(382.1)
Third-party share in dividend distribution of subsidiaries	–	–	–	–	–	–	–	–	(41.7)	(41.7)
Share-based payments (Note 9.4)	–	–	–	16.3	–	–	–	16.3	–	16.3
Acquisitions/disposals of treasury shares (Note 8.1)	(79)	–	–	(21.1)	–	–	(14.8)	(35.9)	–	(35.9)
Other	–	–	–	(12.3)	–	–	–	(12.3)	–	(12.3)
AT 31 DECEMBER 2018	212,456	639.3	4,068.1	1,333.3	(48.7)	(225.1)	(67.3)	5,699.6	224.9	5,924.5
Impact of IFRS 16 standard (Note 1.2)	–	–	–	5.7	–	–	–	5.7	–	5.7
At 1 January 2019 restated	212,456	639.3	4,068.1	1,339.0	(48.7)	(225.1)	(67.3)	5,705.3	224.9	5,930.2
Net income	–	–	–	1,121.9	–	–	–	1,121.9	24.5	1,146.4
Other comprehensive income	–	–	–	(482.3)	(45.4)	44.4	–	(483.3)	(6.3)	(489.6)
Total comprehensive income for 2019	–	–	–	639.6	(45.4)	44.4	–	638.6	18.2	656.8
Employee share issues	213	0.7	6.2	–	–	–	–	6.9	–	6.9
Parent company dividend distribution (Note 8.1)	–	–	–	(463.1)	–	–	–	(463.1)	–	(463.1)
Third-party share in dividend distribution of subsidiaries	–	–	–	–	–	–	–	–	(18.3)	(18.3)
Share-based payments (Note 9.4)	–	–	–	26.3	–	–	–	26.3	–	26.3
Acquisitions/disposals of treasury shares (Note 8.1)	88	–	–	(40.8)	–	–	10.8	(30.0)	–	(30.0)
Purchase of Gemalto minority interests (Note 3.1)	–	–	–	(437.0)	–	–	–	(437.0)	7.2	(429.8)
Other	–	–	–	2.2	–	–	–	2.2	0.9	3.1
AT 31 DECEMBER 2019	212,757	640.0	4,074.3	1,066.2	(94.1)	(180.7)	(56.5)	5,449.2	232.9	5,682.1

(a) This item includes actuarial gains and losses on net pension obligations, recognised directly in equity and not subsequently reclassified to profit and loss (–€1,621.6 million at end 2018, –€2,132.5 million at end 2019).

7.1.4 Consolidated balance sheet

Assets

(in € millions)	Notes	31/12/2019	31/12/2018
Goodwill, net	Note 4.1	5,981.5	3,445.2
Property, plant and equipment, and other intangible assets, net	Note 4.2	6,640.8	2,578.2
Investments in joint ventures	Note 5.1	1,090.1	1,086.3
Investments in associates	Note 5.2	243.0	220.0
Non-consolidated investments	Note 6.4	196.3	123.9
Other non-current financial assets	Note 6.4	174.1	169.9
Non-current derivatives – assets	Note 6.6	16.8	16.7
Deferred tax assets	Note 7.3	1,002.1	891.7
NON-CURRENT ASSETS		15,344.7	8,531.9
Inventories, work in progress and set-up costs	Note 10.1	3,731.3	3,080.6
Contract assets	Note 10.2	3,088.9	2,538.4
Advances to suppliers	Note 10	549.5	652.3
Accounts, notes and other current receivables	Note 10.4	5,239.5	4,671.7
Current derivatives – assets	Note 6.6	109.6	91.6
Total current operating assets		12,718.8	11,034.6
Current tax receivable	Note 7.3	212.6	45.8
Current financial assets	Note 6.2	15.9	256.0
Cash and cash equivalents	Note 6.2	2,931.4	5,637.5
Total current financial assets		2,947.3	5,893.5
CURRENT ASSETS		15,878.7	16,973.9
TOTAL ASSETS		31,223.4	25,505.8

Equity and liabilities

(in € millions)	Notes	31/12/2019	01/01/2018
Capital, additional paid-in capital and other reserves		5,686.4	5,992.0
Cumulative translation adjustments		(180.7)	(225.1)
Treasury shares		(56.5)	(67.3)
Total attributable to shareholders of the parent company		5,449.2	5,699.6
Non-controlling interests		232.9	224.9
TOTAL EQUITY	Note 8.1	5,682.1	5,924.5
Long-term loans and borrowings	Note 6.2	4,306.4	2,408.5
Non-current derivatives – Liabilities	Note 6.6	14.5	13.1
Pensions and other long-term employee benefits	Note 9.3	2,945.2	2,326.7
Deferred tax liabilities	Note 7.3	783.3	216.4
NON-CURRENT LIABILITIES		8,049.4	4,964.7
Contract liabilities	Note 10.2	6,414.9	6,108.2
Reserves for contingencies	Note 10.3	1,960.0	1,730.8
Accounts, Notes and other current payables	Note 10.4	6,813.7	6,148.5
Current derivatives – liabilities	Note 6.6	150.5	273.7
Total current operating liabilities		15,339.1	14,261.2
Current tax payable	Note 7.3	184.5	34.2
Short-term loans and borrowings	Note 6.2	1,968.3	321.2
CURRENT LIABILITIES		17,491.9	14,616.6
TOTAL EQUITY AND LIABILITIES		31,223.4	25,505.8

7.1.5 Consolidated statement of cash flows

(in € millions)	Notes	2019	2018
Net income		1,146.4	1,027.9
Add (deduct):			
Income tax expense (gain)		301.0	314.2
Net interest expenses (income)		43.3	6.9
Share in net income of equity affiliates		(142.0)	(144.7)
Dividends received from equity-accounted affiliates: joint ventures		72.4	43.0
Dividends received from equity-accounted affiliates: associates		38.6	44.1
Depreciation and amortisation of property, plant and equipment and intangible assets	Note 4.2	1,112.5	485.0
Provisions for pensions and other employee benefits	Note 9.3	154.9	183.9
Loss (gain) on disposal of assets and other	Note 3.2	(218.6)	73.0
Provisions for restructuring, net	Note 10.3	20.1	(26.0)
Other items		19.0	(75.5)
Operating cash flows before working capital changes, interest and tax		2,547.6	1,931.8
Change in working capital and reserves for contingencies	Note 10	(341.3)	(518.8)
Cash contributions to pension plans (defined benefit plans) and other long-term employee benefits, of which:	Note 9.3	(245.9)	(227.2)
• UK deficit payment		(98.1)	(98.3)
• Recurring contributions/benefits		(147.8)	(128.9)
Interest paid		(53.5)	(23.3)
Interest received		16.9	21.3
Income tax paid		(153.6)	(91.1)
NET CASH FLOW FROM OPERATING ACTIVITIES	- I -	1,770.2	1,092.7
Acquisitions of property, plant and equipment and intangible assets		(503.3)	(393.2)
Disposals of property, plant and equipment and intangible assets		7.0	12.9
Net operating investments		(496.3)	(380.3)
Investments in subsidiaries and affiliates	Note 6.3	(4,980.1)	(71.7)
Related cash and cash equivalent acquired		271.9	—
Disposals of subsidiaries and affiliates, net	Note 6.3	364.1	10.6
Decrease (increase) in loans and non-current financial assets		(11.1)	18.8
Decrease (increase) in current financial assets		236.3	73.8
Net financial investments		(4,118.9)	31.5
NET CASH FLOW USED IN INVESTING ACTIVITIES	- II -	(4,615.2)	(348.8)
Parent company dividend distribution		(463.1)	(382.1)
Third party share in dividend distribution of subsidiaries		(18.3)	(41.8)
Exercise of share subscription options and (purchase) sale of treasury shares		(23.0)	(19.4)
Issuance of debt		1,365.3	1,585.5
Repayment of debt		(732.6)	(525.0)
NET CASH FLOW FROM/USED IN FINANCING ACTIVITIES	- III -	128.3	617.2
Effect of exchange rate changes and other	- IV -	10.6	(6.3)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	I + II + III + IV	(2,706.1)	1,354.8
Cash and cash equivalents at beginning of period		5,637.5	4,282.7
CASH AND CASH EQUIVALENTS AT END OF PERIOD		2,931.4	5,637.5

The Group's net cash position and the changes from one period to the next are presented in notes 6.2 and 6.3.

7.1.6 Notes to the consolidated financial statements

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All monetary amounts included in these notes are expressed in millions of euros.

NOTE 1. ACCOUNTING STANDARDS FRAMEWORK

Thales's consolidated financial statements for the year ending 31 December 2019 were approved and authorised for issue by its Board of Directors on 25 February 2020. In accordance with French law, the financial statements will be deemed final once they have been adopted by the shareholders of the Group at the Annual General Meeting to be held on 6 May 2020.

Thales (parent company) is a French publicly traded joint-stock company (*société anonyme*) registered with the Nanterre Trade and Company Register under number 552 059 024.

1.1 Basis of preparation for the 2019 consolidated financial statements

Thales's consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS) approved by the European Union at 31 December 2019⁽¹⁾.

These accounting policies, described in Note 13, are consistent with those applied by the Group for the year ending 31 December 2018, with the exception of those resulting from the first application of IFRS 16 (Leases) as described in Note 1.2 below.

IFRIC 23 (Uncertainty over income tax treatment) interpretation, which clarifies the rules for recognizing and measuring income tax uncertainties, has no significant impact on the Group's valuation of current and deferred taxes as of 1 January, 2019. In accordance with the new text, uncertain tax liabilities, previously disclosed in the reserves for contingencies have been reclassified as corporate income tax liabilities (cf. Note 10.3). The balance-sheet at the end of 2018 has not been restated.

Amendments to IFRS 9 (Prepayment features with negative compensation), IAS 28 (Long-term Interests in Associates and joint ventures) and IAS 19 (Amendments, reductions or settlements) as well as annual improvements to IFRS (2015-2017 cycle), mandatorily applicable as of 1 January, 2019, have no impact on the Group's financial statements.

The Group has chosen to early apply the amendment to IFRS 9, IAS 39 and IFRS 7 published by the IASB in September 2019 as part of the interest rate benchmark reform. This amendment allows the Group to ignore uncertainties about the future of the benchmark rates when assessing the effectiveness of hedging relationships and/or in assessing the highly probable nature of the risk covered, thereby making it possible to secure existing or future hedging relationships until the removal of these uncertainties. Interest rate derivatives documented to cover debts indexed to a benchmark rate are presented in Note 6.6.

1.2 First implementation of IFRS 16 (leases)

IFRS 16 "Leases" is mandatory as from 1 January, 2019 and replaces IAS 17 and the associated IFRIC and SIC interpretations. Previously, each lease contract was qualified either as a finance lease or an operating lease, with a specific accounting treatment for each category.

The Group has adopted the new standard using the "modified retrospective" approach. Therefore, the 2018 financial statements included in the 2019 financial statements have not been restated.

The Group rents its offices and production sites in most of the locations where it operates. Other leases in IFRS 16 scope relate mainly to vehicles and marginally to some computers. Under IAS 17, these contracts were exclusively classified as operating leases and the corresponding rents recorded as period cost.

IFRS 16 treats all leases in a single accounting model consisting in recording a financial debt (based on the discounted value of future lease payments) on the lessee's liabilities, and a right-of-use on the asset side. The right-of-use is subsequently amortised over the term of the lease agreements.

The principles adopted by the Group for the valuation and recognition of lease contracts are described in Note 13-h. As part of the transition, the Group adopted the following rules provided by the standard for determining values on the date of first application on January 1, 2019:

- the contracts with a remaining term of less than 12 months as of 1st January 2019 have not been accounted for as an asset and a debt, under the conditions provided for by the standard;
- the initial direct costs have been excluded from the assessment of the right of use;
- the lease liability was assessed on the basis of the discount rates at 1st January 2019, taking into account the remaining terms of the contracts. The weighted average discount rate used is 1.47%.

The transition method used assumes that, at that date, the right-of-use asset is equal to the amount of the lease liability, adjusted by the amount of rent paid in advance and the lease incentives received from the lessors.

In limited circumstances (significant rent-free periods), and as allowed by the standard, the asset has been retrospectively measured. The cumulative effect of the change in method was recorded through equity as from 1st January 2019.

The corresponding deferred tax assets and liabilities have been accounted for.

(1) Disponibles sur le site <https://ec.europa.eu/info/law/international-accounting-standards-regulation-ec-no-1606-2002>.

The impact of this new standard on the 2019 financial statements is presented below:

Impacts on the consolidated balance sheet (in € million)	01/01/2019	31/12/2019
Right-of-use from lease contracts (included in Property, plant and equipment) ^(a)	1,481.5	1,650.9
Trade and other receivables	(4.9)	(3.0)
TOTAL ASSETS	1,476.6	1,647.9
Equity	5.7	(5.1)
Lease liability (included in financial debt)	1,507.2	1,724.7
Trade and other payables	(36.3)	(71.7)
TOTAL EQUITY AND LIABILITIES	1,476.6	1,647.9

(a) Real estate contracts account for 99% of the assets.

Impacts on the consolidated P&L (in € million)	2019
Income from operations ^(a)	12.4
Financial interests from lease debt	(27.4)
Income tax	4.2
NET INCOME	(10.8)

(a) Lease expense is now replaced by an amortisation of the right of use.

Impacts on the consolidated cash flow statement (in € million)	2019
Net income	(10.8)
Add (deduct):	
Income tax expense (gain)	(4.2)
Financial interests from lease debt	27.4
Amortisation of right of use	229.3
Change in WCR	(17.6)
Interests paid	(21.1)
Net cash flow from operating activities	203.0
Repayment of lease liability (included in repayment of debt)	(203.0)
Net cash flow from/used in financing activities	(203.0)
CHANGE IN CASH AND CASH EQUIVALENTS	—

The reconciliation of the lease debt at 1st January 2019 with the off-balance sheet commitments published at the end of 2018 can be analyzed as follows:

Reconciliation of the lease liability with off-balance sheet commitments (in € million)	
Property lease commitments published end of 2018	1,659.4
Adjustments following detailed review of leases	(44.9)
Other lease commitments (vehicles and other)	20.6
Impact of discounting	(127.9)
Lease liability at 1st January 2019	1,507.2

1.3 New standards mandatory after 31 December 2019

The following standards have been adopted by the IASB and will be effective for the periods indicated below pending their adoption by the European Union (as applicable). The assessment of the potential impacts of these new standards on the Group's consolidated financial statements is underway.

Accounting standard	Description	First-time application	EU endorsement
Amendments to IFRS 3	Clarifies the definition of a "business"	1st January 2020	Yes
Amendments to IAS 1 and IAS 8 (Definition of material)	Clarifies the definition of the term "significant"	1st January 2020	Yes
Amendments of references to IFRS conceptual framework	Updates the references to the conceptual framework of certain IFRS standards	1st January 2020	Yes

1.4 Translation

The main exchange rates used to translate financial statements of entities with a functional currency different from the euro are as follows:

Euros	31 December 2019		31 December 2018		31 December 2017	
	Closing rate	Average rate	Closing rate	Average rate	Closing rate	Average rate
Australian dollar	1.5995	1.6079	1.6220	1.5832	1.5346	1.4795
Pound sterling	0.8508	0.8759	0.8945	0.8860	0.8872	0.8757
U.S. dollar	1.1234	1.1195	1.1450	1.1793	1.1993	1.1370

1.5 Main sources of estimates

The preparation of the Group's consolidated financial statements involves making estimates and assumptions that have an impact on the assessment of the Group's performance and its consolidated assets and liabilities. These estimates are based on past experience and factor in the economic conditions prevailing at the end of the reporting period and any information available as of the date at which the financial statements are prepared.

In today's global economic environment, the degree of volatility and subsequent lack of visibility are particularly high. Future facts and circumstances could lead to changes in these estimates or assumptions which could affect the Group's financial situation, profit and loss and/or cash flows, notably with regard to:

Recognition of revenue over time (Note 10)

A very significant part of the Group's revenue and current operating income stems from contracts recognised according to the percentage of completion method. These contracts often span several financial years. In the accounting closing process, the recognition of revenue and operating margin relating to these contracts depends mainly:

- on estimates of revenue and margin at completion, including provisions for technical and commercial risks;
- on costs incurred to date compared to the total costs expected at completion.

Monitoring of costs incurred to date and estimates of figures at completion are based, for each contract, on the Group's internal systems and procedures, with project managers playing a key role. These estimates are reviewed regularly by the Operations and Finance departments, under the supervision of the Group's corporate management, particularly at each period-end reporting.

Litigation (Note 11)

The Group conducts its business in France and abroad in complex, evolving legal and regulatory environments. As a result, it is exposed to technical and commercial disputes.

The Group regularly identifies and reviews all current commercial, civil or criminal litigation and pre-litigation, and recognises any accounting provisions that it considers to be reasonable. Uncertainties concerning litigation in progress are described in Note 11.

Business combinations

Business combinations are accounted for in accordance with the purchase accounting method described in Note 13-b: thus, on the date of the takeover of a company, the acquiree's identifiable assets and liabilities are measured at their fair value. These valuations are performed by independent experts who base their work on assumptions and must estimate the effects of future events, which are uncertain at the acquisition date.

Goodwill (Note 4.1)

Goodwill is subject to impairment tests. The recoverable amount of goodwill is assessed based on forecasts extracted from the strategic plans prepared in accordance with Group procedures. Sensitivity tests are carried out on key assumptions in order to lend greater weight to the conclusions reached.

Pensions and other long-term employee benefits (Note 9.3)

Pensions and other long-term employee benefit commitments are estimated on statistical and actuarial bases in accordance with the policies outlined in Note 13-k. Actuarial assumptions made by the Group (discount rates, inflation rate, mortality tables, etc.) are reviewed each year with the actuaries.

Deferred tax assets (Note 7)

Deferred tax assets are recognised for tax loss carry-forwards and temporary differences between the book value and the tax value of assets and liabilities. Recovery of these assets is assessed on the basis of forecasts extracted from the strategic plans of each of the tax groups considered, generally over a period of five years.

NOTE 2. SEGMENT INFORMATION

2.1 Business segments

The business segments presented by the Group are as follows:

- the **Aerospace** segment combines the “Avionics” and “Space” Global Business Units. They develop on-board systems and services for private sector customers (aircraft manufacturers, airlines, satellite operators, etc.) and for government/defence customers (national governments, space agencies and other semi-public organisations);
- the **Transport** segment (“Ground Transportation Systems” Global Business Unit) develops civil systems and services for ground transportation infrastructure operators;
- the **Defence & Security** segment combines the “Secure Communications and Information Systems”, “Land and Air Systems” and “Defence Mission Systems” Global Business Units. They develop equipment,

systems and services for armed forces and for the protection of networks and infrastructure, mainly for a government/defence customer base.

- the **Digital Identity & Security** segment, includes Gemalto (consolidated as from 1st April 2019), which develops digital identity and security solutions for a private and government customer base, and some digital businesses previously included in the Defense & Security segment, in particular in data protection and analytics. The 2018 data presented below have been restated to take into account this segment change.

In 2019, the Group's business is balanced between civilian customers (55%) and military customers (45%).

2.2 Sales

2019	Aerospace	Transport	Defence & Security	Digital I&S	Other	Thales
Sales by destination:						
Europe	3,462.7	1,049.5	4,521.3	736.2	28.6	9,798.3
North America	780.5	88.6	467.0	758.0	7.4	2,101.5
Australia and New Zealand	53.0	40.3	812.0	52.5	0.1	957.9
Total mature markets	4,296.2	1,178.4	5,800.3	1,546.7	36.1	12,857.7
Emerging markets ^(a)	1,298.9	731.7	2,464.3	1,005.2	43.2	5,543.3
TOTAL	5,595.1	1,910.1	8,264.7	2,551.9	79.3	18,401.0
Revenue recognition method:						
Over time	3,383.9	1,632.4	6,708.1	472.9	36.0	12,233.3
At a point in time	2,211.2	277.7	1,556.6	2,079.0	43.2	6,167.7
TOTAL	5,595.1	1,910.1	8,264.7	2,551.9	79.2	18,401.0
2018						
Sales by destination:						
Europe	3,564.8	1,083.7	4,023.3	33.0	30.7	8,735.5
North America	769.5	60.4	408.3	126.6	2.2	1,367.0
Australia and New Zealand	48.8	39.3	767.3	2.5	—	857.9
Total mature markets	4,383.1	1,183.4	5,198.9	162.1	32.9	10,960.4
Emerging markets ^(a)	1,396.4	817.1	2,628.8	29.8	22.2	4,894.3
TOTAL	5,779.5	2,000.5	7,827.7	191.9	55.1	15,854.7
Revenue recognition method:						
Over time	3,615.4	1,734.2	6,197.8	27.6	21.1	11,596.0
At a point in time	2,164.1	266.3	1,629.9	164.3	34.0	4,258.7
TOTAL	5,779.5	2,000.5	7,827.7	191.9	55.1	15,854.7

(a) Emerging markets: all countries outside Europe, North America, Australia and New Zealand.

2.3 Commercial activity and EBIT by segment

In order to monitor the operating and financial performance of Group entities, the Group's management regularly considers certain key non-GAAP indicators as defined in Note 13-a, which enable them to exclude certain non-operating and non-recurring items.

In particular, EBIT, presented by business segment below, corresponds to income from operations plus the share in net income of equity affiliates, excluding expenses related to business combinations (amortisation of acquisition-related assets (PPA) and other expenses directly linked to business combinations).

2019	Aerospace	Transport	Defence & Security	Digital I&S	Other ^(b)	Thales
Order book – non-Group at 31/12	7,306.3	4,076.2	21,773.8	588.4	94.0	33,838.7
Order intake – non-Group	4,828.9	1,750.6	9,906.5	2,572.9	82.7	19,141.6
Sales – non-Group	5,595.1	1,910.1	8,264.7	2,551.9	79.2	18,401.0
Sales – intersegment	86.2	2.5	338.,1	8.6	(435.4)	–
Total sales	5,681.3	1,912.6	8,602.8	2,560.5	(356.2)	18,401.0
EBIT	520.8	56.1	1,152.9	263.9	14.3	2,008.0
• of which, Naval Group	–	–	–	–	64.7	64.7
• excluding Naval Group	520.8	56.1	1,152.9	263.9	(50.4)	1,943.3
Capital expenditures	124.1	19.6	162.9	68.4	128.3	503.3
Dep. and amort. of property, plant and equipment and intangible assets ^(a)	144.5	29.1	147.6	104.1	294.0	719.3

2018	Aerospace	Transport	Defence & Security	Digital I&S	Other ^(b)	Thales
Order book – non-Group at 31/12	7,984.8	4,143.5	20,012.0	118.9	69.5	32,328.7
Order intake – non-Group	5,345.7	1,858.2	8,569.8	205.2	55.4	16,034.3
Sales – non-Group	5,779.5	2,000.5	7,827.7	191.9	55.1	15,854.7
Sales – intersegment	66.9	5.7	295.2	5.4	(373.2)	–
Total sales	5,846.4	2,006.2	8,122.9	197.3	(318.1)	15,854.7
EBIT	579.7	88.3	991.8	15.4	10.0	1,685.2
• of which, Naval Group	–	–	–	–	62.7	62.7
• excluding Naval Group	579.7	88.3	991.8	15.4	(52.7)	1,622.5
Capital expenditures	128.8	12.8	141.3	5.9	104.4	393.2
Dep. and amort. of property, plant and equipment and intangible assets	133.9	11.4	119.2	3.7	113.8	382.0

(a) This amount includes amortisation of right of use from lease contracts but excludes those related to PPA (€375.3 million related to acquired intangible assets and €17.3 million to tangible asset revaluation).

(b) Order intake and sales included in the "Other, elim. and unallocated" column relate to corporate activities (Thales parent company, Thales Global Services, Group R&D centres, facilities management), and to the elimination of transactions between business segments.

Unallocated EBIT includes the Group's share (35%) in the net income of Naval Group, corporate income from operations which is not assigned to segments, and the cost of vacant premises. Other costs (mainly the costs of foreign holding companies not invoiced, and expenses related to share-based payments) are reallocated to business segments proportionally to their respective non-Group sales.

At the end of 2019, the order book stood at €33,838.7 million. Around 75% of this amount is expected to convert into sales within three years.

The reconciliation between income from operations and EBIT is analysed as follow:

	2019	2018
Income from operations	1,283.4	1,402.8
Less, amortisation of acquisition-related assets (PPA)	527.5	102.8
• intangible assets	375.3	102.8
• property, plant and equipment	17.3	–
• net inventories and work in progress	74.0	–
• deferred revenue	60.9	–
Less, expenses directly linked to business combinations	26.5	7.9
• restructuring costs	20.7	–
• other expenses	5.8	7.9
Share in net income of equity affiliates	142.0	144.7
Less, PPA amortisation related to equity affiliates	28.6	27.0
EBIT	2,008.0	1,685.2

NOTE 3. IMPACT OF CHANGES IN SCOPE OF CONSOLIDATION

3.1 Main changes in scope of consolidation

- In December 2017, Thales and Gemalto (leader in digital security) announced the signing of a merger agreement including a cash offer, at a price of €51 per ordinary share cum dividend (therefore valuing equity at around €4.8 billion).

The settlement and delivery of the initial offer took place on 2nd April 2019. At that date, Thales acquired 79,827,790 Gemalto shares for an amount of € 4.07 billion, representing 85.51% of the capital. Upon expiration of the Post-Acceptance Period, 10,742,274 additional shares were tendered to the Offer.

In order to acquire all remaining Gemalto shares, the Group initiated on 29 May 2019 a squeeze-out procedure on Euronext. On 17 September 2019, the Enterprise Chamber of the Court of Appeal in Amsterdam (Netherlands) rendered its judgment in the statutory buy-out proceedings initiated by Thales. In early October, Thales acquired all of the shares still outstanding at that date, bringing Thales's percentage of Gemalto shares held to 100%.

Gemalto has been consolidated in Thales' financial statements since 1st April 2019. The Group has performed a preliminary allocation of the purchase price. In accordance with IFRS 3, this allocation will be finalized by 31 March 2020.

(in € million)	Fair Value at the acquisition date
Acquired technologies	1,240.6
Acquired customer relationship	661.0
Acquired brands	350.0
Other	39.5
Intangible assets	2,291.1
Property, plant and equipment	500.3
Other current and non current assets and liabilities	309.2
Net financial debt	(730.0)
Current and deferred income tax liability, net	(615.0)
Net asset	1,755.6
ACQUISITION PRICE OF 85.51% OF THE SECURITIES (I)	4,071.2
SHARE IN THE ACQUIRED ASSETS AND LIABILITIES (85.51%) (II)	1,501.2
GOODWILL (I) – (II)	2,570.0

The Group has decided to determine goodwill under the partial goodwill method. According to this method, the purchase of minority interests (representing 14.49% of Gemalto equity) after the takeover date constitutes a transaction between shareholders.

As a result, the difference between the acquisition price of these interests (€691 million) and Thales's share in the net assets acquired (€254 million) was recognized as a reduction of the Group's shareholders' equity (–€437 million).

Costs directly related to the acquisition were recorded in the line "results of disposal, change in scope and others" (Note 3.2).

Gemalto's contribution to the Group's consolidated results for the nine months following the acquisition is as follows:

(in € million)	2019
Sales	2,376.8
Income from operations ^(a)	(150.5)
EBIT	289.7

(a) Including the effect of asset revaluation at fair value as part of Gemalto's purchase price allocation for (–€416.1 million) and other expenses directly related to the acquisition (–€23.2 million).

If Gemalto's acquisition had taken place on 1st January 2019, contributions to the Group's consolidated financial results would have been as follows:

(in € million)	2019
Sales	3,028.3
Income from operations ^(a)	(239.9)
EBIT	299.3

(a) Including the effect of asset revaluation at fair value as part of Gemalto's purchase price allocation for (–€515.1 million) and other expenses directly related to the acquisition (–€23.2 million).

- In the framework of this transaction, and as required by some antitrust authorities, the Group announced on 22 February 2019 the signature of a definitive agreement to sell its General Purpose Hardware Security Modules (GP HSM) business to Entrust datacard company. The disposal, completed in early June 2019 for an amount of €362.4 million, resulted in the recognition of a capital gain from disposal of €223.2 million.
 - In January 2019, Thales completed the acquisition of Ecom, specialised in terminals and secure communications, and Suneris (solutions for the monitoring and control of telecommunication network flows) for an amount of €100 million. These companies generated sales of around €40 million in 2018. They are consolidated using the full integration method as from 1 January 2019. Goodwill amounts to €60 million after allocation.
- Thales having transferred control of its activity at the beginning of January 2019, the corresponding assets and liabilities have been deconsolidated since that date. This business generated €106 million in sales in 2018.

3.2 Disposal of assets, changes in scope of consolidation and other

	2019	2018
Disposal of investments	213.9	12.4
GP HSM business	223.2	–
Other disposal of investments	(9.3)	12.4
Acquisition-related fees (consultants, legal counsel, etc.)	(28.3)	(62.7)
Disposal of real estate and other tangible and intangible assets	(1.5)	5.2
Impact of settlements/amendments to pension plans (Note 9)	34.5	(27.9)
TOTAL	218.6	(73.0)

NOTE 4. PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

4.1 Goodwill

a) Change in goodwill

Goodwill is allocated to cash-generating units (CGUs) or groups of CGUs corresponding to Thales's Global Business Units (GBU):

	01/01/2019	Acquisitions	Disposals	Impairment	Exchange rate and other	31/12/2019
Avionics	463.8	—	—	—	2.0	465.8
Space	489.2	—	—	—	1.4	490.6
Aerospace	953.0	—	—	—	3.4	956.4
Transport	875.3	4.5	—	—	—	879.8
Secure Communication & Information Systems	850.6	60.0 ^(a)	(142.0) ^(b)	(119.3)	2.0	651.3
Land and Air Systems	309.3	—	—	—	0.1	309.4
Defence Mission Systems	457.0	—	—	—	0.6	457.6
Defence and Security	1,616.9	60.0	(142.0)	(119.3)	2.7	1,418.3
Digital Identity and Security	—	2,605.5 ^(d)	—	119.3 ^(c)	2.2	2,727.0
TOTAL	3,445.2	2,670.0	(142.0)	—	8.3	5,981.5

(a) Acquisition of Ercom and Suneris.

(b) Disposal of General Purpose Hardware Security Module (GP HSM) business.

(c) Reallocation of goodwill related to Guavus and e-Security business, given the organisational change. This reallocation was based on relative fair values at that date.

(d) Including Gemalto acquisition: €2,570 million. Purchase price allocation will be finalized by 31 March 2020.

	01/01/2018	Acquisitions	Disposals	Impairment	Exchange rates and other	31/12/2018
Avionics	472.2	—	—	—	(8.4)	463.8
Space	488.6	—	—	—	0.6	489.2
Aerospace	960.8	—	—	—	(7.8)	953.0
Transport	875.3	—	—	—	—	875.3
Secure Communication & Information Systems	842.0	3.5	—	—	5.1	850.6
Land and Air Systems	309.6	—	—	—	(0.3)	309.3
Defence Mission Systems	459.5	—	—	—	(2.5)	457.0
Defence and Security	1,611.1	3.5	—	—	2.3	1,616.9
TOTAL	3,447.2	3.5	—	—	(5.5)	3,445.2

b) Impairment tests

Goodwill is subject to annual impairment tests in accordance with the Group's budgetary timetable. Value in use is determined on the basis of discounted future operating cash flows over a three-year period and a terminal value. Calculation is based on data from the strategic plans prepared in accordance with Group procedures. In certain specific cases (recent acquisitions, non-typical annual results, etc.), the terminal value is determined based on forecasts over an appropriate period of time.

At end 2019 and 2018, impairment tests were performed with the assumption of an 8% discount rate for all CGUs, considering that CGUs presented similar levels of risk and that specific CGU risks were factored into forecasts.

The assumptions used concern growth in sales and terminal values. They are based on reasonable estimations in line with specific data available for each business segment (usually, terminal value is based on average income from operations over the three years of the strategic plan, with growth capped at 2%).

At end 2019, the overall value in use of Group CGUs was higher than its carrying amount.

c) Sensitivity of values in use

The Group also tests the sensitivity of values in use based on reasonable changes in key assumptions. At end 2019, a 1-point increase in the discount rate, a 1-point decrease in the growth rate or a 2-point decrease in operating profitability of Group CGUs would not trigger any additional impairment.

4.2 Plant, property and equipment and other intangible assets

a) Change in net assets

	01/01/2019	Change in scope	Acquisitions	Disposal	Depr., amort.	Exch. Rate and other	31/12/2019
Acquired intangible assets	604.9	2,314.5	—	—	(375.3)	16.9	2,561.0
Capitalised development costs	30.8	26.5	28.2	—	(27.4)	0.5	58.6
Other	133.6	40.9	67.3	—	(64.3)	13.3	190.8
Intangible assets	769.3	2,381.9	95.5	—	(467.0)	30.7	2,810.4
Right of use from lease contracts	1,481.5	109.5	298.7	—	(229.3)	(9.5)	1,650.9
Property, plant and equipment ^(a)	1,808.9	384.7	407.8	(7.0)	(416.2)	1.3	2,179.5
Tangible assets	3,290.4	494.2	706.5	(7.0)	(645.5)	(8.2)	3,830.4
Total	4,059.7	2,876.1	802.0	(7.0)	(1,112.5)	22.5	6,640.8
Less, new lease contracts			(298.7)				
Operating investment^(b)			503.3				

(a) Of which €115 million related to Gemalto Purchase Price Allocation, amortised for €17.3 million in 2019.

(b) Presented in the statement of cash-flows.

	01/01/2018	Acquisitions	Disposal	Depr., amort.	Exch. Rate and other	31/12/2018
Acquired intangible assets	694.6	—	—	(102.8)	13.1	604.9
Capitalised development costs	52.2	15.6	—	(16.3)	(20.7)	30.8
Other	136.7	53.8	—	(49.7)	(7.2)	133.6
Intangible assets	883.5	69.4	—	(168.6)	(14.8)	769.3
Property, plant and equipment	1,819.9	323.8	(12.9)	(316.4)	(5.5)	1,808.9
TOTAL	2,703.4	393.2	(12.9)	(485.0)	(20.3)	2,578.2

b) Breakdown by item

			31/12/2019	31/12/2018
	Gross	Depr., amort., and impairment	Net	Net
Technologies acquired	2,140.4	(674.6)	1,465.8	391.7
Customer relationships acquired	1,251.2	(452.3)	798.9	196.8
Order book acquired	287.4	(272.1)	15.3	11.4
Brand	351.8	(73.3)	278.5	–
Other intangible assets	73.5	(71.0)	2.5	5.0
Acquired intangible assets (business combinations)	4,104.3	(1,543.3)	2,561.0	604.9
Development costs	960.0	(901.4)	58.6	30.8
Other intangible assets	1,043.9	(853.1)	190.8	133.6
Intangible assets	6,108.2	(3,297.8)	2,810.4	769.3
Right of use from lease contracts	1,996.1	(345.2)	1,650.9	–
Land	62.7	(9.2)	53.5	51.4
Buildings	2,119.5	(1,320.8)	798.7	721.3
Technical facilities, industrial equipment and tooling	3,505.9	(2,662.6)	843.3	583.9
Other property, plant and equipment	1,326.1	(842.1)	484.0	452.3
Property, plant and equipment	9,010.3	(5,179.9)	3,830.4	1,808.9

NOTE 5. INVESTMENTS IN JOINT VENTURES AND ASSOCIATES

5.1 Joint ventures

a) Group share in net equity and net income of joint ventures

	Investments in joint ventures		Share in net income		Share in comprehensive income	
	31/12/2019	31/12/2018	2019	2018	2019	2018
Naval Group (35%)	746.7	732.5	37.5	37.4	28.4	37.1
Other joint ventures ^(a)	343.4	353.8	48.3	61.5	42.8	72.9
TOTAL	1,090.1	1,086.3	85.8	98.9	71.2	110.0

(a) Not individually material, the value of each investment representing less than 10% of the total.

b) Change in investments in joint ventures

	31/12/19	31/12/18
Investments at opening	1,086.3	1,001.9
Share in net income of joint ventures	85.8	98.9
Translation adjustments	0.7	0.3
Cash flow hedges	0.3	11.6
Actuarial gains (losses) on pensions	(15.6)	(0.8)
Share in comprehensive income of joint ventures	71.2	110.0
Dividends paid	(72.4)	(43.0)
Capital increase and other	5.0	17.4
INVESTMENTS AT CLOSING	1,090.1	1,086.3

c) Naval Group: summary financial information

Thales holds a 35% stake in the share capital of Naval Group, a subsidiary jointly controlled with the French State. Naval Group is specialised in naval defence.

Naval Group's financial statements after restatements for integration into Thales's financial statements (mainly linked to acquisition-related intangible assets) are presented below:

Summary balance sheet, based on a 100% interest	31/12/19	31/12/18
Non-current assets	2,184.4	2,111.0
Current assets	4,551.6	4,699.2
Total assets	6,736.0	6,810.2
Restated equity, attributable to shareholders	1,299.1	1,258.6
Non-controlling interests	16.6	21.9
Non-current liabilities	609.1	561.3
Current liabilities	4,811.2	4,968.4
Total equity and liabilities	6,376.0	6,810.2
Net cash	1,903.3	1,992.1

Consolidation by Thales	31/12/19	31/12/18
Restated equity attributable to shareholders of the company	1,299.1	1,258.6
<i>Thales's interest</i>	35%	35%
Thales's share	454.7	440.5
Goodwill	292.0	292.0
Share in net assets of the joint venture	746.7	732.5

Income statement, based on a 100% interest	2019	2018
Sales	3,712.1	3,608.3
Income (loss) from operating activities, after share in net income of equity affiliates ^(a)	167.3	144.6
Financial income (loss)	(7.1)	0.9
Tax	(58.1)	(53.2)
Restated net income^(a)	101.7	92.3
• of which, attributable to shareholders of the company	107.1	106.9
• of which, attributable to non-controlling interests	(5.4)	(14.6)

(a) After Thales restatements, mainly PPA.

Consolidation by Thales	2019	2018
Restated net income attributable to shareholders of the company	107.1	106.9
Thales's interest	35%	35%
Share in net income of the joint venture	37.5	37.4
• of which, PPA amortisation	(27.2)	(25.3)
Share in net income of the joint venture, before PPA amortisation	64.7	62.7
Dividends received from the joint venture	15.4	10.1

d) Commitments toward joint ventures

At 31 December 2019, outstanding sureties, endorsements and guarantees granted by Thales S.A. (parent company) to its joint ventures amounted to €390.2 million (€381.2 million at 31 December 2018).

The Group's policy is to issue these commitments only in proportion to its equity interest, or to obtain counter-guarantees from the other shareholders in proportion to their interest.

e) Transactions with joint ventures (related parties)

The volume of transactions with joint ventures is as follows:

	2019	2018
Sales	490.9	584.7
Purchases	191.6	191.0
Loans and current accounts receivables	32.6	40.0
Borrowings and current accounts payables	7.5	11.3

5.2 Associates

The main associates are listed in Note 15. None of these companies is individually material with regard to consolidated aggregates. The mandatory disclosures are therefore presented in aggregate form in the table below.

a) Changes in investment in associates

	31/12/19	31/12/18
Investments in associates at 1 January	220.0	210.1
Share in net income of associates	56.2	45.8
Translation adjustments	7.8	3.9
Cash flow hedges	(4.9)	6.4
Actuarial gains (losses) on pensions	(0.1)	(0.2)
Share in total comprehensive income of associates	59.0	55.9
Dividends paid	(38.6)	(44.1)
Other	2.6	(1.9)
INVESTMENTS IN ASSOCIATES AT 31 DECEMBER	243.0	220.0

b) Commitments towards associates

The Group has no material off-balance sheet commitments towards associates.

NOTE 6. FINANCING AND FINANCIAL INSTRUMENTS

6.1 Financial income

a) Net interest income

	2019	2018
Financial interests related to lease contracts	(27.4)	–
Other interest expense:		
• from financial gross debt	(24.2)	(24.8)
• from interest rate swaps	(11.3)	(1.7)
	(35.5)	(26.5)
Interest income on cash and cash equivalents	19.6	19.6
TOTAL	(43.3)	(6.9)

b) Other financial income

	2019	2018
Foreign exchange gains (losses)	(9.0)	(9.6)
Cash flow hedges, ineffective portion	0.7	(2.5)
Change in fair value of currency derivatives ^(a)	(72.5)	(62.1)
Foreign exchange gains (losses)	(80.8)	(74.2)
Costs relating to the bridge loan set up to finance the acquisition of Gemalto	–	(8.4)
Other	(3.6)	4.3
TOTAL	(84.4)	(78.3)

(a) Includes the change in the fair value of swap points (–€64.8 million in 2019, –€55.2 million in 2018), and the time value of foreign exchange options documented as future cash flow hedges (–€6.0 million in 2019 and –€5.6 million in 2018), as well as changes in the fair value of derivatives not documented as hedges.

6.2 Net cash (net debt)

Group net cash (debt) is as follows:

	31/12/19	31/12/18
Current financial assets	15.9	256.0
Cash and cash equivalents	2,931.4	5,637.5
Cash and other short-term investments (I)	2,947.3	5,893.5
Financial debt	4,533.2	2,713.0
Lease debt	1,724.7	–
Gross debt^(a) (II)	6,257.9	2,713.0
NET CASH (I - II)	(3,310.6)	3,180.5

(a) Including:

- long term financial debt
- short term financial debt
- fair value of interest rate hedging derivatives

4,306.4	2,408.5
1,968.3	321.2
(16.8)	(16.7)

a) Current financial assets

	31/12/19	31/12/18
Current accounts receivable with related parties	15.5	3.5
Short-term deposits ^(a)	—	250.0
Accrued interests	0.4	2.5
CURRENT FINANCIAL ASSETS	15.9	256.0

(a) Investments in short-term deposits (3 to 12 months) with tier-one banks.

b) Cash and cash equivalents

At 31 December 2019, cash recorded under consolidated assets amounted to €2,931.4 million (€5,637.5 million at 31 December 2018) and included:

- €1,961.5 million held by the parent company and available for immediate use (4,809.4 million in 2018). These amounts include €51.4 million (€3,249.4 million in 2018) in very short-term deposits with tier-one banks or money market funds (UCITS);
- €969.9 million in the credit balances of subsidiaries (€828.1 million in 2018), most of them outside France. This figure includes payments received in the last days of the financial year and subsequently transferred to the cash pooling account.

c) Borrowings and debt

	31/12/19	31/12/18
Bond issues	3,286.7	2,400.0
Term loan	80.0	—
Treasury bills	746.0	—
Current accounts in credit with related parties	165.9	158.0
Bank overdrafts	167.7	94.7
Debt on investments in subsidiaries	59.6	43.3
Accrued interests and other debts	27.3	17.0
FINANCIAL DEBT	4,533.2	2,713.0

In 2019, the Group:

- issued a €500 million bond maturing in 2022 with a 0% coupon, forming part of the liquidity management of Thales aiming at maintaining the Group's financial flexibility;
- transferred to Thales SA of the public bond maturing 2021, issued by Gemalto in the framework of the Safenet acquisition, for a total amount of € 387 million;
- repaid early in full Gemalto's US private placement (USPP), for a total amount of € 264 million.

Bonds: key features

At the end of December 2019, the bonds had the following key features:

Nominal value	Issue date	Maturity	Type of rate	Coupon	Effective rate	
					Before hedging	After hedging
€500 million	April 2018	April 2020	Variable	3M Euribor + 0.2%	-0.13%	-0.13%
€300 million	March 2013	March 2021	Fixed ^(a)	2.25%	2.40%	1.04%
€387 million ^(b)	Sept. 2014	Sept. 2021	Fixed	2.125%	0.55%	0.55%
€500 million	May 2019	May 2022	Fixed	0%	0.02%	0.02%
€600 million	June 2016	June 2023	Fixed ^(a)	0.75%	0.84%	0.98%
€500 million	April 2018	April 2024	Fixed	0.875%	0.94%	1.11%
€500 million	January 2018	January 2025	Fixed	0.75%	0.91%	0.91%

(a) After reversal, during H1 2018, of the swaps put in place when the bonds were issued.

(b) Luxembourg listed loan issued by Gemalto in the framework of the Safenet acquisition and transferred in June 2019 to Thales SA which replaced Gemalto for bondholders. The effective rate takes into account the loan valuation at fair value as of 2nd April 2019.

Breakdown of financial debt by maturity

31/12/2019	Total	Maturity				
		2020	2021	2022	2023	> 2023
Financial debt ^(a)	4,533.2	1,740.9	697.3	501.0	598.1	995.9
Contractual cash flows	4,605.3	1,742.0	716.1	515.4	614.5	1,017.3

31/12/2018	Total	Maturity				
		2019	2020	2021	2022	> 2022
Financial debt ^(a)	2,713.0	321.2	504.4	295.9	0.4	1,591.1
Contractual cash flows	2,801.6	322.3	521.0	317.0	14.4	1,626.9

(a) After deduction of fair value of interest-rate derivatives.

Breakdown of financial debt by currency

	31/12/19	31/12/18
Euro	4,349.8	2,585.2
Canadian Dollar	109.5	38.9
US Dollar	54.9	46.9
Others	19.0	42.0
TOTAL	4,533.2	2,713.0

Change in financial debt

	31/12/2018	Cash flow	Scope	Other changes		31/12/2019
				Exchange rates	Other ^(a)	
Financial debt	2,713.0	835.7	891.5	116.7	(23.7)	4,533.2

	31/12/2017	Cash flow	Scope	Other changes		31/12/2018
				Exchange rates	Other ^(a)	
Financial debt	1,643.3	1,060.5	—	13.7	(4.5)	2,713.0

(a) Including the change in bond hedging derivatives.

d) Lease debt

Change in lease debt

	01/01/2019	Cash flow ^(a)	Scope	Other changes		31/12/2019
				Exchange rates	New debt ^(b)	
Financial debt	1,507.2	(203.0)	115.3	6.5	298.7	1,724.7

(a) Share of lease payments corresponding to the repayment of lease debt.

(b) New lease contracts signed in 2019 and impact of the renegotiation of existing leases.

Debt maturity at 31 December 2019

31/12/2019	Total	Maturity				
		2020	2021	2022	2023	> 2023
Lease debt (discounted)	1,724.7	227.4	210.6	185.3	163.3	938.1

6.3 Changes in net cash

	2019	2018
Net cash (debt) at opening before IFRS 16	3,180.5	2,971.4
Lease debt at 1 January 2019	(1,507.2)	–
Net cash (debt) at opening	1,673.3	2,971.4
Net cash flow from operating activities	1,770.2	1,092.7
Less, contributions to reduction of UK pension deficit	98.1	98.3
Net operating investments	(496.3)	(380.3)
Free Operating cash-flow	1,372.0	810.7
Acquisitions of subsidiaries and affiliates:	(4,980.1)	(71.7)
• of which, Gemalto	(4,762.4)	–
Net debt of acquired companies	(729.4)	–
Disposal of subsidiaries and affiliates	364.1	10.6
• of which, General Purpose HSM	361.7	–
Contributions to reduction of UK pension deficit	(98.1)	(98.3)
Changes in loans	(11.1)	18.8
Dividends paid by the parent company	(463.0)	(382.1)
Third-party share in dividend distributions of subsidiaries	(18.4)	(41.7)
Treasury shares and subscription options exercised	(23.0)	(19.4)
New lease debt	(298.7)	–
Changes in exchange rates and other	(98.2)	(17.8)
Total change	(4,983.9)	209.1
Net cash (debt) at closing	(3,310.6)	3,180.5

6.4 Non-current financial assets

a) Non-consolidated investments

Non-consolidated investments amounted to €196.3 million at the end of 2019 compared to €123.9 million at the end of 2018.

They include investment of Thales Alenia Space in US Company Spaceflight Industries, in the framework of the “BlackSky” constellation project, and, at end 2019, an 18% stake in Goldpac Limited, a company listed on the Hong Kong stock exchange, mainly engaged in delivery of embedded software and secure payment products.

b) Non-current financial assets

	31/12/2019	31/12/2018
Loans to related parties	72.7	88.1
Loans to employees in the context of share purchase plan	11.4	0.4
Loans and other financial assets at amortised cost	56.7	45.8
Loans and other financial assets at market value	38.2	39.6
Gross value	179.0	173.9
Impairment	(4.9)	(4.0)
NET	174.1	169.9

6.5 Summary of financial assets and liabilities

At end 2019, the classification of financial assets and liabilities remained identical to the one disclosed at end 2018.

Receivables, payables and refundable grants are financial assets and liabilities as defined by IAS 32 and IFRS 9, and are measured at amortised cost. They are detailed in Note 10.

					31/12/2019		31/12/2018	
	At amortised cost	Profit or loss	Equity with no further reclassification	Fair value through: Equity with reclassification	Value in balance Sheet	Fair value	Value in balance Sheet	Fair value
Non-current financial assets								
Non-consolidated investments	—	—	196.3	—	196.3	196.3	123.9	123.9
Non-current loans and financial assets	135.9	38.2	—	—	174.1	174.1	169.9	169.9
Derivatives documented as hedges	—	16.8	—	—	16.8	16.8	16.7	16.7
Current financial assets								
Derivatives documented as hedges	—	—	—	108.2	108.2	108.2	90.1	90.1
Derivatives not documented as hedges	—	1.4	—	—	1.4	1.4	1.5	1.5
Current financial assets	15.9	—	—	—	15.9	15.9	256.0	256.0
Cash and cash equivalents	2,880.0	51.4	—	—	2,931.4	2,931.4	5,637.5	5,637.5
Non-current financial liabilities								
Long-term debt	4,289.6	16.8	—	—	4,306.4	4,369.4	2,408.5	2,424.7
Derivative documented as hedges	—	—	—	14.5	14.5	14.5	13.1	13.1
Current financial liabilities								
Derivatives documented as hedges	—	—	—	149.3	149.3	149.3	270.7	270.7
Derivatives not documented as hedges	—	1.2	—	—	1.2	1.2	3.0	3.0
Short-term debt	1,968.3	—	—	—	1,968.3	1,968.6	321.2	321.2

IFRS 13 categorises the various valuation techniques for each financial asset and liability according to a fair value hierarchy with three levels:

- level 1: valuation is based on quoted (non-adjusted) prices in active markets for identical assets or liabilities;
- level 2: valuation is based on information other than quoted market prices that is observable for the asset or liability, either directly or indirectly;
- level 3: valuation is based on unobservable information.

The fair value of financial assets and liabilities recorded at amortised cost approximates their carrying amount, except for borrowings and debts.

The fair value of bond debt is based on quoted prices (level 1). The fair value of other borrowings and debt is determined for each loan by

discounting the expected future cash flows at the Euribor interest rate at the closing date, adjusted for the Group's credit risk (level 2).

The fair value of monetary and non-monetary UCITS funds is measured based on the last known net asset value. The fair value of interest rate products (certificates of deposit, short-term deposits, negotiable medium-term notes, etc.) is based on the discounting of coupon flows (nominal and interest) over the remaining life of the product at the closing date. The discount rate used is the market rate corresponding to the maturity and product characteristics.

The fair value of derivatives is based on models commonly used to assess these financial instruments (models including observable market data). Counterparty default risk and credit risk have no material impact on the fair value of derivatives.

6.6 Financial risk

a) Market risk

Thales hedges its foreign exchange and interest-rate risks using over-the-counter derivatives from tier-one banks. The book value of derivatives used to manage the Group's market risks is presented below:

	31/12/2019		31/12/2018	
	Assets	Liabilities	Assets	Liabilities
Non-current derivatives				
• interest-rate derivatives	16.8	14.5	16.7	13.1
Current derivatives				
• foreign exchange derivatives	108.2	150.5	90.2	273.5
• interest-rate derivatives	1.4	–	1.4	0.2
Foreign exchange derivatives, net	(42.3)		(183.3)	
Interest-rate derivatives, net	3.7		4.8	

Foreign exchange risk

Thales hedges currency risks arising in connection with the negotiation of contracts denominated in currencies other than the main production currency, currency risks generated by ordinary commercial operations, risks relating to cash pooling and, in some cases, risks relating to its net investments in foreign operations.

At 31 December 2018 and 2019, the amount of derivatives in the portfolio can be analysed as follows:

Foreign exchange derivatives	31/12/2019				31/12/2018	
	Nominal value				Nominal value	Market value
	USD	GBP	Other	Total		
Negotiations and trade operations hedges						
Documented as hedges						
Forward currency sales	3,193.0	873.7	2,293.4	6,360.0	(41.1)	6,078.6
Forward currency purchases	1,029.8	529.0	1,997.8	3,556.6		(83.0)
Currency sales (call and put options)	–	–	–	–	2.5	–
Currency purchases (call and put options)	133.5	–	–	133.5		43.7
Not documented as hedges						
Currency sales (call and put options)	–	5.0	89.2	94.2	0.5	36.8
Currency purchases (call and put options)	29.8	–	66.1	95.9		47.0
Hedges related to cash pooling (documented as hedges from 2018)						
Currency sales: currency swaps	749.5	0.3	330.6	1,080.4	13.0	405.9
Currency purchases: currency swaps	–	252.9	184.1	437.0		446.1
Hedges related to net investments in foreign operations (hedge accounting)						
Currency sales: currency swaps	655.9	–	–	655.9	(16.7)	638.1
Currency purchases: currency swaps	–	630.1	–	630.1		(105.8)
Hedges related to net investments in foreign operations (not documented as hedges)						
Currency sales: currency swaps	29.2	–	–	29.2	(0.5)	25.4
Currency purchases: currency swaps	–	28.4	–	28.4		(3.0)
NET ASSETS (LIABILITIES)					(42.3)	(183.3)

Nominal amounts are translated into euros at the closing rate.

The maturity of the derivatives used to hedge commercial contracts is typically less than three years. Currency swaps are set up to align the maturities of derivatives to the maturities of hedged contracts. Other derivatives characteristics are consistent with the ones of the hedged risk.

The change in value of financial instruments (forward transactions) used to hedge cash flow is recognised in equity for the spot rate component. A decrease (increase) of 5% in the dollar against the euro, pound sterling and Canadian dollar would have had a positive (negative)

impact on equity of approximately €91 million at 31 December 2019 and €88 million at 31 December 2018.

The change in value of derivative instruments matched with commercial tender portfolio, which are not eligible for hedge accounting, is recognised in profit and loss. A decrease (increase) of 5% in the dollar against the euro, pound sterling or Canadian dollar would have no impact on profit or loss at 31 December 2019, as at 31 December 2018.

Interest-rate risk

Thales is exposed to interest-rate volatility and in particular its impact on the conditions associated with variable-rate financing. To limit this risk, Thales operates an active interest-rate hedging policy. At 31 December 2018 and 2019, the amount of derivatives in the portfolio was as follows:

Interest-rate derivatives	31/12/2019		31/12/2018	
	Nominal	Market value	Nominal	Market value
Fair value hedge (swaps with variable rate payables)				
• swaps related to bond maturing in 2023	400.0	6.7	400.0	2.5
• swaps related to bond maturing in 2021	300.0	10.1	300.0	14.2
		16.8		16.7
Cash flow hedge (swaps with fixed rate payables)				
• swaps related to bond maturing in 2023	400.0	(10.0)	400.0	(6.7)
• swaps related to bond maturing in 2021	300.0	(1.9)	300.0	(1.9)
• pre-hedging swap related to bond maturing in 2024	— (a)	(2.6)	— (a)	(4.5)
• financing of projects at variable-rate swapped to fixed-rate	—	—	4.6	(0.2)
Swaps not documented as hedges				
• cross-currency swap with fixed-rate payable, hedging a loan	12.2	1.4	14.2	1.4
• swap with fixed-rate payable, hedging a loan	1.2	—	1.3	—
NET ASSETS		3.7		4.8

(a) € 500 million swaps set up prior the bond issue, and reversed on the issue date (April 2018).

The table below summarises the Group's exposure to interest-rate risk before and after hedging.

31/12/2019	< 1 year		> 1 year		Total	
	Fixed-rate	Variable-rate	Fixed-rate	Variable-rate	Fixed-rate	Variable-rate
Financial debt ^(a)	(843.5)	(897.4)	(2,785.0)	(7.3)	(3,628.5)	(904.7)
Financial assets, cash and cash equivalents	—	2,947.3	—	—	—	2,947.3
NET EXPOSURE BEFORE IMPACT OF DERIVATIVE INSTRUMENTS	(843.5)	2,049.9	(2,785.0)	(7.3)	(3,628.5)	2,042.6
Hedging derivatives	—	—	—	—	—	—
NET EXPOSURE AFTER IMPACT OF DERIVATIVE INSTRUMENTS	(843.5)	2,049.9	(2,785.0)	(7.3)	(3,628.5)	2,042.6

(a) After deduction of the fair value of interest-rate derivatives.

31/12/2018	< 1 year		> 1 year		Total	
	Fixed-rate	Variable-rate	Fixed-rate	Variable-rate	Fixed-rate	Variable-rate
Financial debt ^(a)	(14.6)	(306.6)	(1,886.2)	(505.6)	(1,900.8)	(812.3)
Financial assets, cash and cash equivalents	—	5,893.5	—	—	—	5,893.5
NET EXPOSURE BEFORE IMPACT OF DERIVATIVE INSTRUMENTS	(14.6)	5,586.9	(1,886.2)	(505.6)	(1,900.8)	5,081.2
Hedging derivatives	(4.6)	4.6	—	—	(4.6)	4.6
NET EXPOSURE AFTER IMPACT OF DERIVATIVE INSTRUMENTS	(19.2)	5,591.5	(1,886.2)	(505.6)	(1,905.4)	5,085.8

(a) After deduction of the fair value of interest-rate derivatives.

Based on the Group's average net cash, taking into account hedging instruments, a 1-point rise in interest rates would increase net interest income by €20.9 million in 2019 (€42.3 million in 2018).

b) Customer credit risk

Credit risk relates to the risk that a party to a contract will default on its commitments or fail to pay what it owes.

Credit risk relating to governmental customers

Governmental customers account for around 60% of Thales's sales. Some of the countries with which Thales works could present a significant credit risk which could, for example, lead them to suspend an order in production, or render them unable to pay on delivery, as agreed under the terms of the contract. To limit its exposure to these risks, Thales takes out insurance with export credit agencies (such as Bpifrance) or private insurers.

At 31 December 2019, only three customers accounted for annual sales in excess of €500 million: the French government (around €2.9 billion), the UK government (around €0.9 billion) and the Australian government (around €0.7 billion). At 31 December 2019, these three countries had

first-class or high-quality ratings (France: AA by S&P Global Ratings and Aa2 by Moody's; the United Kingdom: AA by S&P Global Ratings and Aa2 by Moody's; Australia: AAA by S&P Global Ratings and Aaa by Moody's).

Risk of default relating to non-governmental customers

Non-governmental customers (private critical infrastructure operators, aircraft operators, etc.) account for approximately 40% of Thales's sales. These customers may encounter major and/or prolonged financial difficulties that could lead to payment defaults or order cancellations. Such occurrences could have a negative impact on the Group's sales, profitability and financial position.

To mitigate these risks, Thales conducts regular analyses of the ability of its customers to meet their obligations. When necessary, Thales may request bank guarantees or corporate guarantees, or may use credit insurers.

The Group's Finance Department consolidates all the information relating to the Group's exposure to credit risk, notably by identifying and analysing the ageing of overdue accounts and notes receivable that have not been impaired. At 31 December 2019 and 2018, the ageing of these accounts and notes receivable is as follows:

31/12/2019	Total	Accounts and notes receivables past due		
		Less than 3 months	3 to 6 months	More than 6 months
Overdue receivables not subject to provision				
Total	1,087.2	731.8	136.7	218.7

31/12/2018	Total	Accounts and notes receivables past due		
		Less than 3 months	3 to 6 months	More than 6 months
Overdue receivables not subject to provision				
Total	909.4	574.3	83.7	251.5

Credit risk related to banking counterparties

Financial investments are diversified. They relate to first ranking debt and are negotiated with tier-one banks.

Thales trades over-the-counter derivatives with tier-one banks under agreements which provide for the offsetting of amounts payable and receivable in the event of default by one of the contracting parties. These

conditional offsetting agreements do not meet the eligibility criteria within the meaning of IAS 32 for offsetting derivative instruments recorded on the balance sheet under assets and liabilities. However, they do fall within the scope of disclosures to be provided under IFRS 7 on offsetting.

31/12/2019	Gross value (before offset)	Offset amounts on balance sheet	Net presented in balance sheet	Impact of other offsetting agreements		Net
				Offsetting agreements	Financial collateral	
Derivatives – Assets	126.4	–	126.4	(99.0)	–	27.4
Derivatives – Liabilities	165.0	–	165.0	(99.0)	–	66.0

31/12/2018	Gross value (before offset)	Offset amounts on balance sheet	Net presented in balance sheet	Impact of other offsetting agreements		Net
				Offsetting agreements	Financial collateral	
Derivatives – Assets	108.3	–	108.3	(102.3)	–	6.0
Derivatives – Liabilities	286.8	–	286.3	(102.3)	–	184.5

c) Liquidity risk

The Group's liquidity risk is the risk of its being unable to meet its cash needs out of its financial resources. In particular, it relates specifically to Thales's level of exposure to changes in the main market indicators that could lead to an increase in the cost of credit or even to a temporary limitation of access to external sources of financing.

The Group manages this risk by trying to anticipate its cash needs and ensures that these are covered by the Group's short-term and long-term financial resources, as follows:

- shareholders' equity (Note 8.1);
- financial debt (listed by date of maturity in Note 6.2);

- committed credit facilities⁽¹⁾, undrawn at 31 December 2019, amounting to €1,500 million, maturing in 2021, as well as a commercial paper programme (NeuCP).

The Group consolidates and pools its cash surpluses and needs for its various businesses, allowing it to simplify the cash management of those businesses by managing a consolidated position and accessing the financial markets through Thales parent company, which is rated by S&P Global Ratings (A-, negative outlook) and Moody's (A2, stable outlook).

The Group's funding agreements contain no covenants linked to changes in Thales's credit rating. A lower credit rating would result in an increase (capped) in the margins applicable to the committed credit facility mentioned above; symmetrically, a higher rating would lead to a decrease in the applicable margin (with a floor).

NOTE 7. INCOME TAX

The income tax expense takes into account specific local tax rules, including the tax consolidation systems in France and the United States, Group Relief in the United Kingdom and *Organschaft* rules in Germany.

7.1 Income tax expense

	2019	2018
Current tax	(397.0)	(196.3)
Deferred tax	96.0	(117.9)
TOTAL	(301.0)	(314.2)

(1) The only accelerated repayment clause would apply in the event that the French government ceased to hold its golden share in the Company and, simultaneously, the ratio of consolidated net financial debt to EBITDA (current operating income before amortisation and depreciation) were to exceed 3.

Reconciliation between theoretical and actual tax expense

	2019	2018
Net income	1,146.4	1,027.9
Less: income tax	301.0	314.2
Less: share in net income of equity affiliates	(142.0)	(144.7)
Net income before tax and share in net income of equity affiliates	1,305.4	1,197.4
Theoretical average tax rate	28.1%	31.2%
Theoretical tax benefit (expense)	(366.8)	(373.7)
Reconciliation items:		
• Impact of tax credits	75.8	75.0
• Taxes not taken into account in the theoretical rate	2.9	(8.3)
• Impact of dividends paid	(8.6)	(4.9)
• Impact of tax rates changes on deferred tax	(2.5)	(1.9)
• Change in provision for deferred tax assets	(16.3)	8.0
• Adjustments in respect of prior periods	7.3	(7.2)
• Other	7.2	(1.2)
Income tax benefit (expense) recognised in profit and loss	(301.0)	(314.2)
Effective tax rate	23.1%	26.2%

The theoretical average tax rate corresponds to the sum of theoretical taxes of consolidated companies, divided by the consolidated net income before tax and the share in net income of equity affiliates. The theoretical tax of each consolidated company corresponds to the application of the local tax rate to net income before tax. Accordingly, the theoretical average tax rate reflects the relative contribution of the different countries to the Group's consolidated net income. France, which has a tax rate of 34.43%, represented almost 60% of income before tax in 2019 (70% in 2018).

The impact of tax credits includes:

- the impact of tax exemption on research tax credits (€204.9 million in 2019, €179.7 million in 2018) and, in 2018, tax credits for competitiveness and jobs (*crédit d'impôt pour la compétitivité et l'emploi - CICE*) for €20 million, recognised in operating income;
- like tax advantages related to research that are recognised in income tax (notably in the United States, Australia and the Netherlands).

Taxes not taken into account in the theoretical rate mainly include state taxes in the United States, the IRAP in Italy, and taxes on foreign establishments.

7.2 Deferred tax recognised in equity

	2019		2018	
Fully consolidated entities	Base	Tax	Base	Tax
Translation of the financial statements of foreign subsidiaries	35.8	–	(9.2)	–
Cash flow hedges	(64.3)	24.1	(122.3)	35.7
Available for sale financial assets	–	–	–	–
Other items reclassified to income	(28.5)	24.1	(131.5)	35.7
Actuarial gains and losses/pensions – United Kingdom	(290.1)	–	276.9	–
Actuarial gains and losses/pensions – Other countries	(229.6)	58.9	17.6	(7.1)
Other items not reclassified to income	(519.7)	58.9	294.5	(7.1)
Treasury shares and share-based payment		3.0		2.0
TOTAL DEFERRED TAX RECOGNISED IN EQUITY DURING THE YEAR		86.0		30.6

7.3 Tax assets and liabilities presented on the balance sheet

	01/01/2019	Income (expense)	Equity	Cash flow	Changes in exch. rates, scope	Other	31/12/2019
Current income tax assets	45.8	(38.4)	–	162.4	42.8	–	212.6
Current income tax liabilities	(34.2)	(358.6)	–	(8.8)	(54.5)	278.9	(184.5)
Current income tax, net	11.6	(397.0)	–	153.6	(11.7)	278.9	28.1
Deferred tax assets	891.7	(41.7)	86.0	–	74.2	(8.1)	1,002.1
Deferred tax liabilities	(216.4)	137.7	–	–	(704.6) ^(a)	–	(783.3)
Deferred tax, net	675.3	96.0	86.0	–	(630.4)	(8.1)	218.8
TOTAL		(301.0)	86.0	153.6			

(a) This amount represents mainly the deferred tax liability related to the intangible assets recognised in the framework of Gemalto's purchase price allocation.

	01/01/2018 ^(a)	Income (expense)	Equity	Cash flow	Changes in exch. rates, scope	Other	31/12/2018
Current income tax assets	36.6	–	–	9.8	(0.6)	–	45.8
Current income tax liabilities	(54.0)	(196.3)	–	81.3	–	134.8	(34.2)
Current income tax, net	(17.4)	(196.3)	–	91.1	(0.6)	134.8	11.6
Deferred tax assets	986.5	(134.8)	30.6	–	0.8	8.6	891.7
Deferred tax liabilities	(230.9)	16.9	–	–	(2.4)	–	(216.4)
Deferred tax, net	755.6	(117.9)	30.6	–	(1.6)	8.6	675.3
TOTAL		(314.2)	30.6	91.1			

a) Current income tax

Income tax paid is reported net of tax credits utilised. Tax credits allocated to tax payments during the current year or to tax to be paid in the coming year is presented under "Other".

b) Deferred tax

Changes by type

	01/01/2019	(Expense)/ Income for the period	Equity	Changes in exch. rates, scope and other	31/12/2019
Temporary differences:	852.5	76.2	133.6	(557.8)	504.5
• pensions and similar benefits	464.9	(19.1)	108.6	27.5	581.9
• intangible assets	(194.2)	83.4	–	(582.6)	(693.4)
• provisions on contract	273.7	9.3	–	(18.6)	264.4
• other	308.1	2.6	25.0	15.9	351.6
Tax loss carry-forwards	158.1	36.1	–	290.4	484.6
Total	1,010.6	112.3	133.6	(267.4)	989.1
Depreciation	(335.3)	(16.3)	(47.6)	(371.1)	(770.3)
Total net deferred tax assets	675.3	96.0	86.0	(638.5)	218.8

	01/01/2018 ^(a)	(Expense)/ Income for the period	Equity	Changes in exch. rates, scope and other	31/12/2018
Temporary differences:	960.1	(94.1)	(13.7)	0.2	852.5
• pensions and similar benefits	611.9	(13.8)	(59.3)	(73.9)	464.9
• intangible assets	(245.0)	31.4	—	19.4	(194.2)
• provisions on contract	238.4	22.2	—	13.1	273.7
• other	354.8	(133.9)	45.6	41.6	308.1
Tax loss carry-forwards	174.5	(15.8)	—	(0.6)	158.1
Total	1,134.6	(109.9)	(13.7)	(0.4)	1,010.6
Depreciation	(379.0)	(8.0)	44.3	7.4	(335.3)
Total net deferred tax assets	755.6	(117.9)	30.6	7.0	675.3

Tax loss carry-forwards

Total tax loss carry-forwards represent a potential tax saving of €484.6 million at 31 December 2019 (€158.1 million at 31 December 2018). The corresponding expiry dates are as follows:

	31/12/19		31/12/18
2020	1.2	2019	1.1
2021-2024	15.3	2020-2023	0.4
Beyond 2024	50.7	Beyond 2023	42.5
Not time limited	417.4	Not time limited	114.1
Total	484.6	Total	158.1
O/w, depreciated	(433.1)	O/w, depreciated	(115.1)
Net deferred tax asset	51.5	Net deferred tax asset	43.0

As described in Note 13-j, only deferred tax assets related to tax losses which the Group expects to recover are recognised on the balance sheet. In particular, the Group takes into account any loss carry-forward limitations.

NOTE 8. EQUITY AND EARNINGS PER SHARE

8.1 Equity

a) Share capital

At 31 December 2019, the share capital of Thales parent company amounted to €639,952,518 and comprised 213,317,506 shares with a par value of €3, compared with 213,104,081 shares at 31 December 2018. This represents an increase of 213,425 shares resulting from the exercise of share subscription options.

b) Outstanding securities giving access to the share capital

At 31 December 2019, there were no securities that gave access to the share capital of the Company, with the exception of the share subscription options described in Note 9.4.

c) Treasury shares

Thales parent company held 560,866 of its own shares at 31 December 2019. They were accounted for as a deduction from equity for an amount of €56.5 million.

In accordance with the authorisations granted to the Board of Directors by the Annual General Meeting, the Company carried out the following transactions in 2018 and 2019:

	2019	2018
Treasury shares at 1 January	648,295	568,739
Purchases as part of a liquidity agreement	906,402	838,402
Disposals as part of a liquidity agreement	(993,676)	(702,128)
Transfer to employees as part of the employee share purchase plan	(506,515)	(37,118)
Delivery of free shares	(223,640)	(238,750)
Market purchases	730,000	220,000
Exercise of share purchase options	–	(850)
Treasury shares at 31 December	560,866	648,295

At 31 December 2019 and 2018, as part of the liquidity agreement managed by Kepler Cheuvreux, the following numbers of shares were held in the liquidity account:

	2019	2018
Number of shares at 31 December	175,000	262,274
Value (€ million)	13.5	7.9

d) Translation adjustments

Translation adjustments result from the translation of financial statements of companies whose functional currency is not the euro, offset as applicable by the impact of derivative instruments denominated in foreign currencies to hedge net investments in foreign operations.

Translation adjustments are recorded in equity as "other comprehensive income", and are subsequently reclassified to income on the disposal date of related investments. They break down as follows:

	2019	2018
Translation adjustments at 1 January	(225.1)	(218.2)
Changes in value	44.3	(6.9)
Reclassified to profit and loss	0.1	–
Gross change	44.4	(6.9)
Deferred tax	–	–
Scope and other	–	–
Translation adjustments at 31 December	(180.7)	(225.1)

e) Reserves for cash flow hedge

The Group uses foreign exchange derivatives to hedge against changes in the value of future cash flows related to commercial cash flows in foreign currencies. In the consolidated financial statements, the effective portion of changes in fair value of these derivatives is recognised directly in equity, until such time as the hedged flows affect profit and loss.

	2019	2018
Cash flow hedge at 1 January	(48.7)	21.2
Changes in value of derivatives	(28.3)	(16.5)
Reclassified to operating (income)/expense	(32.9)	(72.4)
Reclassified to income tax (benefit)/expense	15.8	19.0
Changes in scope and exchange rates	–	–
Cash flow hedge at 31 December^(a)	(94.1)	(48.7)

(a) A negative balance at closing means that the exchange rates of the derivative instruments documented as hedges are generally less favourable than the exchange rates prevailing at the closing date.

f) Parent company dividend distribution

The per share dividend amounted to €1.75 in 2017 and €2.08 in 2018.

The Board of Directors decided to propose to shareholders, who will be convened to a General Meeting on 6 May 2020, the payment of a dividend of €2.65 per share⁽¹⁾.

If approved, the ex-dividend date will be 12 May 2020 and the payment date will be 14 May 2020. The dividend will be paid fully in cash and will amount to €2.05 per share, after deducting the interim dividend of €0.60 per share paid in December 2019.

Dividends paid in 2018 and 2019 are described below:

Year	Approved by	Description	Dividend per share	Payment date	Payment method	Total
2019	Board of Directors meeting on 25 September 2019	2019 Interim dividend	€0.60	12/2019	Cash	€127.5 M
	General Meeting on 15 May 2019	Balance 2018	€1.58	05/2019	Cash	€335.6 M
	Total dividends paid in 2019					€463,1 M
2018	Board of Directors meeting on 27 September 2018	2018 Interim dividend	€0.50	12/2018	Cash	€106.3 M
	General Meeting on 23 May 2018	Balance for 2017	€1.30	06/2018	Cash	€275.8 M
	Total dividends paid in 2018					€382,1 M
2017	Board of Directors meeting on 28 September 2017	2017 Interim dividend	€0.45	12/2017	Cash	€95.2 M

g) Non-controlling interests

This item principally includes Leonardo's interest in the Thales Alenia Space sub-group (33%), and Siemens's and Philips Medical Systems International's interest in Trixell SAS (49%).

The individual contributions of these minority shareholders to the Group's key financial indicators are not material.

The cash of these two companies is unrestricted and is exclusively pooled with Thales's Corporate Treasury Department.

8.2 Earnings per share

Basic earnings per share are calculated by dividing the net income attributable to the shareholders of the parent company by the *pro rata temporis* weighted average number of shares outstanding during the period, excluding treasury shares.

Diluted earnings per share take only into account instruments with a dilutive effect on earnings per share. The dilutive effect of share subscription and share purchase options, free shares and unit allotments is calculated using the treasury stock method, taking into account the average share price over the relevant period.

		2019	2018
Numerator (in € millions)			
Net income attributable to shareholders of the parent company	(A)	1,121.9	981.8
Denominator (in thousands)			
Average number of shares outstanding	(B)	212,502	212,438
Share subscription and share purchase options ^(a)		123	318
Free shares and units plans ^(b)		465	569
Diluted average number of shares outstanding	(C)	213,090	213,325
Net earnings per share (in euros)	(A) / (B)	5.28	4.62
Diluted net earnings per share (in euros)	(A) / (C)	5.26	4.60
Average share price (in euros)		99.48	105.74

(a) Only option plans with an exercise price that is lower than the average share price are taken into account in the calculation of diluted earnings per share.

(b) Performance shares/units subject to internal performance conditions are only taken into account when the performance targets are achieved.

(1) This dividend proposal was modified by the 6 April 2020 Board of Directors. See section 2.3.8, page 40.

NOTE 9. EMPLOYEE BENEFITS

9.1 Consolidated headcount

Consolidated headcount includes all employees of fully consolidated companies. It does not include employees of equity affiliates. At end 2019, Thales's headcount stood at 82,605 versus 66,135 at end 2018.

Three-quarters of the headcount comprises employees with grades equivalent to engineer, specialist or manager.

9.2 Personnel expenses

	2019	2018
Wages and salaries and payroll taxes ^(a)	(7,220.2)	(6,296.2)
Defined-benefit pension expense: current service cost (Note 9.3)	(120.4)	(108.8)
Share-based payments (Note 9.4)	(47.9)	(53.9)
TOTAL	(7,388.5)	(6,458.9)

(a) These amounts include employee profit-sharing, incentive plans and defined-contribution pension expenses.

9.3 Provisions for pensions and other employee benefits

The Group grants to its employees post-employment benefits (pensions, end-of-career severance, medical coverage, etc.) and other long-term benefits (long-service and jubilee awards, etc.).

a) Description of the plans

The Group's existing plans are either defined-contribution plans or defined-benefit plans.

Defined-contribution plans

In certain countries, the Group pays contributions based on salaries to state organisations overseeing basic pension schemes (e.g., *Sécurité Sociale* or the compulsory supplementary schemes ARRCO and AGIRC in France). Beyond these basic pension schemes, Thales also contributes to other defined-contribution plans (e.g., in the Netherlands and the United Kingdom since 2002). These plans do not impose any obligations on the Group other than the payment of contributions: there is no related benefit obligation and contributions are expensed in the period they are incurred.

Defined-benefit plans

Defined-benefit plans relate to different types of benefits:

- pensions and end-of-career indemnities (legal or contractual), and other long-term benefits (jubilee awards, etc.), particularly in France. In general, these commitments are not covered by any assets;
- supplementary pension schemes, mainly in the United Kingdom, where the main scheme, "Thales UK Pension Scheme," provides a pension based on the beneficiary's average salary, indexed to inflation. This plan has been closed to new entrants since 2002, and is managed by a trust according to minimum local funding regulations.

The present value of the Group's obligations and the value of plan assets are measured independently. A provision is recognised if the value of the assets is insufficient to cover the obligations.

b) Provisions recognised on the balance sheet

	2019	2018
Provision at 1 January	(2,326.7)	(2,674.3)
Current service cost (income from operations)	(120.4)	(108.8)
Amendments and settlements (non-recurring operating income)^(a)	34.5	(27.9)
Interest expense	(147.0)	(135.7)
Expected return on plan assets	98.0	89.0
Net interest cost	(49.0)	(46.7)
Pension fund management cost	(6.8)	(5.2)
Actuarial gains and losses on other long-term benefits	(13.1)	4.7
Finance costs on pensions and other long-term employee benefits	(68.9)	(47.2)
Total expense for the period	(154.8)	(183.9)
Actuarial gains and losses (other comprehensive income)	(519.7)	294.5
Benefits and contributions	245.9	227.2
• of which, deficit payment in the United Kingdom	98.1	98.3
• of which, other benefits and contributions	147.8	128.9
Translation adjustment	(54.8)	6.6
Changes in scope of consolidation and other	(135.1)	3.2
Provision at 31 December	(2,945.2)	(2,326.7)
Of which:		
• Post-employment benefits	(2,690.9)	(2,120.5)
• Other long-term benefits	(254.3)	(206.2)

(a) Including €21.9 million due to a change in the French law related to top executives pension plan.

c) Changes in defined benefit obligations and plans assets

2019	UK	France	Other	Total
Obligation at 1 January	(4,029.7)	(1,183.2)	(602.2)	(5,815.1)
Current service cost	(19.6)	(68.0)	(32.8)	(120.4)
Interest cost	(115.0)	(18.4)	(13.6)	(147.0)
Plan participant contributions	(9.0)	—	(2.1)	(11.1)
Amendments/settlements	12.6	21.9	—	34.5
Experience gains (losses)	0.2	(36.2)	(11.1)	(47.1)
Actuarial gains (losses)/financial assumptions	(530.9)	(141.6)	(69.9)	(742.4)
Actuarial gains (losses)/demographic assumptions	(0.5)	(4.4)	2.5	(2.4)
Actuarial gains (losses) on long-term benefits	—	(8.5)	(4.6)	(13.1)
Benefits paid by plan assets	165.1	2.8	11.0	178.9
Benefits paid by employer	2.6	89.2	27.0	118.8
Changes in scope, exchange rates and other	(286.9)	(76.1)	(120.2)	(483.2)
Obligation at 31 December	(4,811.1)	(1,422.5)	(816.0)	(7,049.6)
Plan assets at 1 January	3,164.9	147.9	175.6	3,488.4
Expected return on plan assets	91.5	2.3	4.2	98.0
Employer's contribution	115.0	2.0	10.1	127.1
Plan participant contributions	9.0	—	2.1	11.1
Amendments/settlements	—	—	—	—
Benefits paid by plans assets	(165.1)	(2.8)	(11.0)	(178.9)
Experience gains (losses)	241.1	7.6	23.5	272.2
Changes in scope, exchange rates and other	212.9	0.4	73.2	286.5
Plan assets at 31 December	3,669.3	157.4	277.7	4,104.4
PROVISIONS AT 31 DECEMBER	(1,141.8)	(1,265.1)	(538.3)	(2,945.2)

2018	UK	France	Other	Total
Obligations at 1 January	(4,431.8)	(1,212.5)	(602.7)	(6,247.0)
Current service cost	(20.7)	(62.3)	(25.8)	(108.8)
Interest cost	(113.0)	(14.3)	(8.4)	(135.7)
Plan participant contribution	(9.5)	—	(2.3)	(11.8)
Amendments/settlements	(24.9)	(3.0)	—	(27.9)
Experience gains (losses)	172.2	(31.7)	0.2	140.7
Actuarial gains (losses)/financial assumptions	163.4	44.6	17.0	225.0
Actuarial gains (losses)/demographic assumptions	30.4	—	(1.2)	29.2
Actuarial gains (losses) on long-term benefits	—	4.4	0.3	4.7
Benefits paid by plan assets	171.0	2.7	4.8	178.5
Benefits paid by employer	0.5	83.8	22.3	106.6
Changes in scope, exchange rates and other	32.7	5.1	(6.3)	31.5
Obligations at 31 December	(4,029.7)	(1,183.2)	(602.2)	(5,815.1)
Plan assets at 1st January	3,248.7	151.8	172.2	3,572.7
Expected return on plans assets	83.9	1.8	3.3	89.0
Employer's contribution	113.9	0.8	5.9	120.6
Plan participant contribution	9.5	—	2.3	11.8
Amendments/settlements	—	—	—	—
Benefits paid by plan assets	(171.0)	(2.7)	(4.8)	(178.5)
Experience gains (losses)	(89.2)	(3.8)	(7.4)	(100.4)
Changes in scope, exchange rates and other	(30.9)	—	4.1	(26.8)
Plan assets at 31 December	3,164.9	147.9	175.6	3,488.4
Provisions at 31 December	(864.8)	(1,035.3)	(426.6)	(2,326.7)

d) Actuarial assumptions used

The actuarial assumptions used are determined according to the economic environment and specific criteria of each country and each system. The most sensitive assumptions are as follows:

2019	UK	France	2018	UK	France
Inflation rate	2.97%	1.15%	Inflation rate	3.24%	1.45%
Discount rate	2.00%	0.73%	Discount rate	2.87%	1.58%
Average duration of the plans	17 years	10 years	Average duration of the plans	17 years	10 years

For each country, the discount rates are obtained by reference to the Iboxx Corporate AA index, which reflects the rate of return of very high-quality corporate bonds, with maturity dates equivalent to the duration of the plans being measured, and in the same currency.

At 31 December 2019, the sensitivity of the net obligation to a change in the discount rate is as follows:

Sensitivity in basis points	+25	−25	+50	−50	+100	−100
Decrease (increase) in provision (in € millions)	242.4	(220.7)	509.1	(473.2)	844.2	(1,024.3)

In the United Kingdom, a 25 basis-point increase in the inflation rate would lead to a €107.7 million increase in the obligation. Conversely, a 25 basis-point decrease in the inflation rate would lead to a €109.4 million decrease in the obligation.

e) Allocation and return on plan assets

Plan assets generated an actual average return of 10.6% in 2019, compared with -0.3% in 2018. At 31 December 2019, the allocation of assets, mainly invested in the United Kingdom, breaks down as follows:

	2019	2018
Fixed-rate bonds	25%	32%
Index-linked bonds	13%	12%
Equities	28%	25%
Alternative placement	34%	31%
TOTAL	100%	100%

f) Funding

Thales is subject to funding obligations in respect of its defined-benefit pension commitments in the United Kingdom.

In accordance with the regulations in force, the level of funding for its pension obligation is re-measured every three years, further to which the suitability of a new funding plan and/or the implementation of guarantees for the plan is decided in consultation with the trustees.

The latest measurement, based on the situation at end 2017, to an annual contribution from of £75 million for the main Thales UK Pension scheme (£5 million for other schemes) to reduce the funding shortfall.

In support of the contributions made by Thales UK Ltd to the British pension plans, Thales parent company has also guaranteed the future liabilities linked to the funding plans for the subsidiaries concerned. At 31 December 2019, the balance of these guarantees was £762 million.

9.4 Share-based payment

At 31 December 2019, the following options, shares and units were outstanding:

- 93,803 share purchase options with a weighted average exercise price of €26.34;
- 940,425 free shares, including 856,135 performance shares;

- 407,115 phantom shares, payable in cash at the end of a four-year vesting period, including 369,965 performance shares.

The features of these plans are described in chapter 6.2 of the 2018 Registration Document.

• Outstanding share subscription option plans

Date of Board decision	Exercise period	Exercise price	Number of options outstanding at 31/12/2018	Options exercised in 2019	Options cancelled in 2019	Number of options outstanding at 31/12/2019
15/09/2011 ^(a)	from 15/09/2015 to 14/09/2021	€26.34	74,054	(19,451)	–	54,603
23/09/2010 ^(a)	from 23/09/2014 to 22/09/2020	€26.34	48,050	(8,850)	–	39,200
25/06/2009	from 25/06/2013 to 24/06/2019	€32.88	187,634	(185,124)	(2,510)	–
						93,803

(a) Plans contingent upon the achievement of internal performance targets over the three financial years following the grant date.

b) Allotment of free shares

Date of Board decision	Vesting period	Share price at grant date	Number of free shares at 31/12/2018	Shares allotted in 2019	Shares cancelled in 2019	Shares issued in 2019	Number of free shares at 31/12/2019
25/09/2019 ^(a)	from 25/09/2019 to 25/09/2023	€104.50	–	325,865	–	(320)	325,545
27/09/2018 ^(a)	from 27/09/2018 to 27/09/2022	€121.75	181,335	–	(1,545)	–	179,790
28/09/2017 ^(a)	from 28/09/2017 to 28/09/2021	€94.66	210,900	–	(2,690)	–	208,210
27/10/2016	from 27/10/2016 to 27/10/2020	€83.10	86,020 145,370 ^(a)	– (2,780)	(1,730) –	– 142,590	84,290
							940,425

(a) Plans contingent upon the achievement of internal performance targets over the three financial years following the grant date.

c) Allotment of share units indexed to the value of Thales shares

Date of the allocation decision	Vesting period	Share price at grant date	Number of units at 31/12/2018	Units cancelled in 2019	Units issued in 2019	Number of units at 31/12/2019
17/09/2015	from 17/09/2015 to 17/09/2019	€61.75	350,460	(10,750)	(339,710)	–
			222,950 ^(a)	(500)	(222,450)	–

(a) Plans contingent upon the achievement of internal performance targets over the three financial years following the grant date.

d) Allotment of phantom shares indexed to the value of Thales shares

Date of the allocation decision	Vesting period	Number of phantom shares at 31/12/2018	Phantom shares issued in 2019	Phantom shares cancelled in 2019	Number of phantom shares at 31/12/2019
25/09/2019 ^(a)	from 25/09/2019 to 25/09/2023	–	212,980	(1,910)	211,070
27/09/2018 ^(a)	from 27/09/2018 to 27/09/2022	62,860	–	(1,085)	61,775
28/09/2017 ^(a)	from 28/09/2017 to 28/09/2021	66,470	–	(3,520)	62,950
27/10/2016	from 27/10/2016 to 27/10/2020	38,430 36,390 ^(a)	– –	(1,280) (2,220)	37,150 34,170
					407,115

(a) Plans contingent upon the achievement of internal performance targets over the three financial years following the grant date.

e) Employee share purchase plan

Following the decision of the Board of Directors on 27 November 2018, the Group implemented a Thales share purchase plan reserved to its employees with a discount compared to the average market price plus an employer contribution.

The subscription price of €82.89, set on 22 November 2019, corresponds to the average of the opening price of Thales shares on Euronext Paris from 13 September to 10 October 2019, discounted by 20%.

The employees also received an employer contribution corresponding to one free share for four acquired shares, within the limit of 10 bonus shares.

This plan is part of the Group savings plan, subject to a five-year lockup period of the investment, except for the United Kingdom where the share offering is implemented in accordance with the Share Incentive Plan ("SIP").

Thus, in 2019, 413,553 shares were subscribed by employees at the subscription price of €82.89 and 92,962 bonus shares were received. The delivery of shares to UK based employees will be finalised in early 2020.

In the consolidated financial statements, the cost of this plan is €7.6 million, before social contributions.

f) Expenses related to share-based payments

In the consolidated financial statements, the benefit granted to beneficiaries of the above-mentioned plans is recognised as an operating expense. These amounts break down as follows:

Plans	Residual fair value at the end of 2019	2019 expense	2018 expense
Free shares	49.8	(15.5)	(9.7)
Share units indexed to the value of the Thales share	–	(11.0)	(26.5)
Phantom shares and other schemes ^(a)	23.0	(5.1)	(4.1)
Employee share purchase plan	–	(7.6)	–
Social contributions related to the plans		(8.7)	(13.6)
TOTAL		(47.9)	(53.9)
Of which, offsetting entries:			
• Shareholders' equity		26.3	16.3
• Debt		21.6	37.6

(a) In 2019, this line includes the expense relating to the long-term incentive plan (LTIP) of the Chairman and CEO, consisting of a maximum of 8,000 performance units (5,000 performance units in 2018), the conditions of which are described in the 2018 Registration Document on page 97.

9.5 Compensation of directors and senior corporate officers

Expenses recognised in respect of compensation, benefits and social security contributions attributed to Directors and members of the Executive Committee are as follows:

	2019	2018
Short-term benefits:		
• Fixed compensation	6.2	5.2
• Variable compensation	5.2	4.4
• Employer social security contributions	3.6	3.3
• Board attendance fees	0.6	0.6
Other benefits (including social contributions):		
• Post-employment benefits	3.0	2.7
• Share-based payments	5.1	4.9

At 31 December 2019, the share of directors and senior corporate officers in net Group pension obligations (Note 9.3) amounted to €20.3 million.

NOTE 10. CURRENT OPERATING ASSETS AND LIABILITIES

Current operating assets and liabilities include working capital (WCR) components and reserves for contingencies, as defined in Note 13-d. The changes in these items are presented below:

	01/01/2018	Change in WCR and reserves	Scope, exchange rate and reclassifications	31/12/2018	Change in WCR and reserves	Scope, exchange rate and reclassifications	31/12/2019
Inventories, work in progress and set-up costs	3,158.9	(114.8)	36.5	3,080.6	219.4	431.3	3,731.3
Contract assets	2,301.4	188.5	48.5	2,538.4	335.2	215.3	3,088.9
Advance to suppliers	451.8	201.5	(1.0)	652.3	(122.5)	19.7	549.5
Accounts, Notes and other receivables	4,008.5	664.8	(1.6)	4,671.7	(13.8)	581.6	5,239.5
Current derivatives – assets	254.4	(101.7)	(61.1)	91.6	34.8	(16.8)	109.6
Current operating assets	10,175.0	838.3	21.3	11,034.6	453.1	1,231.1	12,718.8
Contract liabilities	(6,366.0)	376.4	(118.6)	(6,108.2)	(92.3)	(214.4)	(6,414.9)
Reserves for contingencies	(1,782.4)	38.7	12.9	(1,730.8)	(44.1)	(185.1)	(1,960.0)
Accounts, Notes and other payables	(5,360.5)	(708.6)	(79.4)	(6,148.5)	4.5	(669.7)	(6,813.7)
Current derivatives – liabilities	(179.7)	–	(94.0)	(273.7)	–	123.2	(150.5)
Current operating liabilities	(13,688.6)	(293.5)	(279.1)	(14,261.2)	(131.9)	(946.0)	(15,339.1)
Restructuring provisions	86.0	(26.0)	2.0	62.0	20.1	18.6	100.7
INCREASE (DECREASE) IN WCR AND RESERVES		518.8			341.3		

10.1 Inventories, work in progress, and set-up costs

	31/12/2019	31/12/2018
Goods	91.9	122.1
Raw materials	1,136.7	945.6
Semi-finished and finished goods	1,961.1	1,510.5
Work in progress	1,174.1	1,137.8
Gross value	4,363.8	3,716.0
Depreciation	(809.0)	(785.4)
Inventories and work in progress, net	3,554.8	2,930.6
Gross	744.1	607.3
Depreciation	(567.6)	(457.3)
Set-up costs, net	176.5	150.0
TOTAL	3,731.3	3,080.6

10.2 Contract assets and liabilities

	31/12/2019	31/12/2018
Unbilled receivables, gross	10,804.6	10,143.6
Unbilled receivables, depreciation	(12.5)	(4.1)
Advances received from customers	(7,703.2)	(7,601.1)
Contract assets	3,088.9	2,538.4
Advances received from customers	(8,898.5)	(8,778.2)
Unbilled receivables	4,287.5	4,256.8
Deferred income	(1,803.9)	(1,586.8)
Contract liabilities	(6,414.9)	(6,108.2)

For a given contract, a contract asset (liability) represents the accumulated revenue not yet invoiced, less advances received from customers.

This amount increases as and when revenue is recognised, and decreases when invoices are issued to the customers or advance payments are received.

At constant scope, these items remained stable between 2018 and 2019.

10.3 Reserves for contingencies

	01/01/2019 ^(a)	Utilisation	Additions	Reversal (surplus)	Exchange rates and other	31/12/2019
Restructuring	62.0	(51.4)	81.9	(10.4)	18.6	100.7
Technical and other litigation	159.4	(15.8)	49.2	(15.7)	34.9	212.0
Guarantees	357.7	(95.7)	99.9	(11.4)	19.9	370.4
Losses at completion	577.1	(150.4)	188.6	(39.4)	82.3	658.2
Provisions on contracts	345.4	(85.6)	108.6	(8.7)	38.0	397.7
Other ^(a)	229.2	(36.2)	59.2	(22.6)	(8.6)	221.0
TOTAL	1,730.8	(435.1)	587.4	(108.2)	185.1	1,960.0

(a) This line includes technical provisions of insurance companies, provisions for labour-related risks, vendor warranties, environmental guarantees and other. Reserves for tax risks linked to income tax (€34 million) have been reclassified to income tax liabilities for the year 2019 (Note 1.1).

	01/01/2018	Utilisation	Additions	Reversal (surplus)	Exchange rates and other	31/12/2018
Restructuring	86.0	(32.5)	15.1	(8.6)	2.0	62.0
Technical and other litigation	152.0	(19.6)	41.7	(23.3)	8.6	159.4
Guarantees	338.2	(68.1)	110.5	(35.1)	12.2	357.7
Losses at completion	565.4	(146.7)	224.7	(44.0)	(22.3)	577.1
Provisions on contracts	321.0	(93.5)	109.7	(8.3)	16.5	345.4
Other ^(a)	319.8	(45.5)	60.1	(16.4)	(88.8)	229.2
TOTAL	1,782.4	(405.9)	561.8	(135.7)	(71.8)	1,730.8

(a) This line includes technical provisions of insurance companies, provisions for labour-related risks, vendor warranties, environmental guarantees and other. Reserves for tax risks linked to income tax (€34 million) have been reclassified to income tax liabilities for the year 2019 (Note 1.1).

In 2018, reclassifications were made from this line to other types of provisions, or to other current operating assets and liabilities.

The breakdown of restructuring costs is as follows:

	2019	2018
Additions for the period	(81.9)	(15.1)
Utilisation for the period	51.4	32.5
Reversals for the period	10.4	8.6
Net	(20.1)	26.0
Expenses for the period	(102.1)	(74.3)
Restructuring costs	(122.2)	(48.3)

10.4 Maturity of current receivables and payables

The amounts presented in the balance sheet for this item break down as follows:

	31/12/2019			31/12/2018
	Total	< 1 year	> 1 year	Total
Accounts and accrued receivables, gross	3,625.2	3,441.6	183.6	64.1
Accounts and Notes receivables, depreciation	(121.7)	(67.0)	(54.7)	(6.5)
Accounts and accrued receivables, net	3,503.5	3,374.6	128.9	57.6
Tax receivables (excluding income tax)	1,194.1	1,120.3	73.8	105.2
Other receivables, gross	550.6	499.6	51.0	40.0
Other receivables, depreciation	(8.7)	(8.7)	—	—
Other receivables, net	1,736.0	1,611.2	124.8	145.2
Accounts, Notes and other receivables	5,239.5	4,985.8	253.7	202.8
Accounts and Notes payable	2,960.5	2,939.0	21.5	4.8
Accrued holiday pay and payroll taxes	1,854.8	1,821.0	33.8	42.4
Tax payables (excluding income tax)	1,122.6	1,122.4	0.2	0.4
Other creditors and accrued liabilities	875.8	776.1	99.7	22.0
Accounts, Notes and other payables	6,813.7	6,658.5	155.2	69.6

The changes in provisions on accounts and notes receivable break down as follows:

	31/12/2018	Additions/ reversal	Exchange rate and scope	31/12/2019
Provisions on accounts and notes receivable	(119.2)	(2.1)	(0.4)	(121.7)

The Group may assign trade receivables, mainly from the French State, and commercial paper. At 31 December 2019, outstanding derecognised receivables amounted to €715.2 million (€219.2 million at 31 December 2018). The increase in outstanding receivables mainly comes from the

high level of overdue receivables on the French government at 31 December 2019 in comparison to last year.

Since these assignments are without recourse in case of debtor default, the receivables in question are subject to “de-recognition” of the asset.

10.5 Commitments linked to commercial contracts

The Group’s contractual commitments towards its counterparties (mainly its customers) can be subject to three types of guarantees or warranties:

a) Bank guarantees

- **Bid bonds:** In the ordinary course of its activities, the Group regularly responds to invitations to tender. When requested by the customer, bid bonds are delivered in order to demonstrate the definitive nature of the bid and to indemnify the customer if the Group fails to meet its commitments. At 31 December 2019, bid bonds issued amounted to €32.0 million (€18.2 million at 31 December 2018).
- **Performance bonds:** From the signature of a contract up until its completion, the Group may also issue performance bonds for its customers, with a bank acting as an intermediary, in order to cover the payment of damages to the customer in the event that the Group does not meet its contractual commitments. At 31 December 2019, performance bonds amounted to €1,943.4 million (€1,910.6 million at 31 December 2018). Technical, operational and financial costs incurred by the Group in order to meet its obligations are valued on a contract-by-contract basis, and are included in the cost to completion

of the contract. Where this is not the case, a provision is set aside in the consolidated financial statements for any potential risk, estimated on a contract-by-contract basis.

- **Advance payment bonds:** In order to finance contract execution, the Group may receive advance payments from its customers, in accordance with contractual terms, which are recognised in liabilities in the balance sheet. In order to guarantee reimbursement of these advance payments if the contractual obligations are not met, the Group may deliver, at the customer’s request, an advance payment bond. At 31 December 2019, advance payment bonds amounted to €1,970.9 million (€1,991.8 million at 31 December 2018).
- **Warranty retention bonds:** The Group evaluates and sets aside provisions for warranty costs in order to guarantee the conformity of goods sold to the customer during the contractual warranty period. In many cases, the provisional withholding of payment contractually applying during this period can be replaced by a warranty retention bond using a bank as intermediary. At 31 December 2019, warranty retention bonds amount to €159.0 million (€147.2 million at 31 December 2018).

The maturity dates of these commitments are:

	< 1 year	1 to 5 years	> 5 years	31/12/2019	31/12/2018
Bid bonds	16.4	4.2	11.4	32.0	18.2
Performance bonds	554.0	990.6	398.8	1,943.4	1,910.6
Advance payment bonds	1,156.7	671.3	142.8	1,970.9	1,991.8
Warranty retention bonds	88.2	47.2	23.5	159.0	147.2
Other bank bonds	94.5	105.3	72.0	271.8	156.5
TOTAL	1,909.8	1,818.8	648.5	4,377.1	4,224.3

b) Parent company guarantees

Parent company guarantees are issued by Thales parent company and are intended to guarantee the obligations of its subsidiaries mainly to their customers under commercial contracts, but also occasionally to suppliers under long-term service purchase commitments.

They may also be issued to financial institutions, in order to improve the conditions of supports they grant to some subsidiaries.

At December 2019, these guarantees amounted to €15,278.5 million (€13,417.4 million at 31 December 2018).

c) Offsetting commitments

The awarding of major contracts, particularly within the defence sector, may be subject to legal or regulatory offsetting of the execution of local obligations, which can take the form of direct offsetting, semi-direct offsetting or indirect offsetting.

The associated risks are described in section 1.1.2.1.10 of the 2018 Registration Document.

NOTE 11. LITIGATION

At the date of publication, there are no government, judicial or arbitration claims of which the Group is aware, which are pending or threatened and which could have or have had, any significant effect on the financial

position or profitability of the Company and/or the Group in the last 12 months.

NOTE 12. SUBSEQUENT EVENTS

To the best of the group's knowledge, no significant event occurred after the end of the reporting.

NOTE 13. ACCOUNTING POLICIES

a) Presentation of the financial statements

Consolidated profit and loss account

Expenses in the income statement are presented analytically by purpose.

Income from operations is equal to income of operating activities before taking into account:

- gains and losses on disposals of property, plant and equipment and intangible assets, businesses or investments;
- the impact of changes in scope on consolidated net income before tax (Note 13-b);
- the impact of the amendment, curtailment or settlement of pension plans and other long-term benefits;
- the impairment of non-current assets;
- other operating items resulting from unusual events, with a material impact on the financial statements.

Consolidated balance sheet

A significant portion of the Group's activities in its different business segments have long-term operating cycles. Accordingly, assets (liabilities) that are usually realised (settled) within the entities' operating cycles (inventory, accounts receivable and payable, advance payments, reserves, etc.) are classified in the consolidated balance sheet as current assets and liabilities, with no distinction between the amounts due within one year and those due after one year.

Consolidated statement of cash flows

The statement of cash flows provides an analysis of the change in cash and cash equivalents, as presented in the balance sheet and defined in Note 13-h. The statement of cash flows is prepared using the indirect method based on consolidated net income and is broken down into three categories:

- net cash flow from operating activities, including interest. Income tax payments are included in this caption, except when directly associated to investing or financing activities;
- net cash flow used in investing activities, including net operating investments (acquisition and disposal of property, plant and equipment and intangible assets, capitalisation of development costs) and net financial investments;
- net cash flow used in financing activities including dividends paid, capital subscriptions (exercise of options by employees), the purchase/sale of treasury shares, the issuance and repayment of debt, and changes in bank overdrafts, etc.

The Group also discloses the changes in its **net cash**, which is a non-GAAP measure. It includes financial debt, net of cash and cash equivalents and liquid investments. Changes in net cash, presented in Note 6.4, notably reflect **free operating cash flow**, defined as net cash flow from operating activities less net operating investments, plus the deficit payment linked to UK pension plans.

Adjusted net income

EBIT, corresponding to income from operations plus the share in net income of equity affiliates. This total is then adjusted for entries directly related to business combinations (amortisation of assets recognized in the context of purchase price allocation and other acquisition-related expenses).

Adjusted net income is presented in the Group's management report. It corresponds to consolidated net income attributable to shareholders of the parent company, less the following items, net of the corresponding tax impacts:

- amortisation of assets valued when determining the purchase price allocation (business combinations);
- other expenses directly related to these business combinations;
- impairment of non-current assets;
- gains and losses on disposal of assets, changes in scope of consolidation and others;
- changes in the fair value of derivative foreign exchange instruments, recognised in "Other financial income and expenses";
- actuarial gains and losses on long-term employee benefits, included in "Finance costs on pensions and other employee benefits".

Adjusted net income per share corresponds to the adjusted net income attributable to shareholders of the parent company, divided by the average number of shares outstanding during the period concerned.

Off-balance sheet commitments

Disclosures regarding off-balance sheet commitments are presented in the following notes:

- Note 9.3-f: funding obligations in respect of pensions;
- Note 10.5: commercial contract commitments.

Related parties

The Group has identified the following related parties: shareholders of Thales SA (parent company), notably the French State and Dassault Aviation, companies controlled by these shareholders, companies under joint control or significant influence, Directors and Senior Corporate Officers.

Section 4.2.3.3 of the 2018 Registration Document describes the main provisions concerning the shareholders' agreement governing relations between the French State ("Public Sector") and Dassault Aviation ("Industrial Partner") within Thales, the convention on the protection of national strategic interests and the specific convention binding the State and Thales.

Information related to transactions with related parties is presented in the following notes:

- sales with the French State (mainly with the *Direction Générale de l'Armement*, the French defence procurement agency) in Note 6.6-b;
- transactions with companies under joint control in Note 5.1-e.

Transactions with other related parties are not material.

Expenses recognised in respect of compensation, benefits and social security contributions attributable to Directors and members of the Executive Committee are presented in Note 9.5.

b) Scope of consolidation and changes in scope

Scope of consolidation

The financial statements of material subsidiaries directly or indirectly controlled by Thales are fully consolidated. The financial statements of material subsidiaries jointly controlled by Thales (joint ventures) or in which the Group has significant influence (associates) are accounted for under the equity method.

The main consolidated companies are listed in Note 15.

The full list of affiliates outside of France is available on the Group's website (<https://www.thalesgroup.com/en/homepage/worldwide/responsabilite>).

Business combinations

Business combinations are accounted for under the acquisition method as described in IFRS 3. Under this method, the Group recognises identifiable assets acquired and liabilities assumed at fair value on their acquisition date. It also recognises non-controlling interests in an acquiree on their acquisition date.

Non-controlling interests are measured either at fair value or proportionate to the share of the identifiable net assets. This is determined on a case-by-case by the Group depending on the option it applies.

Acquisition-related costs (valuation fees, consulting fees, etc.) are recognised under "other operating expenses" as incurred.

Negative goodwill is immediately recognised in "other operating income". Positive goodwill related to controlled companies is recognised in balance sheet assets under intangible assets. Positive goodwill related to equity affiliates is recognised under "investments in joint venture/associates".

Goodwill is not amortised but is subject to impairment tests each year. Goodwill impairment is booked as an expense under "impairment" and may not be reversed. Goodwill impairment related to equity affiliates is recognised in "share in net income of equity affiliates" and may be reversed.

c) Revenue

The Group's principles of revenue recognition are the following:

Unbundling of multiple performance obligations within a single contract

Some contracts include the supply to the customer of distinct goods and services (for instance contracts combining building of assets, followed by operation and maintenance). In such situations, the contract must be segmented into several components ("performance obligations"), each component being accounted for separately, with its own revenue recognition method and margin rate.

The contract price is allocated to each performance obligation in proportion to the specific selling price of the underlying goods and services. This allocation should reflect the share of the price to which Thales expects to be entitled in exchange for the supply of these goods or services.

Options notified by the customer for the supply of distinct additional goods or services are generally accounted for separately from the initial contract.

Evaluation of revenue allocated to performance obligations

Variable considerations included in the selling price are taken into account only to the extent that it is highly probable that a significant reversal in the amount of revenue already recognised will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

Penalties for late delivery or for the improper execution of a performance obligation are recognised as a deduction from revenue.

If the financing component is deemed significant, the selling price is adjusted to reflect a "cash" selling price for the goods and services provided. A financing component exists when parties have agreed to set up a financing to the advantage of one of them, through contractual terms.

Revenue includes income from claims only when it is highly probable that such claims will be accepted by the customer.

Contractual amendments negotiated with customers are included in the selling price only when they become legally enforceable.

Recognition of revenue over time or at a point in time

Revenue associated with each performance obligation identified within a contract is recognised when the obligation is satisfied, i.e., when the control of the promised goods or services is transferred to the customer.

To demonstrate that the transfer of goods is progressive and recognise revenue over time, the following cumulative criteria are required:

- the goods sold have no alternative use, and
- the Group has an irrevocable right to payment (corresponding to costs incurred, plus a reasonable profit margin) for the work performed to date, in the event of termination for reasons other than Thales' failure to perform as promised.

These criteria are fulfilled by the vast majority of Group contracts that include the design and delivery of complex goods.

Revenue from the sale of goods with an alternative use, and/or for which the Group has no enforceable right to payment in case of termination for convenience by the customer, is recognised when the goods are delivered to the customer. This essentially concerns equipment (mainly in civil avionics) and spare parts.

Revenue from service contracts is generally recognised over time, as the customer simultaneously receives and consumes the benefits of these services provided by Thales.

Percentage of completion method

The percentage of completion method generally used by the Group is expense-based: revenue is recognised based on costs incurred to date in relation to all the costs expected upon completion.

Margin recognition

Expected losses on contracts are fully recognised as soon as they are identified, pursuant to the provisions of IAS 37 on onerous contracts.

Order book

Order book (as disclosed in Note 2.3) corresponds to the amounts of the selling price allocated to the performance obligations not yet unsatisfied (or partially unsatisfied) at the closing date.

d) Operating assets and liabilities

Inventories and work in progress

Inventories and work in progress are carried at their production cost (determined using the FIFO or weighted-average cost method) and written down when their net sale value becomes lower than the production cost. Work in progress, semi-finished and finished goods are stated at direct cost of raw materials, production labour and subcontractor costs incurred during production, plus an appropriate portion of production overhead and any other costs that can be directly allocated to contracts.

When material, the cost of debt incurred during the construction period of a qualifying asset is incorporated in the value of this asset. If the funding is specific, the loan interest rate is used, otherwise the Group's financing rate is used.

Set-up costs

These costs cover preparatory work, not directly financed by the customer but necessary for the execution of the contract. They do not participate to the determination of the percentage of completion of the contract. They are capitalised and amortised as and when the revenue is recognised.

Contract assets and liabilities:

The cumulated amount of revenue accounted for, less progress payments and accounts receivable (presented on a dedicated line of the balance sheet) is determined on a contract-by-contract basis. If this amount is positive, the balance is recognised under “contract assets” in the balance sheet. If it is negative, the balance is recognised under “contract liabilities”.

Customer receivables:

A receivable is an unconditional right to payment by the customer.

Impairment losses are accounted for, based on a prospective assessment of the credit risk on the initiation of the receivable, and its deterioration over time. The changes in impairment are presented in Note 10.4.

The Group is authorised to assign trade receivables, mainly from the French State, and commercial paper. As these assignments, which are without recourse in case of default by the debtor, involve the transfer of substantially all corresponding risks and rewards (Thales holding the dilution risk), they are “derecognised.” Thales’ continued involvement (as this is defined by IFRS 7) in the transferred receivables corresponds to the keeping of the recovery mandate.

e) Research and development expenses

A significant share of research and development expenses is funded by customers and government agencies. Internally funded research and development expenses are charged to the profit and loss account as incurred, except for project development costs which meet the criteria of capitalization below:

- the product or process is clearly defined, and costs are separately identified and reliably measured;
- the technical feasibility of the product or project is clearly demonstrated, and the Group’s experience in this area is established;
- adequate resources are available to complete the project successfully;
- a potential market for the products exists or their usefulness, in case of internal use, is demonstrated;
- the company intends to produce and market, or use the new product or process, and can demonstrate its profitability. Profitability is assessed on the basis of prudent commercial assumptions in order to reflect contingencies inherent to the long cycles of the Group’s activities, in particular Aerospace. Minimum internal rates of return are required in the case of projects deemed risky.

Capitalised development costs mainly relate to the Group’s Aerospace and Security activities, for which the developed products are relatively generic and can be sold to a large number of potential customers. By contrast, development costs linked to Defence activities are for more specific and restricted markets with a limited number of players: the specific features of the products developed make it harder to share development work and therefore harder to capitalise the associated costs.

Development costs are then amortised over the useful life of the product. The method of amortisation is generally determined by reference to expected future quantities over the period in which future economic benefits will be earned. If the method cannot be determined reliably, straight-line amortisation is adopted. The period of amortisation depends on the type of activity.

Assets are also subjected to impairment loss tests. The terms and assumptions taken into account to conduct these tests are described in Note 4.1. These impairment losses can be reversed. Impairment loss reversal criteria are identical to those retained when first capitalising development costs on a new project.

The Group receives tax credits related to research carried out by its subsidiaries. These tax credits are considered as operating grants and are therefore included in income from operations, when their award is not dependent on the generation of taxable income. Otherwise, they are recognised as a deduction from income tax expense.

f) Restructuring costs

Provisions for restructuring costs are accounted for when restructuring programmes have been agreed and approved by a competent body and have been announced before the balance sheet date, resulting in an obligating event of the Group to the third parties in question, as long as the Group does not expect compensation for these costs.

These costs primarily relate to severance payments, costs for notice periods not worked and other costs linked to the closure of facilities such as write-offs of fixed assets. These costs and the costs directly linked to restructuring measures (removal costs, training costs of transferred employees, etc.) are recognised under “restructuring costs” in the profit and loss account.

g) Property, plant and equipment and intangible assets

Intangible assets

The Group’s intangible assets mainly include:

- goodwill (Note 13-b);
- assets acquired in business combinations, primarily acquired technologies, customer relationships and the order book. These assets are recognised at fair value and amortised over their useful lives. The fair value of the assets is based on the market value. If no active market exists, the Group uses methods based on forecasts of the present value of the expected future operating cash flows (excess earnings method, royalty method, etc.);
- capitalised development costs (Note 13-e).

Intangible assets are submitted to impairment tests.

Property, plant and equipment

Property, plant and equipment is stated at cost, net of any accumulated depreciation and accumulated impairment losses. Depreciation of property, plant and equipment is generally calculated on the basis of the following typical useful lives:

- 20 years for buildings;
- 1 to 10 years for technical facilities and industrial equipment and tooling;
- 5 to 10 years for other property, plant and equipment (vehicles, fixtures, etc.).

The depreciable amount takes into account the residual value of the asset. The various components of property, plant and equipment are recognised separately when their estimated useful lives or patterns of use, and thus the period over which they are depreciated or the depreciation methods applicable to them, are materially different.

Borrowing costs that are directly attributable to the acquisition or construction of an asset are capitalised as part of the cost of that asset.

h) Leases

Contracts defined as a lease according to IFRS16 (that is to say contracts which give the lessee a right to control the use of an identified asset for a period of time in exchange for consideration) are accounted for in the balance sheet, with the exception of low value assets and contracts with a duration below 12 months (by simplification, as allowed by the standard). In the Group’s financial statements, lease contracts accounted for in the balance sheet are mainly real estate contracts (offices and production sites) and, in a lesser extent, service vehicles and few IT equipment.

Leases are accrued on the balance sheet at the date when the underlying asset is made available to the lessee. The lease liability is accrued against a right to use the rent asset, and is equal to the committed future lease payments discounted over the duration of the lease, as well as the exercise price of the options when it is reasonably certain that they will be exercised. The right-of-use asset is adjusted, if applicable, by the payments made in advance to the lessor, the initial direct costs incurred net of the incentives received by the lessor, and dismantling costs when an obligation is identified.

In the case of real estate contracts, the initial lease term retained for the lease liability calculation corresponds to the contractual term which is usually non-cancellable, the Group accepting most of the time to renounce to early termination options in order to benefit from favorable economic conditions. For these contracts, renewal options are generally not taken into account as the contractual terms are long and the date of exercise of these options is too far for the Group to be able to judge their exercise reasonably certain.

The Group may reassess this duration in the course of a contract duration in the case where a significant event would occur, such as a reorganization plan or expensive leasehold improvements. In such situations, the Group pays attention to the consistency between the amortisation duration of the leasehold improvements and the term retained for the calculation of the lease liability.

Besides, when the end date of a contract is close, and in the absence of a moving project, the lease term is re-estimated in order to reflect the Group's intention to renew the contract. In such a situation, as for open-end contracts (but cancellable anytime with termination notice by the lessee or the lessor) or for short-term contracts renewable without limitation by tacit agreement, the end date of the contract is estimated taken into account the legal and contractual applicable conditions, but also the particular context of each contract (fluidity of the local real estate market, relations with the lessor,...) and economic conditions surrounding the lease (appreciation of the economic loss which represents, for the Group, to abandon the improvements or constructions made on the leased asset,...). This methodology is consistent with the IFRIC's position taken on November 2019.

For other natures of lease, there is usually no early termination or extension options, the lease term retained therefore corresponds to the non-cancellable period.

Future lease payments are discounted using the incremental borrowing rate of the lessee. The latest is calculated taking into account the financing arrangements of the Group, that is to say it is based on both the risk-free rate of the lessee and the margin applicable to Thales SA for financing of maturity corresponding to the duration of the commitment.

The right-of-use asset is presented within the tangible assets (Note 4.2). It is amortised on a linear way over the duration of the contract. The amortisation charge of the right-of-use asset is part of the income from operations.

The lease liability is presented in the balance-sheet within the financial debt (Note 6.2). The interest charge is presented in the profit and loss account within the net interest income (Note 6.1).

Within the statement of cash flows:

- the interests paid are included within the net cash flow from operating activities ;
- the reimbursement of the debt is presented in the financing cash flow on the line "repayment of debt", - new lease have no impact on the cash flows statement.

i) Financial assets, financial liabilities and derivatives

Financial assets

IFRS 9 introduces a single approach to classification and measurement of financial assets, based on the characteristics of the financial instruments and on the Group's management intention. Thus:

- financial assets with expected cash-flows that solely correspond to principal and interest payments are measured at amortised costs if managed only to collect these flows;
- in other cases, financial assets are measured at fair value through the income statement, except for equity investments not held for trading and whose changes in value affect optionally the Other Comprehensive Income (OCI).

These principles are reflected as follows on the assets presented in the Group's balance sheet:

o Investments are measured at fair value. Fair value corresponds to the market price for shares quoted on a regulated market. For other shares, fair value is usually determined using valuation models provided by independent third parties, or by reference to the share in net equity held by the Group.

Changes in fair value are recognised either on the income statement or, subject to an irrevocable option, investment by investment, through OCI with no reclassification to the income statement. This latter option has been chosen by the Group for all non-consolidated investments at the end of 2019. Consequently, subsequent changes in fair value and gains (losses) on disposal will be directly accounted for through shareholders' equity, with no impact on the income statement. Only dividends must remain accounted for through the financial result.

o Receivables and financial loans are recognised at amortised cost. They are subject to impairment if an expected loss or an impairment indicator is identified. This impairment, recognised in "other financial income (expense)", may subsequently be reversed through profit and loss if the conditions so justify.

o Deposits that Thales intends to hold until maturity are recognised at amortised cost.

o Other financial assets (including mutual funds and equivalent products) are estimated at fair value through profit and loss.

o "Cash and cash equivalents" include cash at bank and in hand as well as cash equivalents (short-term and liquid investments that are easily converted into a known amount of cash and exposed to negligible risk of a change in value).

Financial liabilities

Borrowings and other financial liabilities are measured at amortised cost using the effective interest rate. Upon initial recognition, premiums, redemption and issuance costs are included in the calculation of the effective interest rate and are recognised in the profit and loss account on an actuarial basis over the life of the loan.

Derivatives

The Group uses financial instruments to manage and reduce its exposure to risks of changes in interest rates and foreign exchange rates.

Foreign exchange derivatives used to hedge commercial contracts, and eligible for hedge accounting are accounted for as follows:

- the effective portion of the change in fair value of the hedging instrument is recognised directly in equity until such time as the hedged flows affect profit and loss. The ineffective portion is recognised in profit and loss;
- the amount of the foreign currency denominated transaction is subsequently translated at the exchange rate prevailing at the date of inception of the hedge.

Changes in the fair value of premiums or discounts related to forward foreign currency contracts are recognised in “other financial income (expense)” as they are excluded from the hedging relationship.

The time value of foreign exchange options documented as hedges is considered as a cost of hedging: changes in fair value are accounted for through OCI, with reclassification to the financial result in line with the hedged item.

Concerning **foreign exchange derivatives subscribed to hedge financial assets/liabilities**, documented as fair value hedges, the swap point is spread over the duration of the financial asset/liability.

Interest-rate derivatives are used either as fair value hedges or cash flow hedges:

- a fair value hedge is a hedge of the exposure to changes in the value of assets and liabilities;
- a cash flow hedge is a hedge of the exposure to changes in the value of future cash flows (unknown future interest flows payable on existing variable-rate borrowings or on highly probable future borrowing issues, for example).

In the case of fair value hedge relationships, particularly for the portion of fixed-rate bond debt swapped for a variable rate, the financial liabilities hedged by the interest-rate derivatives are re-measured to the extent of risk hedged. Changes in the value of hedged items are recognised in profit and loss for the period and are offset by symmetrical adjustments in interest-rate derivatives.

In the case of cash flow hedging relationships, the effective portion of changes in fair value of interest-rate derivatives shown in the balance sheet is recognised directly in equity until such time as the hedged flows affect profit and loss.

j) Deferred tax assets and liabilities

Thales recognises deferred taxes when the tax value of an asset or liability differs from its book value.

Deferred tax assets are not recognised on the balance sheet if it is likely that the company concerned will not be able to recover them. To assess its ability to recover deferred tax assets, the Group takes into account forecast taxable income of the tax entities concerned, generally over a five-year time-frame, non-recurring past events and tax strategies specific to each country.

k) Pensions and other long-term employee benefits

The Group's defined benefit plan commitments are measured by independent actuaries using the projected unit credit method on the basis of estimated salaries at the date of retirement. The calculations mainly take into account assumptions concerning discounting as well as inflation, mortality and staff turnover rates, etc.

Changes in actuarial assumptions and experience adjustments – corresponding to the effects of differences between projected and actual results – give rise to actuarial gains and losses:

- actuarial gains and losses on post-employment benefits are recognised in full within other comprehensive income, and are not subsequently reclassified to profit and loss. Where appropriate, the same treatment is applied to adjustments linked to the ceiling on net assets for plans in surplus;
- actuarial gains and losses on other long-term benefits are recognised immediately in financial income (Note 9.3).

Past service cost, measured in cases of amendments or curtailments of plans, and plan settlements are recognised in full within other operating income (loss) in the period in which it is incurred.

Net interest expense, determined based on the discount rate of obligations, is recognised in financial income.

l) Share-based payment

Free share plans

Thales regularly grants free shares and/or performance shares to its employees. These allotments give rise to an expense representing the fair value of services received at the grant date. This payroll expense is recognised against equity.

The fair value of the services received is calculated by reference to the fair value of the shares at the grant date, less the present value of dividends forfeited by employees during the vesting period, taking into account the presence conditions.

Internal performance conditions are taken into account only by means of an adjustment in the projected number of instruments acquired by employees at the end of the vesting period. Therefore, they are not taken into account in the fair value estimate of the instruments granted, which is determined at the grant date.

The expense related to these plans is included in the income from operations with the consolidated reserves account as counterpart without impact on total equity. As the payment of compensation is subject to presence conditions, the corresponding expense is recorded over the vesting period on a straight-line basis. When appropriate, the expense is adjusted over the vesting period to reflect any losses of rights.

Share unit plans indexed to the value of Thales shares

A share unit plan indexed to the value of Thales shares, some of which are performance shares, was implemented in 2014 and in 2015. At the maturity date, the beneficiaries will receive the value, about half of which is in the form of shares and half in the form of cash-settled share-based payment.

The proportion delivered in shares follows the same accounting policies as those applied to free share plans. The accounting treatment applicable to cash-settled share-based payments is governed by IFRS 2. Under this policy, the services acquired and the liability incurred are measured at fair value. Until the liability is settled, debt is re-measured at each reporting date, with any changes in fair value recognised in income for the period. The re-measurement of the liability takes into account any changes in the value of the underlying shares, as well as whether or not the presence conditions and performance criteria have been met.

Phantom shares indexed to the value of Thales shares

Since those are cash-settled plans, IFRS 2 requires an evaluation of vested services and the liability assumed at fair value. Until the payment of this liability, the debt is re-measured at the closing date and taken to profit and loss. The re-measurement of the debt takes into account the achievement of performance and/or presence conditions, as well as the change in value of the underlying shares.

Company savings plans

Employee share offerings with a discount to the average market price proposed within Company savings plans do not include any vesting period for rights but are subject to a legal five-year lock-up period. The measurement of the benefits granted to employees takes into account the cost of the five-year lock-up period.

NOTE 14. FEES PAID TO STATUTORY AUDITORS

Total fees paid to Thales's statutory auditors by the parent company and members of their consolidated networks for financial years 2019 and 2018 are shown below.

Other services cover tasks required by law (e.g., interim dividend, capital increase, etc.) and other services compatible with the statutory auditors' role (certification of expenditures, agreed procedures engagements, services of a tax-related nature without material impact, etc.).

(in € thousands)	Mazars		Ernst & Young Audit		Total	
	2019	2018	2019	2018	2019	2018
Certification of accounts	5,584	5,007	6,595	4,841	12,179	9,848
• Issuer	965	696	595	881	1,560	1,577
• Subsidiaries	4,619	4,311	6,000	3,960	10,620	8,271
Other services	720	546	727	812	1,447	1,358
• Issuer	286	180	43	108	329	288
• Subsidiaries	434	366	684	704	1,118	1,070
TOTAL	6,304	5,553	7,322	5,653	13,626	11,206

NOTE 15. LIST OF MAIN CONSOLIDATED COMPANIES

(excluding Thales SA, the parent company)

Company name	Country	% interest 31/12/2019	% interest 31/12/2018
1. Consolidated subsidiaries^(a)			
Gemalto, Inc.	United States	100%	—
Gemalto Pte Ltd	Singapore	100%	—
Gemalto UK Ltd	United Kingdom	100%	—
Thales Alenia Space France SAS	France	67%	67%
Thales Alenia Space Italia SpA	Italy	67%	67%
Thales Australia Ltd	Australia	100%	100%
Thales Avionics, Inc.	United States	100%	100%
Thales Avionics Electrical Systems SAS	France	100%	100%
Thales AVS France SAS	France	100%	100%
Thales Canada Inc.	Canada	100%	100%
Thales Defense & Security, Inc.	United States	100%	100%
Thales Deutschland GmbH	Germany	100%	100%
Thales DIS AIS Deutschland GmbH	Germany	100%	—
Thales DIS CPL USA, Inc.	United States	100%	—
Thales DIS France SA	France	100%	—
Thales DIS Mexico SA de CV	Mexico	100%	—
Thales DMS France SAS	France	100%	100%
Thales Espana Grp, S.A.U.	Spain	100%	100%
Thales Ground Transportation Systems UK Ltd	United Kingdom	100%	100%
Thales Italia SpA	Italy	100%	100%
Thales IAS France SAS	France	100%	100%
Thales Nederland B.V.	Netherlands	99%	99%
Thales Services SAS	France	100%	100%
Thales SIX GTS France SAS	France	100%	100%
Thales Solutions Asia Pte Ltd	Singapore	100%	100%
Thales Transport And Security Ltd	United Kingdom	100%	100%
Thales UK Ltd	United Kingdom	100%	100%
Trixell	France	51%	51%
2. Joint ventures (equity method)			
Thales-Raytheon Systems Air and Missile Defense Command and Control SAS	France	50%	50%
Naval Group	France	35%	35%
Diehl Aerospace GmbH	Germany	49%	49%
Lynred (ex Sofradir SAS)	France	50%	50%
3. Associates (equity method)			
Aviation Communications & Surveillance Systems	United States	30%	30%
Airtanker Ltd	United Kingdom	13%	13%
Elettronica SpA	Italy	33%	33%
Telespazio SpA	Italy	33%	33%

(a) Companies with sales representing more than 0.5% of consolidated sales.

Exemptions for subsidiaries publication:

Gemalto Holding BV (previously Gemalto NV) is exempted from its obligation to publish consolidated financial statements from 2019, as Thales applies the exemption 408 in Netherlands,

German entity Electronic Signalling Services (ESS) GmbH, located at 1 Thalesplatz, 71254 Ditzingen, has requested to be exempted from its obligation to publish statutory financial statements for the year 2019, pursuant to paragraph 3, subparagraph 264, of the German Commercial Code.

7.2 PARENT COMPANY MANAGEMENT REPORT AND FINANCIAL STATEMENTS

7.2.1 Parent company management report

7.2.1.1 Activity and results

Operating income amounted to €735 million, compared with €744 million in 2018. Sales totalled €253 million, compared with €229 million in 2018.

Activities are described by sector in the accompanying notes.

Sales mainly consist of rent and property work re-billed to operating subsidiaries and sales of research, chiefly conducted by the Central Research and Technology Department of the Thales Group. The increase in sales is primarily due to increased billing of property work and research in 2019.

Other operating income amounted to €454 million, compared with €482 million in 2018. It includes royalties paid by direct operating subsidiaries, as well as expenses re-billed to those subsidiaries, including for general and specific centralised services provided by the parent company, and capitalised production.

Net loss from operations amounted to €(114) million, compared with a loss of €(160) million in 2018.

Net financial income was €546 million, compared with €558 million in 2018.

Provisions for equity investments and subsidiary risks totalled €(95) million in 2019 compared with €(79) million in 2018. Reversals of provisions for equity investments and subsidiary risks represented €90 million in 2019 compared with €16 million in 2018.

Income from associates amounted to €584 million in 2019, versus €621 million in 2018.

Non-recurring income amounted to €27 million, compared with a non-recurring expense of €(6) million in 2018. This takes into account the €22-million impact of capping the executive pension scheme under the Pacte law.

The company recorded an income tax benefit of €43 million compared with €(61) million in 2018. The French government tax rate increased in 2019.

In 2019, non-deductible expenses under Articles 223 quarter and 39.4 of the French General Tax Code amounted to €(0.2) million.

Net profit for financial year 2019 came to €502 million, compared with €453 million in 2018.

7.2.1.2 Balance sheet at 31 December 2019

The balance sheet total at year-end 2019 was €20,282 million, up €3,392 million from €16,890 million at year-end 2018.

The total non-current assets of €15,430 million (€9,878 million in 2018) are mainly composed of financial investments.

The €5,137 million increase in equity investments is mainly due to the acquisitions of shares in Gemalto (€4,762 million), Ercom and Suneris (€100 million) and the increase in the capital of Thales USA Inc. (€234 million).

Other financial investments increased by €446 million. A €387 million loan was granted to Gemalto Holding BV in 2019, maturing in 2021.

Current assets fell by €2,159 million to €4,852 million at end-December 2019, including cash on hand of €2,848 million. This decrease is due to the acquisition of Gemalto, offset by the improved operating cash flow of subsidiaries.

Other investments of €250 million at end-2018 corresponded to term deposits with banks with maturities of less than 12 months.

The balance of Group companies' current accounts represented a net debt of €5,389 million at year-end 2019, compared with €4,628 million at year-end 2018.

Borrowings amounted to €4,843 million at year-end 2019, versus €3,097 million at year-end 2018. They include bond issues totalling €3,287 million, commercial paper totalling €746 million and foreign-currency and euro-denominated borrowings from Group subsidiaries and associates.

At year-end 2019, share capital stood at €640.0 million and total equity came to €7,015 million, compared with €6,969 million at year-end 2018.

Customer and supplier payment schedules

Thales pays its suppliers 60 days after the invoice date, in line with the maximum period allowed under the French law on the modernisation of the economy (*Loi de modernisation de l'économie* – LME).

The table below presents the ageing of receivables and payables by invoice date:

➤ **INVOICES RECEIVED AND ISSUED AT THE CLOSING DATE OF THE FINANCIAL YEAR JUST ENDED
(TABLE PROVIDED FOR IN SECTION I, ARTICLE D. 441-4)**

	Article D. 441 I.-1e: Invoices received and not settled at the close of the financial year just ended						Article D. 441 I.-2e: Invoices issued and not settled at the close of the financial year just ended					
	Day 0 (illustrative)	1 to 30 days	31 to 60 days	61 to 90 days	91 or more days	Total (1 or more days)	Day 0 (illustrative)	1 to 30 days	31 to 60 days	61 to 90 days	91 or more days	Total (1 or more days)
A. Payment period tranches												
Number of invoices	1,096					181	580					630
Total value of invoices (including taxes)	87.6	5.7	0.5	—	0.3	6.5	68.7	24.2	2.9	5.3	24.7	57.1
Percentage of total purchases during the year (including taxes)	13.59%	0.88%	0.08%	0.00%	0.05%	1.01%						
Percentage of total sales during the year (including taxes)							8.61%	3.03%	0.36%	0.66%	3.09%	7.14%
B. Invoices excluded from (A) corresponding to payables or receivables in dispute or not posted												
Number of posted invoices in dispute						38						
Number of unposted invoices						382						
Total value of posted invoices in dispute (including taxes)						1.5						
Total value of unposted (including taxes)						18.6						
C. Reference payment terms used (contractual or legal period – Articles L. 441-6 or L. 443-1 of the French Commercial Code)												
Payment terms used for calculating late payments	Contractual periods: 45 days end of month						Contractual periods: 45 days end of month					

7.2.1.3 Events after the reporting period

None.

7.2.1.4 Outlook for the current financial year

The Company's results for 2020 are expected to reflect the dividends paid by certain subsidiaries for financial year 2019 and changes in provisions for impairment of equity investments and subsidiary risks as a consequence of trends in their business and performance in 2020.

7.2.1.5 Proposed allocation of earnings and dividend policy

The Annual General Meeting, deliberating under the *quorum* and majority conditions required for annual general meetings, noted⁽¹⁾ that distributable earnings include:

The net profit for financial year 2019	€501,949,131.22
Less allocations to legal reserve	(€64,027.50)
Plus retained earnings at 31 December 2019	€1,597,478,449.95
Plus an interim dividend in the amount of €0.60 per share paid on 5 December 2019 and deducted from retained earnings	€127,316,769.00
Total	€2,226,680,322.67

The Annual General Meeting decided⁽¹⁾ to allocate this amount as follows:

Distribution of a dividend of €0.60 per share on 213,317,506 shares bearing rights from 1 January 2019 (corresponding to the paid interim dividend of €127,316,769.00, plus the amounts that would have been paid on treasury shares held by the Company, in accordance with the provisions of the fourth paragraph of Article L.225-201 of the French Commercial Code)	€127,990,503.60
Retained earnings after dividend	€2,098,689,819.07
Total equivalent to distributable earnings	€2,226,680,322.67

The Annual General Meeting notes that, taking into account the interim dividend of €0.60 per share paid on 5 December 2019 and deducted from retained earnings, no final dividend will be paid.

The amounts corresponding to the dividends that, in accordance with the provisions of the fourth paragraph of Article L. 225-210 of the French Commercial Code, would be paid on treasury shares held by the Company, will be reallocated to retained earnings.

For individuals domiciled in France who have not expressly, irrevocably and globally opted to be subject to income tax on a progressive scale, the dividend is subject to a flat tax rate (*prélèvement forfaitaire unique* or PFU) of 30%. For individuals domiciled in France who have exercised such an option, this dividend is subject to income tax on a progressive scale and is eligible for the 40% allowance provided by Article 158.3 para. 2 of the French General Tax Code.

In accordance with the law, the amounts of dividends paid out for the past three financial years are provided below:

Financial year	Dividend per share	Total amount paid out
2016	€1.60 ^(a)	€338,279,587.20
2017	€1.75 ^(a)	€371,025,506.25
2018	€2.08^(a)	€442,018,319.00

(1) The dividend corresponds to all income distributed for the financial year. The full dividend amount was eligible for the tax relief provided for in Article 158-3 para. 2 of the French General Tax Code.

(1) Subject to approval by the Annual General Meeting of 6 May 2020.

7.2.1.6 Parent company management report cross-reference table

In accordance with Articles L. 225-100, L. 232-1, L. 247-1 and R. 225-102 of the French Commercial Code, the parent company management report includes the following information contained in the 2019 Universal Registration Document:

Management report French Commercial Code	Sections/Notes	Pages
1. Thales (parent company) financial statements at 31 December 2019	Section 7	
Table of subsidiaries and associates	Note 23	260
Table of investments made and shareholding disclosures in French companies	Note 23	262
Table showing the company's earnings over the last five financial years	Note 24	263
Table of outstanding stock purchase and subscription options at 31 December	Note 15	252
Change in the number and value of treasury shares	Note 14	251
Write-back of general expenses following tax audit	Note 6	245
Events after the reporting period	Note 22	259
Information on existing branches (Article L. 232-1, II of the French Commercial Code)	Note 24	263
2. Risk factors, internal control and risk management	Section 3	46
3. Management report and consolidated financial statements of the Group at 31 December 2019	Sections 2 & 7	32 and 184
Presentation of the activities of the company, its subsidiaries and controlled companies	Section 2.1	18
Description of the main risks and uncertainties facing the Group	Section 3.1, 3.2, 3.3	48
Information on the use of financial instruments (supplementing the Notes to the financial statements)	Note 6	203
Information on research and development activities	Section 2.2	29
4. Corporate Governance	Section 4	
Compensation of other Group executives	Section 4.5	107
share-based compensation	Section 6.2.2, 9.4	165, 220
5. Company and share capital	Section 6	
Breakdown of shareholders and changes made during the financial year	Section 6.2.1.3	164
Employees' stake in share capital	Section 6.2.3.7	174
Awards of free shares and performance units made during the financial year	Section 6.2.3.5	171, 172
Description of the share buy-back programme adopted by the Annual General Meeting of 15 May 2019	Section 6.2.3.4	170
Transactions involving treasury shares during the financial year	Section 6.2.3.4.3.2	170
Summary statement of transactions carried out during the financial year by directors, non-voting directors and related persons	Section 4.6	108
Regulated agreements	Section 6.3	175
Thales share price trend over the past two financial years	Section 6.4.1	177
6. Non-Financial Performance Statement, including	Sections 1, 3 & 5	
Business model	Section 1	6 to 13
Main risks identified	Sections 3 and 5.2	46, 112
Policies and measurements of associated results	Sections 5.3 to 5.7	115 à 156
Report of the independent third party	Section 5.8	157
Cross-reference table for the Non-Financial Performance Statement	Section 8.6	280
Other social and environmental information in the management report (Art. L. 225-100-1 para. 2 and 4, L. 255-102-2, L. 225-102-4 and L. 225-637-1 of the French Commercial Code)	Sections 5.4 and 5.5	116 and 129
Duty of Care Plan	Section 5.7.3.2	149

7.2.2 Thales parent company financial statements at 31 December 2019

7.2.2.1 Income statement by type

(In € millions)	Note	2019	2018
Re-billing of rent and building work		224.9	211.8
Research		27.6	16.8
Sales		252.5	228.6
Royalties		252.5	247.4
Re-billing of expenses		201.9	234.5
Other operating income		454.4	481.9
Reversals of provisions		20.3	22.7
Transfer of expenses		7.4	10.7
TOTAL OPERATING INCOME		734.6	743.9
Purchases and changes in inventories and work in progress		(33.2)	(48.8)
Other external charges		(535.1)	(579.4)
Taxes other than on income		(10.8)	(12.3)
Personnel expenses		(232.1)	(226.4)
Depreciation and amortisation		(16.9)	(17.2)
Increase in provisions for impairment		(20.3)	(19.6)
Total operating expenses		(848.4)	(903.7)
INCOME (LOSS) FROM OPERATIONS	Note 3	(113.8)	(159.8)
Net interest and finance costs		(11.6)	(7.5)
Income from associates		583.8	620.9
Other financial income		105.8	56.4
Other financial expenses		(132.2)	(111.6)
Financial income (expense)	Note 4	545.8	558.2
PROFIT (LOSS) FROM ORDINARY ACTIVITIES BEFORE INCOME TAX		432.0	398.4
Non-recurring income (expense)	Note 5	26.8	(6.4)
PROFIT (LOSS) BEFORE INCOME TAX		458.8	392.0
Income tax benefit (expense)	Note 6	43.1	61.4
NET INCOME		501.9	453.4

The Notes to the financial statements are an integral part of the parent company financial statements.

7.2.2.2 Balance sheet

Assets

(In € millions)	Note	31/12/2019	31/12/2018
Intangible assets and property, plant and equipment, net	Note 7	95.4	104.8
Equity investments	Note 8	14,292.2	9,155.5
Treasury shares not assigned to plans	Note 14	46.2	67.3
Other financial investments	Note 9	996.4	550.9
Total non-current assets		15,430.2	9,878.5
Inventories and work in progress		5.6	17.6
Advances to suppliers	Note 16	0.4	0.1
Trade receivables	Note 16	250.7	201.4
Other receivables	Note 16	288.0	290.7
Group company current accounts receivable	Note 10	2,341.4	1,439.0
Treasury shares allocated to employee share ownership plan	Note 14	4.3	–
Accrued interest		0.3	2.8
Other investments	Note 11	–	250.0
Cash and cash equivalents	Note 11	1,961.5	4,809.4
Total current assets		4,852.2	7,011.0
TOTAL ASSETS		20,282.4	16,889.5

Shareholders' equity and liabilities

(In € millions)	Note	31/12/2019	31/12/2018
Share capital		640.0	639.3
Additional paid-in capital		4,074.3	4,068.2
Reserves and retained earnings		1,798.9	1,808.5
Profit or loss		501.9	453.4
Total shareholders' equity	Note 13	7,015.1	6,969.4
Reserves for contingencies	Note 17	237.4	204.9
Borrowings	Note 12	4,843.2	3,096.9
Group company current accounts payable	Note 10	7,729.8	6,066.5
Advances received on contracts in progress	Note 16	21.7	19.0
Trade payables	Note 16	136.6	164.3
Other payables	Note 16	298.6	368.5
Total liabilities		13,029.9	9,715.2
TOTAL SHAREHOLDERS' EQUITY AND LIABILITIES		20,282.4	16,889.5

The Notes to the financial statements are an integral part of the parent company financial statements.

7.2.2.3 Cash flow statement

(In € millions)	Note	2019	2018
Net income		501.9	453.4
Add (less):			
Dep. and amort. of property, plant and equipment and intangible assets	Note 7	16.9	17.2
Provisions for post-employment and other employee benefits	Note 17	6.6	(2.2)
Net provisions for impairment of equity investments and subsidiary risks	Note 4	4.7	62.9
Loss (gain) on disposals of assets	Note 5	(3.5)	(1.6)
Other items		3.9	(26.6)
Operating cash flow		530.5	503.1
Change in working capital and provisions for operating contingencies and losses		(76.6)	185.8
NET CASH FLOW FROM OPERATING ACTIVITIES	- I -	453.9	688.9
Acquisitions of intangible assets and property, plant and equipment		(8.1)	(8.0)
Disposals of intangible assets and property, plant and equipment		—	—
Net operating investment		(8.1)	(8.0)
Investments in subsidiaries and associates	Note 8	(5,101.7)	(175.9)
Disposals of subsidiaries and associates	Note 8	0.2	—
Decrease (increase) in other investments		247.7	73.5
Decrease (increase) in other financial investments and treasury shares		(449.2)	(514.5)
Decrease (increase) in current account receivables		(897.4)	(355.2)
Net financial investment		(6,200.4)	(972.1)
NET CASH FLOW FROM INVESTING ACTIVITIES	- II -	(6,208.5)	(980.1)
Dividend distributions	Note 13	(463.0)	(382.1)
Increase in share capital (exercise of stock options)		7.1	16.4
Increase in borrowings		1,892.1	2,164.8
Decrease in borrowings		(186.1)	(681.3)
Increase (decrease) in current account payables		1,640.1	532.3
NET CASH FLOW FROM FINANCING ACTIVITIES	- III -	2,890.2	1,650.1
TRANSLATION ADJUSTMENT FOR ACCOUNTS DENOMINATED IN A FOREIGN CURRENCY	- IV -	16.5	—
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	I + II + III + IV	(2,847.9)	1,358.9
Cash and cash equivalents at the beginning of the period		4,809.4	3,450.5
Cash and cash equivalents at the end of the period		1,961.5	4,809.4

The Notes to the financial statements are an integral part of the parent company financial statements.

7.2.2.4 Statement of changes in equity

(in € millions)	Number of shares outstanding (in thousands)	Share capital	Issue premiums	Retained earnings	Profit or loss for the year	Total shareholders' equity
At 1 January 2018	212,659	638.0	4,053.2	1,806.8	383.8	6,881.8
Allocation of 2017 earnings	—	—	—	383.8	(383.8)	—
Dividends	—	—	—	(382.1)	—	(382.1)
Capital increase	445	1.3	15.0	—	—	16.3
2018 profit	—	—	—	—	453.4	453.4
At 31 December 2018	213,104	639.3	4,068.2	1,808.5	453.4	6,969.4
Allocation of 2018 earnings	—	—	—	453.4	(453.4)	—
Dividends (see Note 13.2)	—	—	—	(463.0)	—	(463.0)
Capital increase	213	0.7	6.1	—	—	6.8
2019 profit	—	—	—	—	501.9	501.9
At 31 December 2019	213,317	640.0	4,074.3	1,798.9	501.9	7,015.1

The Notes to the financial statements are an integral part of the parent company financial statements.

7.2.2.5 Notes to the parent company financial statements

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All the amounts in these Notes are expressed in millions of euros (€m), with the exception of information related to headcount and shares.

NOTE 1. ACCOUNTING PRINCIPLES

Thales is a French public limited company (*société anonyme*) and the parent company of the Thales Group.

The Thales parent company financial statements have been prepared in accordance with the accounting principles applicable in France pursuant to the provisions of the French General Chart of Accounts (*Plan Comptable Général*) as defined in ANC Regulation 2014-03 (consolidated version as at 1 January 2019).

These principles are detailed in each Note hereafter.

NOTE 2. CHANGES IN THALES'S DIRECT SUBSIDIARIES AND ASSOCIATES

2019

In December 2017, Thales and Gemalto (a leader in digital security) jointly announced the signing of a merger agreement including a cash offer of €51 per ordinary share cum dividend. The initial offer was settled on 2 April 2019. On 29 May 2019, the Group initiated mandatory delisting from Euronext to obtain all of Gemalto's shares. At 31 December 2019, Thales held all Gemalto Holding BV shares totalling €4,762.4 million.

In January 2019, Thales finalised the acquisition of Crystal SAS, which owned Ercom, a company specialising in communication and device security, and Suneris, which delivers solutions for the supervision and control of telecommunications network traffic, for €100 million, representing 90.27% of shares.

In December 2019, as part of the merger of the Thales and Gemalto groups' business activities, Thales contributed all its Thales SIX GTS France SAS shares to Thales DIS France SA, bringing the percentage of Thales DIS France SA shares held by Thales to 81.66%, the remainder of which are held by Gemalto Holding BV.

In December 2019, Thales also recapitalised Thales USA Inc. at a cost of €234 million.

2018

In 2018, Thales subscribed to the capital increase of its subsidiaries as follows:

- on 22 February: Thales Digital Factory SAS in the amount of €48.6 million, of which €35.6 million was not paid up;
- on 25 June: Thales Global Services SAS in the amount of €21.0 million;
- on 6 December: GERAC SAS in the amount of €6.2 million;
- on 21 December: Thales Canada Inc. in the amount of €116.7 million;
- on 21 December: Thales Belgium SA in the amount of €19.0 million.

NOTE 3. OPERATING PROFIT (LOSS)

In addition to its functions as a holding company (holding equity investments, managing central support functions and cash pooling), the parent company manages the real estate of its French operating subsidiaries and carries out its own research activity in France.

3.1 Operating income

Consequently, its operating income includes:

- rents re-billed to operating subsidiaries and sales of research, which represent the revenues of the parent company (€252.4 million in 2019 versus €228.6 million in 2018), mainly generated in France;
- royalties paid by subsidiaries for shared services, and re-billed expenses for general and specific services provided to the subsidiaries by the parent company.

3.2 Operating expenses

Operating expenses mainly comprise personnel expenses (employees of the Thales parent company and directors), real estate rents and related services, and other external services (including those provided by Thales Global Services SAS, which incorporates the Group's shared services).

NOTE 4. FINANCIAL INCOME (EXPENSE)

4.1 Accounting principles

Financial income (expense) mainly includes:

- interest expenses and finance costs on net debt;
- income and expenses related to Thales's directly subsidiaries and associates (dividends and depreciation, see Note 8);
- the financial component of the increase in provisions for post-employment and other employee benefits (see Note 17);
- foreign exchange gains and losses (see Note 20).

4.2 Breakdown of financial income (expense)

	Note	2019	2018
NET INTEREST AND FINANCE COSTS		(11.6)	(7.5)
Interest and financial income on financial receivables		37.8	22.9
Interest on Group company current account receivables and loans to subsidiaries and associates		18.7	11.1
Interest on cash and cash equivalents		19.1	11.8
Interest and financial expenses		(38.0)	(28.7)
Interest on Group company current account payables and borrowings from subsidiaries and associates		(8.6)	(5.4)
Interest on bonds and other borrowings		(29.4)	(23.3)
Interest on interest rate swaps hedging borrowings		1.7	2.9
Interest on foreign exchange swaps hedging subsidiary financing		(13.1)	(4.6)
INCOME FROM ASSOCIATES	Note 23	583.8	620.9
OTHER FINANCIAL INCOME		105.8	56.4
Reversal of provisions related to associates ^(a)		89.8	15.9
Reversal of provisions for termination payments and other benefits	Note 17	–	3.3
Reversal of provision for impairment of Thales Security Solutions & Services advance		–	25.5
Foreign exchange gains		8.7	8.3
Other		7.3	3.4
OTHER FINANCIAL EXPENSES		(132.2)	(111.6)
Increase in provisions related to associates ^(a)		(94.5)	(78.8)
Increase in provisions for impairment of treasury shares		(6.0)	–
Increase in provisions for termination payments and other benefits	Note 17	(28.4)	(1.7)
Debt write-offs for Thales Security Solutions & Services		–	(25.5)
Other		(3.3)	(5.6)
FINANCIAL INCOME (EXPENSE)		545.8	558.2

(a) Provisions related to subsidiaries and associates	2019		2018	
	Reversal	Increase	Reversal	Increase
Provisions for impairment of equity investments	75.1	(38.6)	0.3	(55.3)
Thales Digital Factory SAS	–	(13.0)	–	(35.6)
Thales Global Services SAS	–	(14.2)	–	(6.8)
GERAC SAS	4.2	–	–	(5.4)
Thales SESO SAS	–	(6.1)	–	(4.7)
Thales Avionics Electrical Systems SAS	33.0	–	–	–
Avimo Group Ltd	37.9	–	–	–
Other	–	(5.3)	0.3	(2.8)
Provisions for subsidiary risks (see Note 17.2)	14.7	(55.9)	15.6	(23.5)
Thales Digital Factory SAS	–	(46.3)	7.9	–
Thales Global Services SAS	–	(9.6)	5.3	–
GERAC SAS	–	–	1.7	–
SAS Immeubles Pour l'Electronique	0.2	–	0.7	–
Thales Security Solutions & Services Company	14.5	–	–	(23.5)
TOTAL	89.8	(94.5)	15.9	(78.8)

NOTE 5. NON-RECURRING INCOME (EXPENSE)

5.1 Accounting principles

Non-recurring income (expense) includes:

- restructuring costs:
These costs primarily relate to severance payments, redundancy payments, costs for notice periods not worked and other costs linked to the closure of facilities such as site rehabilitation or retirement of assets. These costs and the costs directly linked to restructuring measures (removal costs, training costs for transferred employees, etc.) are recognised as restructuring costs in the income statement;
- Capital gains or losses on disposals, especially of businesses or equity investments. As an exception to the guidelines of the French General Chart of Accounts and in order to give a more accurate presentation of these transactions, reversals of provisions for impairment of equity investments and reversals of provisions for subsidiary risks are included in income from disposals;
- other income and expenses arising on events that are unusual as regards their frequency, nature or amount.

5.2 Breakdown of non-recurring income (expense)

	2019	2018
Restructuring costs	(11.0)	(8.0)
Reversal of provisions for impairment ^(a)	35.9	–
Other	1.9	1.6
NON-RECURRING INCOME (EXPENSE)	26.8	(6.4)

(a) Including the impact of capping the executive pension scheme under the Pacte law (€21.9 million).

NOTE 6. INCOME TAX

6.1 General framework and accounting principles

Since 1 January 1992, Thales has opted for the Group tax consolidation regime. Thales is the tax consolidation group holding company that includes the majority of its French subsidiaries pursuant to the tax regime provided for by Article 223A of the French General Tax Code.

In accordance with the tax consolidation agreement entered into between Thales and its subsidiaries, each subsidiary in the tax group records the amount of tax it would have paid had it been taxed separately. Any tax savings arising on the use of tax losses of subsidiaries are recorded by the parent company and recognised in the income

statement. However, the parent company may have to record a corresponding tax expense, if and when these subsidiaries return to profit and are able to deduct the losses as they would have done had they been taxed separately.

The corporate income tax rate for financial years 2019 and 2018 was 34.43%, including the social contribution on profits. Tax loss carryforwards may offset up to 50% of taxable profit in excess of €1 million.

Thales also receives tax credits related to its research and development activities at the Palaiseau facility, which are recorded against income tax expense.

6.2 Tax payable

The income tax benefit breaks down as follows:

	2019	2018
Income tax received from profit-making subsidiaries	232.9	146.7
Income tax due to the French Government	(198.8)	(101.0)
Income tax benefit resulting from tax consolidation	34.1	45.7
Research tax credit	9.1	8.5
Prior period adjustments and other taxes	(0.1)	7.2
INCOME TAX BENEFIT	43.1	61.4

In 2019, as in 2018, no non-deductible general expenses were reintegrated as a result of a tax audit. Expenditures excluded from deductible expenses in accordance with Articles 223 *quater* and 39.4 of the French

General Tax Code amounted to €0.2 million in both 2019 and 2018, reflecting excess amortisation of vehicles.

6.3 Deferred tax

The company has available future tax savings due to temporary differences arising on the different tax and accounting treatments of income and expenses (€194.3 million at 31 December 2019 compared with €181.0 million at the end of 2018). These mainly reflect provisions for contingencies and losses, in particular provisions for post-employment benefits, which are not deductible for tax purposes.

There were no remaining tax loss carryforwards at 31 December 2019.

The corresponding deferred tax is not recognised.

NOTE 7. PROPERTY, PLANT AND EQUIPMENT AND INTANGIBLE ASSETS

7.1 Accounting principles

Intangible assets (mainly software) and property, plant and equipment are recognised at their acquisition cost in the balance sheet. They are amortised or depreciated on a straight-line or declining-balance basis over the period of their estimated useful lives (20 years for buildings and 3 to 10 years for other assets).

Fixed assets held under finance leases or hire purchase agreements are not recognised and are reported in off-balance sheet commitments.

7.2 Breakdown by type

	31/12/2019			31/12/2018		
	Gross value	Cumulative amort. and depr.	Net	Gross value	Cumulative amort. and depr.	Net
Intangible assets	20.8	(19.8)	1.0	20.8	(19.3)	1.5
Buildings	204.1	(139.2)	64.9	209.7	(135.6)	74.1
Industrial plant, equipment and machinery	42.1	(39.3)	2.8	40.5	(37.8)	2.7
Other	44.2	(17.5)	26.7	41.7	(15.2)	26.5
Property, plant and equipment	290.4	(196.0)	94.4	291.9	(188.6)	103.3
TOTAL	311.2	(215.8)	95.4	312.7	(207.9)	104.8

7.3 Change in net assets

	Intangible assets	Property, plant and equipment	Total
Net value at 01/01/2018	0.1	112.2	112.3
Acquisitions	1.9	6.1	8.0
Disposals	—	—	—
Depreciation and amortisation	(0.5)	(16.7)	(17.2)
Other	—	1.7	1.7
Net value at 31/12/2018	1.5	103.3	104.8
Acquisitions	—	8.1	8.1
Disposals	—	(0.6)	(0.6)
Depreciation and amortisation	(0.5)	(16.4)	(16.9)
NET VALUE AT 31/12/2019	1.0	94.4	95.4

NOTE 8. EQUITY INVESTMENTS

8.1 Accounting principles

Equity investments are recorded at historical cost. Acquisition-related transaction costs are recognised in the income statement. When inventory value falls below book value, an impairment loss is booked for the difference.

The inventory value is determined by means of profitability forecasts, the underlying assets, recent transactions or the market price of any listed securities.

The profitability forecasts are determined on the basis of expected future cash flows set out in the three-year strategic plans and a terminal value.

The assumptions used are prudent, with forecast growth in sales and terminal values limited to 2%.

The discount rate used is calculated on the basis of the Group's weighted average cost of capital (8% in 2019 and 2018), adjusted if necessary for the specific risks attributable to each equity investment. This rate is mainly based on the risk-free market rate, risk factors inherent in the Group's businesses, the Group's marginal borrowing rate and specific risks for which cash flows have not been adjusted.

Impairment tests are carried out annually at year-end in line with the Group's internal schedule for the preparation of Group entity strategic plans.

8.2 Change in equity investments

A breakdown of equity investments is presented in Note 23. Changes are shown below:

	Notes	Gross value	Provisions	Net
VALUE AT 01/01/2018		10,238.2	(1,239.2)	8,999.0
Acquisitions/capital subscriptions and transactions		175.9	–	175.9
Increase in capital of Thales Digital Factory SAS		13.0	–	13.0
Increase in capital of Thales Global Services SAS		21.0	–	21.0
Increase in capital of GERAC SAS		6.2	–	6.2
Increase in capital of Thales Canada Inc.		116.7	–	116.7
Increase in capital of Thales Belgium SA		19.0	–	19.0
Transactions on non-paid-up capital (Thales Digital Factory SAS)		35.6	–	35.6
Increase in provisions for impairment	Note 4	–	(55.3)	(55.3)
Reversal of provisions for impairment		–	0.3	0.3
VALUE AT 31/12/2018		10,449.7	(1,294.2)	9,155.5
Acquisitions/capital subscriptions and transactions		5,101.7	–	5,101.7
Purchase of Crystal SAS shares		100.3	–	100.3
Purchase of Gemalto Holding BV shares		4,762.4	–	4,762.4
Purchase of Kineis shares		5.0	–	5.0
Increase in capital of Thales USA Inc.		234.0	–	234.0
Disposals		(1.5)	–	(1.5)
Liquidation of Thales Assurances et Gestion des Risques SAS		(1.5)	–	(1.5)
Increase in provisions for impairment	Note 4	–	(38.6)	(38.6)
Reversal of provisions for impairment	Note 4	–	75.1	75.1
VALUE AT 31/12/2019		15,549.9	(1,257.7)	14,292.2

NOTE 9. OTHER FINANCIAL INVESTMENTS

9.1 Accounting principles

Other financial investments mainly include loan agreements signed by Thales with its direct or indirect subsidiaries and associates. These loans are presented separately from the current account agreements, which are used in the daily management of cash requirements or surpluses (see Note 10).

Other financial investments also include deposits paid as part of real estate commitments and other financial receivables.

An impairment loss is recognised depending on the risk of non-recovery.

9.2 Breakdown by type

	Notes	31/12/2019			31/12/2018		
		Gross value	Impairment	Net value	Gross value	Impairment	Net value
Loans to direct subsidiaries and associates	Note 23	907.3	–	907.3	491.9		491.9
Loans to other Group subsidiaries		37.9	–	37.9	22.0	–	22.0
Loans to other Group associates		9.7	–	9.7	27.9	–	27.9
Other financial investments		43.2	(1.7)	41.5	10.7	(1.6)	9.1
TOTAL		998.1	(1.7)	996.4	552.5	(1.6)	550.9

9.3 Breakdown by maturity and by currency

Breakdown by maturity	31/12/2019	31/12/2018
Less than 1 year	83.1	46.0
From 1 to 5 years	911.6	502.6
More than 5 years	1.7	2.3
TOTAL	996.4	550.9

Breakdown by currency	31/12/2019	31/12/2018
Euro	448.0	28.8
Pound sterling	526.9	500.1
South African rand	11.1	11.8
Chinese yuan offshore	10.4	10.2
TOTAL	996.4	550.9

NOTE 10. GROUP COMPANY CURRENT ACCOUNT PAYABLES AND RECEIVABLES

10.1 General framework and accounting principles

The Group company current account amounts presented in the Thales parent company balance sheet represent the receivables and payables between the parent company and its subsidiaries as part of the Group's cash pooling system.

Under this centralised system, the cash surpluses of subsidiaries are generally transferred to the Thales parent company. In return, the Thales parent company meets the cash flow requirements of its subsidiaries. Except in special cases, this system applies to all subsidiaries in which Thales has majority control.

Group company current account receivables and payables are always recognised as due within one year.

10.2 Current account receivables

	Note	31/12/2019	31/12/2018
Amounts due from direct subsidiaries and associates	Note 23	1,510.3	952.5
Amounts due from Thales Alenia Space (France and Italy)		330.5	299.7
Amounts due from other subsidiaries		500.6	186.8
TOTAL		2,341.4	1,439.0

10.3 Current account payables

	Note	31/12/2019	31/12/2018
Amounts deposited by direct subsidiaries and associates	Note 23	5,540.3	5,169.5
Amounts deposited by Thales Alenia Space (France and Italy)		299.8	353.2
Amounts deposited by Thales Australia Ltd		299.9	83.2
Amounts deposited by other Group subsidiaries		1,589.8	460.6
TOTAL		7,729.8	6,066.5

NOTE 11. CASH AND OTHER INVESTMENTS

11.1 Accounting principles

Cash and cash equivalents include cash at bank and in hand as well as short-term, liquid investments that are easily converted into a known amount of cash and exposed to negligible risk of a change in value.

11.3 Other investments

Other investments correspond to term deposits with banks with maturities of 3 to 12 months.

11.2 Cash and cash equivalents

Cash and cash equivalents available for immediate use amounted to €1,961.5 million at 31 December 2019 compared with €4,809.4 million at the end of 2018. These amounts include €51.8 million (€3,249.4 million at the end of 2018) in sight and term bank deposits or money market funds.

NOTE 12. BORROWINGS

12.1 Accounting principles

Bonds are recognised at their redemption value. Any issue or redemption premiums are recognised under the corresponding balance sheet line item and amortised on a straight-line basis in the income statement.

Bond issue expenses are recognised on a straight-line basis over the term of the bond.

12.2 Breakdown of borrowings

	Nominal rate	31/12/2019	31/12/2018
Bonds maturing in January 2025	Fixed rate 0.75%	500.0	500.0
Bonds maturing in April 2024	Fixed rate 0.875%	500.0	500.0
Bonds maturing in June 2023	Fixed rate 0.75%	600.0	600.0
Bonds maturing in May 2022	0%	500.0	—
Bonds maturing in September 2021	Fixed rate 2.125%	386.7	—
Bonds maturing in March 2021	Fixed rate 2.25%	300.0	300.0
Bonds maturing in April 2020	Variable 3M Euribor +0.2%	500.0	500.0
Commercial paper		746.0	—
Other borrowings		793.3	682.0
Accrued interest		17.2	14.9
GROSS BORROWINGS		4,843.2	3,096.9

In 2019, Thales:

- issued a three-year, €500 million fixed-rate bond with an April 2018 coupon of 0%;
- took over the Luxembourg-listed bond (€386.7 million) issued by Gemalto in connection with the acquisition of Safenet.

In addition to this financing, Thales has a committed bank credit facility⁽¹⁾ amounting to €1,500 million, undrawn as at 31 December 2018 and maturing in 2021, as well as a commercial paper programme (NEU CP).

The Group's financing agreements do not contain any covenants related to changes in Thales's credit rating. A lower rating would result in an increase (capped) in the margins applicable to the aforementioned committed credit facility. A higher rating would lead to a decrease in the applicable margin (with a minimum threshold).

12.3 Breakdown of borrowings by maturity and by currency

Breakdown by maturity	31/12/2019	31/12/2018	Breakdown by currency	31/12/2019	31/12/2018
Less than 1 year	1,421.8	93.2	Euro	4,174.1	2,459.3
From 1 to 5 years	2,921.4	2,003.7	Singapore dollar	34.4	33.9
More than 5 years	500.0	1,000.0	Pound sterling	634.7	603.7
TOTAL	4,843.2	3,096.9	TOTAL	4,843.2	3,096.9

NOTE 13. SHAREHOLDERS' EQUITY

13.1 Share capital

Thales's share capital of €639,952,518 at 31 December 2018 is composed of 213,317,506 shares, compared with 213,104,081 shares at 31 December 2018, with a par value of €3 each. This represents an increase of 213,425 shares resulting from the exercise of share subscription options. The breakdown of share capital is set out below:

	31/12/2019			31/12/2018		
	Shares	% of capital	% of voting rights	Shares	% of capital	% of voting rights
TSA	54,786,654	25.68%	34.87%	54,786,654	25.71%	35.68%
French government (including 1 golden share)	2,060	—	—	2,060	—	—
Public sector ^(a)	54,788,714	25.68%	34.87%	54,788,714	25.71%	35.68%
Dassault Aviation ^(b)	52,531,431	24.63%	29.81%	52,531,431	24.65%	28.39%
Thales ^(c)	560,866	0.26%	—	648,295	0.30%	—
Employees	6,183,434	2.90%	3.58%	5,575,167	2.62%	3.37%
Other shareholders	99,253,061	46.53%	31.74%	99,560,474	46.72%	32.56%
TOTAL^(d)	213,317,506	100.00%	100.00%	213,104,081	100.00%	100.00%

(a) Under the terms of the shareholders' agreement with Dassault Aviation (the "Industrial Partner"), the "Public sector" (the government) is represented by TSA, excluding the government directly. Since 29 January 2018, public institution EPIC Bpifrance has held all of TSA's capital apart from one preferred share that is held by the French government. EPIC Bpifrance and the French government have also agreed to consult with TSA under the terms and conditions described in AMF Notice No. 218C0137 of 16 January 2018. All Thales shares held directly and indirectly by the French government have been in pure registered form for more than two years and thus have double voting rights as at 31 December 2019.

(b) As at 31 December 2019, Dassault Aviation held 42,154,349 shares in pure registered form, of which 41,154,349 shares have been held for more than two years, thus granting it double voting rights, as well as 10,377,082 shares in bearer form.

(c) Treasury shares represented 175,000 bearer shares held under a liquidity contract and 385,866 pure registered shares.

(d) In 2019, a total of 213,425 new shares bearing rights from 1 January 2019 were created as a result of the exercise of share subscription options.

At 31 December 2019, there are no securities giving access to the company's capital, with the exception of the share subscription options described in the Note below.

(1) The only accelerated repayment clause would apply in the event that the French government ceased to hold its golden share in the Company and, simultaneously, the ratio of consolidated net financial debt to EBITDA (current operating income before amortisation and depreciation) were to exceed 3.

13.2 Reserves and retained earnings

	01/01/2018	Allocation of 2018 earnings	Balance of 2018 dividend	Interim dividend 2019	31/12/2019
Legal reserve	63.8	0.1	—	—	63.9
Blocked reserve	8.3	—	—	—	8.3
Ordinary reserve	128.9	—	—	—	128.9
Other reserves	0.3	—	—	—	0.3
Retained earnings	1,607.2	453.3	(335.7)	(127.3)	1,597.5
TOTAL	1,808.5	453.4	(335.7)	(127.3)	1,798.9

Thales allocated €442.0 million of the profit for the 2018 financial year to dividends (€2.08 per share), paying an interim dividend of €106.3 million in December 2018 and the balance of €335.7 million in May 2019. Thales paid an interim dividend of €127.3 million in December 2019 in respect of the 2019 financial year.

NOTE 14. TREASURY SHARES

14.1 Accounting principles

Thales carries out transactions in its own shares in accordance with the authorisations granted to the Board of Directors by the Annual General Meeting.

At year-end, treasury shares are recognised and measured based on how they are assigned:

- treasury shares that have not been assigned are recorded under other financial investments at their acquisition cost. At the reporting date, an impairment loss is recognised if their carrying value exceeds the average share price for December;
- treasury shares assigned to a free share plan are recorded under marketable securities, either at their acquisition cost if the shares were assigned from the beginning of the plan, or at their net carrying value at the reclassification date if they were assigned after their acquisition.

These treasury shares are not measured at market value because they are set aside to be granted to employees. As a result:

- shares allocated to Thales (parent company) employees are amortised on a straight-line basis over the term of the plan (48 months) through an increase in provisions for contingencies and losses recorded in liabilities. Plans not covered by allocated shares are also covered by a provision recorded in liabilities,
- shares allocated to other Group employees are maintained at cost price, as they will be re-billed to the relevant subsidiaries for the same amount.

14.2 Change in treasury shares

Change in the number of treasury shares

	2019			2018		
	Freely transferable treasury shares	Treasury shares assigned to plans	Total treasury shares	Freely transferable treasury shares	Treasury shares assigned to plans	Total treasury shares
At 1 January	648,295	—	648,295	568,739	—	568,739
Purchases under the liquidity contract	906,402	—	906,402	838,402	—	838,402
Disposals for liquidity purposes	(993,676)	—	(993,676)	(702,128)	—	(702,128)
Transfer to employees under the employee shareholding plan	—	(506,515)	(506,515)	(37,118)	—	(37,118)
Stock market purchases	180,000	550,000	730,000	220,000	—	220,000
Delivery of free shares	(223,640)	—	(223,640)	(238,750)	—	(238,750)
Exercise of stock options	—	—	—	(850)	—	(850)
Net change	(130,914)	43,485	(87,429)	79,556	—	79,556
At 31 December	517,381	43,485	560,866	648,295	—	648,295

Change in the value of treasury shares

Freely transferable treasury shares	2019	2018
At 1 January	67.3	52.4
Purchases under the liquidity contract	90.5	87.9
Disposals for liquidity purposes	(103.0)	(70.7)
Transfer to employees under the employee shareholding plan	–	(3.5)
Stock market purchases	18.1	24.0
Delivery of free shares	(20.7)	(22.7)
Exercise of stock options	–	(0.1)
At 31 December	52.2	67.3
Impairment	(6.0)	–
Net at 31 December	46.2	67.3
Average share price for December (in euros)	89.32	104.15
Cost of outstanding plans (Thales SA share)		
Provisions for contingencies and losses	(14.5)	(17.7)

Treasury shares assigned to plans	2019	2018
At 1 January	–	–
Delivery of free shares	(52.5)	–
Stock market purchases	56.8	–
Reclassified free shares	–	–
At 31 December	(4.3) ^(a)	–

(a) Shares for UK employees under the employee shareholding plan.

NOTE 15. FREE SHARE PLANS AND STOCK OPTIONS GRANTED TO EMPLOYEES

At 31 December 2019, the following were outstanding:

- 93,803 share subscription options at a weighted average exercise price of €26.34;
- 940,425 free shares, of which 856,135 are subject to performance conditions;
- 407,115 phantom shares granting the right to a cash payment after a four-year vesting period, of which 369,965 are subject to performance conditions.

15.1 Outstanding share subscription option plans

Date of Board decision	Exercise period	Exercise price	Number of options outstanding at 31/12/2018	Options exercised in 2019	Options cancelled in 2019	Number of options outstanding at 31/12/2019
15/09/2011	from 15/09/2015 to 14/09/2021	€26.34	74,054	(19,451)	–	54,603 ^(a)
23/09/2010	from 23/09/2014 to 22/09/2020	€26.34	48,050	(8,850)	–	39,200 ^(a)
25/06/2009	from 25/06/2013 to 24/06/2019	€32.88	187,634	(185,124)	(2,510)	–

(a) Subject to the fulfilment of internal performance conditions over the three financial years following the grant date.

Options granted and exercised in 2019

	Number of options granted/shares subscribed or purchased	Exercise price	Date of plan
1. Directors			
Options granted in 2019	None		
2. The 10 biggest grants of options to employees			
Options granted in 2019	None		
3. The ten biggest exercises of options by employees ^(a)			
Options exercised in 2019	5,000	€32.88	25/06/2009
	5,000	€32.88	25/06/2009
	4,000	€32.88	25/06/2009
	3,300	€32.88	25/06/2009
	3,000	€32.88	25/06/2009
	2,500	€32.88	25/06/2009
	2,500	€32.88	25/06/2009
	2,500	€32.88	25/06/2009
	2,500	€32.88	25/06/2009
	2,400	€32.88	25/06/2009

(a) All Group companies combined.

15.2 Free share grants

Date of Board decision	Vesting period	Share price at grant date	Number of free shares at 31/12/2018	Shares granted in 2019	Share cancelled in 2019	Number of free shares at 31/12/2019
25/09/2019	from 25/09/2019 to 25/09/2023	€104.50	—	325,865	(320)	325,545 ^(a)
27/09/2018	from 27/09/2018 to 27/09/2022	€121.75	181,335	—	(1,545)	179,790 ^(a)
28/09/2017	from 28/09/2017 to 28/09/2021	€94.66	210,900	—	(2,690)	208,210 ^(a)
27/10/2016	from 27/10/2016 to 27/10/2020	€83.10	86,020 145,370	— —	(1,730) (2,780)	84,290 142,590 ^(a)

(a) Subject to the fulfilment of internal performance conditions over the three financial years following the grant date.

15.3 Grant of share units indexed to the value of Thales shares

Date of grant decision	Vesting period	Share price at grant date	Balance of units at 31/12/2018	Units cancelled in 2019	Units delivered in 2019 ^(a)	Balance of units at 31/12/2019
17/09/2015	from 17/09/2015 to 17/09/2019	€61.75	350,460 222,950 ^(b)	(10,750) (500)	(339,710) (222,450)	— —

(a) Delivered half in shares, half in cash.

(b) Subject to the fulfilment of internal performance conditions over the three financial years following the grant date.

15.4 Grant of phantom shares indexed to the value of Thales shares

Date of grant decision	Vesting period	Balance of phantom shares at 31/12/2018	Phantom shares granted in 2019	Phantom shares cancelled in 2019	Balance of phantom shares at 31/12/2019
25/09/2019	from 27/09/2019 to 27/09/2023	—	212,980	(1,910)	211,070 ^(a)
27/09/2018	from 27/09/2018 to 27/09/2022	62,860	—	(1,085)	61,775 ^(a)
28/09/2017	from 28/09/2017 to 29/09/2021	66,470	—	(3,520)	62,950 ^(a)
27/10/2016	from 27/10/2016 to 27/10/2020	38,430 36,390	— —	(1,280) (2,220)	37,150 34,170 ^(a)

(a) Subject to the fulfilment of internal performance conditions over the three financial years following the grant date.

NOTE 16. RECEIVABLES AND PAYABLES

16.1 Accounting principles

Payables and receivables denominated in foreign currencies are revalued at the closing price.

Thales (parent company) hedges foreign exchange risks related to contracts or normal commercial transactions on behalf of its subsidiaries.

Temporary cash offsets between the amounts received/paid to subsidiaries and Thales's cash receipts/payments to banks with regard to managing foreign exchange derivatives are recorded in the balance sheet under "Translation difference and exchange rate adjustments", using the symmetry principle applicable to hedging transactions.

16.2 Breakdown of receivables and payables

			31/12/2019	31/12/2018
	Gross	Provisions	Net	Net
Advances to suppliers	0.4	—	0.4	0.1
Trade receivables	255.2	(4.5)	250.7	201.4
Other receivables	292.4	(4.4)	288.0	290.7
French corporate income tax	90.4	—	90.4	159.7
Tax and social security receivables	34.2	—	34.2	32.6
Other	167.8	(4.4)	163.4	98.4
TOTAL	548.0	(8.9)	539.1	492.2
Advances received on contracts in progress	21.7	—	21.7	19.0
Trade payables	136.6	—	136.6	164.3
Other payables	298.6	—	298.6	368.5
Tax liabilities towards consolidated subsidiaries	108.3	—	108.3	197.8
Tax payables, excluding income tax and social security	98.6	—	98.6	84.3
Other	91.7	—	91.7	86.4
TOTAL	456.9	—	456.9	551.8

16.3 Breakdown of receivables and payables by maturity at 31 December 2019

	Net	Maturity		
		< 1 year	1 to 5 years	> 5 years
Advances to suppliers	0.4	0.4	–	–
Trade receivables	250.7	250.7	–	–
Other receivables	288.0	270.3	3.5	14.2
TOTAL RECEIVABLES	539.1	521.4	3.5	14.2
Advances received on contracts in progress	21.7	21.7	–	–
Trade payables	136.6	136.6	–	–
Other payables	298.6	144.2	125.4	29.0
TOTAL LIABILITIES	456.9	302.5	125.4	29.0

NOTE 17. PROVISIONS FOR CONTINGENCIES AND LOSSES

17.1 Accounting principles

The Group records a provision when it recognises a legal or constructive obligation resulting from a past event for which an outflow of resources will be required and a reliable estimate can be made of the amount. Provisions are generally recorded for the following:

provisions for post-employment and other employee benefits

The financing of post-employment benefits mainly involves statutory retirement schemes (social security, supplementary schemes such as ARRCO and AGIRC, etc.) for which the recognised expense is equal to the contributions paid. These are recorded in the year in which they are incurred.

The company grants its employees termination payments and other long-term benefits (long-service awards and an additional week of annual leave during the employee's 35th year of service within the Group). Some senior executives are also eligible for a supplementary pension plan.

In accordance with ANC Recommendation 2013-02, a provision is recognised for obligations that qualify as defined benefit plans. It is calculated on the basis of an actuarial valuation, determined using the projected unit credit method and taking into account future salary levels. This method consists in assessing, for each employee, the present value of the benefits that he or she can expect at the due date, by applying assumptions concerning discount rates, inflation, mortality and staff turnover.

These plans are recognised in the company's financial statements as follows:

- the service cost, which corresponds to the increase in the obligation during the reporting period, is recognised in profit (loss) from operations;
- the costs of unwinding the net obligation as well as actuarial gains and losses due to changes in assumptions and experience adjustments (difference between projected and actual) are recognised in financial income (expense);
- the impact of plan amendments following renegotiations of employee benefits is recognised in non-recurring income (expense).

Provisions for subsidiary risks

Equity investments held by Thales are measured at the end of each reporting period and an impairment loss is recorded if necessary. In the event that the investment is fully written down and Thales's share in the shareholders' equity of the subsidiary or associate becomes negative, a provision for subsidiary risks may be recognised when considered necessary.

Provisions for restructuring

Provisions for restructuring costs are recorded when a restructuring programme has been agreed with a third party, approved by company management and announced before the reporting date, resulting in an obligation to the third parties in question, and for which the company does not expect any consideration for the costs.

17.2 Breakdown of provisions

	31/12/2018	Increase	Reversal	31/12/2019
Post-employment and other employee benefits (see Note 17.3)	108.1	38.8	(32.2)	114.7
Subsidiary risks	23.7	55.9	(14.7)	64.9
Restructuring	0.6	0.2	(0.1)	0.7
Free shares	17.7	7.6	(10.8)	14.5
Other	54.8	3.3	(15.5)	42.6
TOTAL	204.9	105.8	(73.3)	237.4

17.3 Post-employment and other employee benefits

The provisions in the balance sheet can be broken down as follows:

	2019		
	Post-employment benefits	Other employee benefits	Total
Provisions at 31 December 2018	(104.5)	(3.6)	(108.1)
Net reversal of provisions, of which:	(6.3)	(0.3)	(6.6)
Current service cost:	(6.2)	(0.2)	(6.4)
Financial expense:	(28.1)	(0.3)	(28.4)
• Net interest cost	(1.8)	(0.1)	(1.9)
• Actuarial gains (losses)	(26.3)	(0.2)	(26.5)
Benefits and contributions paid	6.2	0.2	6.4
Plan amendment ^(a)	21.9	–	21.9
Other	(0.1)	–	(0.1)
Provisions at 31 December 2019	(110.8)	(3.9)	(114.7)
Of which:			
• Commitments	(159.9)	(3.9)	(163.8)
• Investments	49.1	–	49.1

(a) Impact of capping the executive pension scheme under the Pacte law (€21.9 million).

The actuarial assumptions used to estimate the commitments are the following:

	31/12/2019	31/12/2018
Discount rate	0.73%	1.58%
Inflation rate	1.15%	1.45%
Average salary increase rate	2.65%	2.38%

NOTE 18. LEGAL RISKS

As at the date of publication of this document, there are no government, judicial or arbitration claims, of which the company is aware, which are pending or threatened, which could have, or which had, over the

last 12 months, a material impact on the financial position or the profitability of the company.

NOTE 19. OFF-BALANCE SHEET COMMITMENTS

19.1 Deposits and guarantees

Commitments given	31/12/2019	31/12/2018
Guarantees given by Thales under commercial contracts signed by operating entities	10,453.9	9,049.6
Guarantees given to banks for facilities granted to subsidiaries	3,375.0	2,914.9
Counter-guarantee given to trustees to hedge Thales pension obligations in the United Kingdom	963.7	917.9
Other guarantees given to Group subsidiaries	752.3	738.1
Other guarantees given	485.9	535.0
Total^(a)	16,030.8	14,155.5
Of which, related to direct subsidiaries (see Note 23)	3,191.0	3,188.1
Of which, related to other Group subsidiaries	12,449.6	10,586.1
Of which, related to direct and indirect associates	390.2	381.3

Commitments received	31/12/2019	31/12/2018
Debt write-offs granted to related companies with clawback provisions	6.7	6.7

(a) The increase in guarantees between 2018 to 2019 may be explained by changes in exchange rates (€271.1 million).

19.2 Property leasing commitments

	31/12/2019	31/12/2018
Operating leases	810.8	897.0
Less than 1 year	102.5	102.5
From 1 to 5 years	356.5	391.1
More than 5 years	351.8	403.4

NOTE 20. MARKET RISKS

20.1 Accounting principles

The Thales (parent company) Treasury and Financing Department is active on the financial markets to reduce the interest rate and foreign exchange risks of the Group.

Interest rate derivatives

Thales uses interest rate derivatives to manage and reduce its exposure to interest rate fluctuations. When the derivatives are designated as hedging instruments, the gains and losses on the hedge are recognised in the same period as the hedged item.

Foreign exchange derivatives

Thales hedges foreign exchange risks arising on commercial offers entered into by its subsidiaries that are denominated in currencies other than the main operating currency.

When the hedged item has a sufficient probability of occurrence, the foreign exchange derivatives subscribed by Thales with banking counterparties qualify for hedge accounting. Gains and losses on bank derivatives are then recognised in income at the same rate as the gains and losses realised on the guarantees offered to subsidiaries, in accordance with the principle of symmetry applicable to hedging transactions. Foreign

exchange premiums are amortised in the income statement on a straight-line basis over the term of the hedge.

When hedged items do not have a sufficient probability of occurrence, the foreign exchange derivatives are deemed isolated open positions. In this case, the market value of the derivative is recognised in the balance sheet as an offsetting entry to a suspense account, also in the balance sheet. A provision is recorded in the event of negative valuation. This valuation takes into account Thales's guarantee commitments to subsidiaries under these offers.

Thales hedges foreign exchange risks related to firm contracts and normal commercial transactions on behalf of its subsidiaries. As such, it guarantees its operating subsidiaries a specific exchange rate for each transaction and backs up its position by arranging currency derivatives with banking counterparties. Gains and losses on bank derivatives are then recognised in income at the same rate as the gains and losses realised on the guarantees offered to subsidiaries, in accordance with the principle of symmetry applicable to hedging transactions.

Thales hedges the foreign exchange risks related to its cash pooling system. The gains and losses on currency derivatives are offset by the gains and losses resulting from the revaluation of the hedged Group company current accounts and loans. However, gains or losses related to the derivatives' swap points are spread over the term of the hedge.

20.2 Interest rate risk management

At 31 December 2019 and 2018, Thales held the derivative instruments described below, all of which qualify as hedges.

Interest rate derivatives	31/12/2019		31/12/2018	
	Nominal	Market value	Nominal	Market value
Fixed-for-floating interest rate swaps				
• Swaps backing bonds maturing in 2023	400.0	6.7	400.0	2.5
• Swaps backing bonds maturing in 2021	300.0	10.1	300.0	14.2
Floating-for-fixed interest rate swaps				
• Reset swaps/swaps related to bonds maturing in 2023	400.0	(10.0)	400.0	(6.7)
• Reset swaps/swaps related to bonds maturing in 2021	300.0	(1.9)	300.0	(1.9)
• Pre-hedging swaps related to bond maturing in 2024 ^(a)	–	(2.7)	–	(4.5)
• Cross-currency swap backing a loan	12.2	1.4	14.2	1.4
• Payer swaps backing a loan	1.2	–	1.3	–

(a) €500 million swaps set up prior to the issue, reversed on the issue date (April 2018).

20.3 Foreign exchange risk management

At 31 December 2019 and 2018, the derivatives subscribed by Thales with banking counterparties were as follows:

	31/12/2019					31/12/2018	
	USD	GBP	Other	Total	Market value	Total	Market value
Hedges of commercial offers and transactions:							
Forward currency sales	3,192.1	873.7	2,360.3	6,426.0	(41.1)	6,074.0	(83.1)
Forward currency purchases	1,024.8	529.0	1,919.7	3,473.4		3,785.6	
Currency sales (<i>call</i> and <i>put</i> options)	–	–	18.3	18.3	3.3	36.8	0.2
Currency purchases (<i>call</i> and <i>put</i> options)	163.4	–	136.9	300.3		90.7	
Hedges related to cash pooling:							
Currency sales: foreign exchange swaps	1,434.6	–	330.6	1,765.2	(4.2)	1,068.9	(100.7)
Currency purchases: foreign exchange swaps	–	911.1	184.1	1,095.2		986.6	

In addition, Thales has granted its operating subsidiaries “mirror” foreign exchange guarantees in relation to firm contracts or normal commercial operations.

Thales has also granted its operating subsidiaries foreign exchange guarantees on commercial offers, subject to the subsidiary winning the contract.

NOTE 21. RELATED PARTIES

21.1 Definition

The Group has identified the following related parties: shareholders of Thales (the parent company), especially the French government and Dassault Aviation, companies controlled by these same shareholders, companies under joint control, companies under significant influence, directors and senior executives.

21.2 Agreements with Thales's shareholders

Section 6.3.3.3 of the 2018 Registration Document describes the main provisions of the shareholders' agreement governing relations between the French government (the "Public sector") and Dassault Aviation

(the "Industrial partner") within Thales, in relation to the convention on the protection of strategic national interests as well as the specific agreement binding the French government and Thales.

21.3 Agreements with Naval Group

Since December 2011, Thales has held 35% of the share capital of Naval Group, a subsidiary jointly controlled with the French government.

Thales and Naval Group have also signed an industrial and trade cooperation agreement with the objective of optimising the organisation of the naval business activities of both groups in terms of market access, research and development and purchasing.

21.4 Executive compensation^(a)

The compensation, benefits and social security contributions of the Directors and Executive Committee members break down as follows:

	2019	2018
Short-term benefits:		
• Fixed compensation	5.3	4.8
• Variable compensation	3.7	4.2
• Social security contributions	3.0	3.0
• Attendance fees	0.6	0.6
Other benefits^(b):		
• Post-employment benefits	3.0	2.7
• Share-based compensation ^(c) (see Note 15)	5.1	4.9

(a) The components of compensation presented correspond to costs recognised in the Thales parent company financial statements.

(b) Including social contributions.

(c) Measured in accordance with IFRS 2 – share-based payment.

As at 31 December 2018, executives' share of post-employment commitments (see Note 17.3) amounted to €20.3 million.

NOTE 22. EVENTS AFTER THE REPORTING PERIOD

At the date of examination of the accounts by the Board of Directors (25 February 2020), no event likely to change the financial situation of Thales has occurred since the end of the financial year.

NOTE 23. SUBSIDIARIES AND ASSOCIATES

(in millions)

			Information related to the entity (local currency)			
			Prior year revenues excluding VAT	Prior year earnings	Share capital	Shareholders' equity other than share capital
A. Detailed information on subsidiaries and associates whose gross value exceeds 1% of the Company's share capital						
1. Subsidiaries						
	GEMAITO HOLDING B.V.	EUR	–	–242.4	88.6	2,669.6
	THALES HOLDING UK PLC	GBP	–	–2.5	726.8	398.9
	THALES AVS FRANCE SAS	EUR	1,736.2	127.6	213.1	163.0
	THALES DMS FRANCE SAS	EUR	1,944.2	283.4	122.2	328.6
	THALES IAS FRANCE SAS	EUR	1,925.5	119.5	199.8	487.4
	THALES USA INC	USA	60.1	159.9	381.0	347.6
	THALES ALENIA SPACE SAS	EUR	–	76.8	918.0	459.2
	THALES DIS FRANCE SA	EUR	527.6	–42.5	669.5	–112.0
	THALES DEUTSCHLAND GMBH	EUR	–	4.3	27.1	266.3
	THALES INTERNATIONAL SAS	EUR	–	23.7	313.0	41.5
	AVIMO GROUP LTD	SGD	–	0.9	22.1	34.4
	THALES NETHERLANDS BV	EUR	401.0	40.5	29.5	209.6
	THALES CANADA INC	CAD	737.5	–55.2	184.8	–88.3
	THALES UNDERWATER SYST NV PAYS BAS	EUR	–	–	4.5	4.1
	THALES SERVICES SAS	EUR	486.0	22.1	1.5	213.3
	SIFELEC SAS	EUR	–	–	38.3	0.6
	CRYSTAL SAS	EUR	–	–	18.4	20.3
	THALES AVIONICS ELECTRICAL SYSTEMS SAS	EUR	156.0	2.6	6.9	40.6
	THALES HOLDING NORWAY AS	NOK	–	–	419.8	–186.9
	THALES CORPORATE VENTURES SAS	EUR	–	–0.2	15.0	10.9
	TH. BELGIUM S.A. (Ex FZ)	EUR	67.0	3.6	31.9	–22.6
	THALES DIGITAL FACTORY	EUR	9.9	–27.5	48.6	–36.5
	THALES EUROPE SAS	EUR	–	2.6	43.2	–40.6
	THALES SESO SAS	EUR	12.7	–1.9	0.4	12.3
	THALES GLOBAL SERVICES SAS	EUR	625.1	–5.5	0.5	20.5
	THALES SUISSE SA	CHF	31.3	6.8	40.0	–3.5
	CMT MEDICAL TECHNOLOGIES LTD	USD	18.7	–0.6	1.0	28.7
	SNC THALES MERIGNAC	EUR	15.6	3.4	20.0	–
	THALES COMMUNICATIONS LTD	BRL	–	–	–	–
	SAS CHATELLERAULT BRELANDIERE	EUR	3.7	–0.9	2.0	4.8
Total subsidiaries						
2. Associates						
	NAVAL GROUP	EUR	3,712.6	184.8	563.0	–29.4
	TELESPAZIO SpA	EUR	535.0	32.7	50.0	188.8
	ELETTRONICA SPA	EUR	–	15.0	–	83.8
	LYNRED	EUR	206.6	54.9	6.0	80.2
	UNITED MONOLITHIC SEMICONDUCTORS HOLDING	EUR	–	–4.7	33.9	15.2
Total associates						
TOTAL (A)						
B. Detailed information on other subsidiaries and associates						
1. Subsidiaries not listed in section A						
French subsidiaries						
Foreign subsidiaries						
Total						
2. Associates not listed in section A						
French companies						
Foreign companies						
Total						
TOTAL (B)						
TOTAL (A + B)						
Information on related companies						
Thales's direct subsidiaries (A)						
Thales's direct subsidiaries (B)						
Other Group subsidiaries						

Contribution of subsidiaries and associates to Thales' financial statements (EUR)							
Carrying amount of investments (gross)	Carrying amount (net)	% share capital held	Loans and advances made by Thales not yet paid	Receivables	Liabilities	Deposits and guarantees given by Thales	Dividends received by Thales during the year
4,762.4	4,762.4	100%	386.7	445.7	255.8	—	—
2,571.7	1,870.1	100%	517.1	—	386.9	—	—
1,016.0	1,016.0	93%	—	25.3	554.9	164.6	158.7
802.6	802.6	100%	—	1.2	2,298.1	542.5	114.6
755.0	755.0	100%	—	52.6	1,645.3	122.6	114.4
710.6	710.6	100%	—	130.2	17.5	912.1	—
683.1	683.1	67%	—	6.2	—	—	—
590.7	590.7	82%	—	67.0	9.7	—	—
545.0	545.0	100%	—	39.4	—	—	—
398.5	398.5	100%	—	103.8	—	6.0	32.8
250.7	104.3	100%	—	—	—	—	1.3
235.2	235.2	99%	—	0.4	273.7	106.1	—
168.6	168.6	100%	—	17.5	24.7	782.1	—
129.2	8.5	100%	—	—	—	—	—
126.4	126.4	100%	—	—	22.7	38.8	16.9
111.7	38.6	100%	—	—	30.1	—	—
100.3	100.3	90%	—	2.5	—	—	—
94.6	94.6	100%	—	38.9	0.9	—	—
77.2	77.2	100%	—	—	—	—	—
73.3	14.6	100%	—	—	10.8	—	—
53.2	53.2	100%	—	30.7	—	49.0	—
48.7	—	100%	—	74.7	—	—	—
43.2	43.2	100%	—	181.9	—	—	—
36.4	0.7	100%	—	3.2	—	—	—
33.4	—	100%	—	95.5	—	—	—
26.4	26.4	100%	—	5.8	0.3	—	14.3
21.8	21.8	100%	—	—	0.1	—	—
20.0	20.0	100%	—	90.8	—	—	—
11.0	—	100%	—	—	—	—	—
10.0	0.7	100%	—	1.0	—	—	—
14,506.7	13,268.1		903.8	1,414.2	5,531.5	2,723.8	452.9
833.7	833.7	35%	—	—	—	—	15.3
81.6	81.6	33%	3.5	—	—	—	6.8
26.7	26.7	33%	—	—	—	—	4.7
26.4	26.4	50%	—	—	—	—	12.5
24.3	22.8	50%	—	—	—	—	0.5
997.7	996.2		3.5	—	—	—	39.7
15,504.4	14,264.3		907.3	1,414.2	5,531.5	2,723.8	492.6
27.6	20.2		—	11.6	8.7	6.0	2.1
0.7	0.1		—	—	—	—	—
28.3	20.3		—	11.6	8.7	6.0	2.1
14.7	12.4		—	—	—	0.4	—
7.4	0.1		—	84.5	0.2	461.2	—
22.0	12.5		—	84.5	0.2	461.2	0.4
50.3	32.9		—	96.1	8.9	467.2	2.5
15,549.8	14,292.2		907.3	1,510.3	5,540.3	3,191.0	495.2
			903.8	1,414.2	5,531.5	2,723.8	
			—	11.6	8.7	6.0	
			3.5	84.5	0.2	461.2	

Investments made and thresholds crossed in French companies in financial year 2019

Percentage owned Investment (€k)	At 31/12/2018					At 31/12/2019				
	> 5%	> 20%	> 33%	> 50%	> 66%	> 5%	> 20%	> 33%	> 50%	> 66%
1. Increases										
Kineis	—	—	—	—	—	8.33%	—	—	—	—
Thales DIS France SA	—	—	—	—	—	—	—	—	—	81.66%
Crystal SAS	—	—	—	—	—	—	—	—	—	90.27%
188 Centelec SAS	—	—	—	—	—	—	—	—	—	100%
Gemalto Holding BV	—	—	—	—	—	—	—	—	—	100%
192 Centelec SAS	—	—	—	—	100%	—	—	—	—	—
2. Decreases										
Thales Assurances et Gestion des Risques SAS	—	—	—	—	—	—	—	—	—	100%
Thales SIX GTS France SAS	—	—	—	—	—	—	—	—	—	100%

NOTE 24. INFORMATION ON EXISTING BRANCHES (ARTICLE L. 232-1, II OF THE FRENCH COMMERCIAL CODE)

At 31 December 2018, Thales had a secondary facility registered in France with the trade and companies register and indicated on its Kbis (company registration certificate).

7.2.2.6 Five-year financial summary of the Company

	2015	2016	2017	2018	2019
1. Share capital at year-end					
Share capital	632.9	636.6	638.0	639.3	640.0
Number of existing ordinary shares	210,961,404	212,194,766	212,658,725	213,104,081	213,317,506
Maximum number of shares to be created in future by exercise of share subscription options	2,615,865	1,320,693	783,204	309,738	93,803
2. Operations and results for the year					
Sales excluding tax	208.6	233.3	258.5	228.6	252.5
Earnings before tax, employee profit-sharing, depreciation, amortisation and provisions	625.7	367.9	337.4	443.4	479.9
Income tax	93.8	78.0	9.8	61.4	43.1
Earnings after tax, employee profit-sharing, depreciation, amortisation and provisions	871.9	431.1	383.8	453.4	501.9
Distributed net profit	285.6	338.3	371.0	442.0	127.3 ^(a)
3. Earnings per share					
Earnings after tax and employee profit-sharing but before amortisation, depreciation and provisions	3.41	2.10	1.63	2.37	2.45
Earnings after tax, employee profit-sharing, depreciation, amortisation and provisions	4.13	2.03	1.80	2.13	2.35
Net dividend per share	1.36	1.60	1.75	2.08	0.60 ^(b)
4. Employees					
Average headcount during the year, of which:	831	818	812	828	876
• Engineers and managers	735	727	723	736	790
• Technicians and supervisors	96	91	89	92	86
Personnel expenses, of which:	187.1	191.5	207.7	226.4	232.1
• Total payroll for the year	131.5	137.8	151.2	164.5	165.0
• Social security and other benefits paid during the year	55.6	53.7	56.5	61.9	67.1

2015: Share capital up from €623,523,333.0 to €632,884,212.0 following a capital increase.

2016: Share capital up from €632,884,212.0 to €636,584,298.0 following a capital increase.

2017: Share capital up from €636,584,298.0 to €637,976,175.0 following a capital increase.

2018: Share capital up from €637,976,175.0 to €639,312,243.0 following a capital increase.

2019: Share capital up from €639,312,243.0 to €639,952,518.0 following a capital increase.

(a) Interim dividend.

(b) Subject to approval by the Annual General Meeting of 6 May 2020.

7.3 STATUTORY AUDITORS' REPORT

7.3.1 Statutory auditors' report on the consolidated financial statements

This is a translation into English of the statutory auditors' report on the consolidated financial statements of the Company issued in French and it is provided solely for the convenience of English-speaking users. This statutory auditors' report includes information required by European regulation and French law, such as information about the appointment of the statutory auditors or verification of the information concerning the Group presented in the management report. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Annual General Meeting of Thales,

Opinion

In compliance with the engagement entrusted to us by your annual general meetings, we have audited the accompanying consolidated financial statements of Thales for the year ended December 31, 2019.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at December 31, 2019 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

The audit opinion expressed above is consistent with our report to the Audit and Accounts Committee.

Basis for Opinion

• Audit Framework

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the Statutory auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

• Independence

We conducted our audit engagement in compliance with independence rules applicable to us, for the period from January 1, 2019 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5 (1) of Regulation (EU) No 537/2014 or in the French Code of Ethics (*Code de déontologie*) for statutory auditors.

Emphasis of Matter

We draw attention to the matter described in Note 1.2 to the consolidated financial statements relating to the effects of the first-time application of IFRS 16 "Leases". Our opinion is not modified in respect of this matter.

Justification of Assessments – Key Audit Matters

In accordance with the requirements of Articles L. 823-9 and R. 823-7 of the French Commercial Code (*Code de commerce*) relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period, as well as how we addressed those risks.

These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the consolidated financial statements.

Recognition of revenue and contract costs

Risk identified

A significant part of the Group's revenue and current operating income stems from different contracts. Regarding contracts whose transfer of control is gradual, revenue is recognized using the percentage of completion method. Regarding contracts whose transfer of control is carried out at completion, revenue is recognized at the time of such completion.

Your Company determines the revenue and margin of the contracts according to the terms and conditions described in Notes 1.5 "Main sources of estimation" and 13-c "Revenue" to the consolidated financial statements.

Recognition of revenue and margin relating those contracts during an accounting closing primarily depends on:

- estimates of the revenue and margin at completion, and notably the level of provisions for technical and commercial risks;
- costs incurred to date in relation to total costs estimated at completion.

Estimates of costs at completion, as well as the achievement of technical milestones for these contracts whose transfer of control is gradual, are based on the Group's internal systems and procedures, notably involving project managers. These estimates are reviewed regularly by Operations and Financial Managements, supervised by the executive management, particularly at each closing date.

Our response

Our work notably consisted in:

- evaluating the Group's information systems and procedures for estimating revenue, costs at completion and costs incurred, as well as measuring cost progress;
- reconciling the contract management data with the accounting data entered into information systems;
- selecting contracts that are significant due to their financial impact and risk profile, and interviewing the account managers, the managements of the Global Business Units and the executive management on the progress made on these contracts, and their assessment of the risks in order to:
 - assess of the reflection of the contractual clauses in the accounts, particularly regarding revenue to be recognized under performance obligations not yet fulfilled,
 - appreciate, regarding these contracts the analyses of the Group which enabled it to come to a decision regarding the gradual transfer of control and the transfer of control at completion and, if necessary, the identification of the various performance obligations. In particular, we have familiarized ourselves with the contractual clauses of termination for convenience, legal notes and margin simulations carried out by the Group,

Risk identified

We considered the recognition of revenue and contract costs to be a key audit matter, given the impact of these contracts on the consolidated financial statements of the Group and the level of estimates required by Management to determine results at completion.

Our response

- corroborate the main assumptions of revenue and costs at completion with costs incurred to date, contractual data and exchanges with the customer or its representatives, and the third parties involved in the contract termination. This work includes the experience gained throughout the years on these contracts or similar contracts,
- assess, for each selected contract, the consistency of the revenue and all the other items in the income statement and balance sheet with the contractual and operational provisions.

Litigation**Risk identified**

The Group carries out its activities in France and abroad in legal and regulatory environments that are complex and constantly evolving. Therefore, it is exposed to legal, technical and commercial litigation.

The Group's legal department centralizes and handles, with assistance from its relevant subsidiaries, all civil, commercial and criminal litigation and pre-litigation.

The assessment of these risks and litigation by Management led the Group to recognize liabilities and possibly provisions for impairment, when those risks were not already included in the contract costs at completion, or to provide information in the notes to the consolidated financial statements on contingent liabilities. Note 11 "Litigation" to the consolidated financial statements describes potential uncertainties relating to significant litigation and their progress.

We considered the inventory and evaluation of litigation and claims to be a key audit matter in view of the significance of the estimates made by Management and the potential materiality of their impact on the Group's income and shareholders' equity, should these estimates change.

Our response

Diligences relating to litigation regarding commercial contracts are included in our response presented in the previous key audit matter.

With regard to other legal, technical and commercial litigation, our work notably consisted in:

- familiarizing ourselves with ongoing procedures within the Group relating to the inventory, assessment and reflection in the accounts of, commercial civil and criminal litigation and pre-litigation, and assessing their correct application via sampling;
- interviewing the Finance Department, the Legal Department and the Secretary and General Council, as well as the managements of the main consolidated entities on the status of all significant litigation;
- questioning the Group's main lawyers to confirm the exhaustiveness of the inventory of identified litigation and assess the nature of the related risks and possible liabilities;
- reading the minutes of the meetings of the Audit and Accounts Committee and the Board of Directors in order to assess the completeness of the list of significant litigation;
- assessing the description of the significant risks and litigation identified during the implementation of these procedures in Notes 11 "Litigation" and 10.3 "Provisions for risks and charges" to the consolidated financial statements, and how they are reflected in the financial statements.

Measurement of assets and liabilities recognized as part of Gemalto's acquisition**Risk identified**

On March 28, 2018, Thales launched a takeover bid for Gemalto's shares, listed on Euronext Amsterdam and Euronext Paris. The settlement and delivery of the initial offer took place on April 2, 2019. At that date, Thales had acquired 79,827,790 Gemalto shares for an amount of € 4.07 billion, representing 85.51% of the capital, as described in Note 3.1 to the consolidated financial statements. Therefore, Gemalto has been consolidated in Thales' consolidated financial statements since April 1, 2019.

As at December 31, 2019, Thales holds 100% of Gemalto's shares.

The Company estimated the acquired assets and liabilities at fair value in accordance with IFRS 3.

The acquisition thus resulted in the recording of tangible and intangible assets for € 1.5 billion and the recognition of goodwill in the amount of € 2.57 billion, which has been fully allocated to the newly created Digital Identity & Security CGU. Allocation of the purchase price remains provisional as at December 31, 2019.

We considered the measurement of assets and liabilities acquired at fair value to be a key audit matter due to the significant amounts at stake and estimates from the Group Management, necessary notably in measuring the fair value of the technologies and commercial relationships, as well as the measurement of Gemalto's liabilities and contingent liabilities as at the takeover date.

Our response

We acknowledged the legal documentation relating to the operation as well as the extent of work performed by Thales to assess the fair value of the assets and liabilities acquired.

Specific procedures were carried out when auditing Gemalto's opening consolidated balance sheet as at April 1, 2019 covering the main entities included in the consolidation scope, aiming notably at making sure that income and expenses match Thales' financial statements before and after the acquisition.

With the involvement of valuation experts in our audit team, our work consisted in:

- examining the identification of liabilities, contingent liabilities and intangible assets acquired, corroborating them with (i) our discussions with Management and (ii) our understanding of the acquired business;
- considering the valuation method used by Management to measure the fair value of assets and liabilities acquired;
- analyzing the valuation assumptions used by comparing them to the source data and sectorial market data.

Lastly, we considered whether the information relating to this takeover was described appropriately in Note 3.1 to the consolidated financial statements.

Specific Verifications

We have also performed, in accordance with professional standards applicable in France the specific verifications required by laws and regulations of the information pertaining to the Group presented in the Board of Directors' management report.

We have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

We attest that the consolidated non-financial statement provided for by Article L. 225-102-1 of the French Commercial Code (*Code de commerce*) is included in the information pertaining to the Group presented in the management report, it being specified that, in accordance with the provisions of Article L. 823-10 of said Code, we have verified neither the fair presentation nor the consistency with the financial statements of the information contained in this statement which must be subject to a report by an independent third party.

Report on Other Legal and Regulatory Requirements

• Appointment of the statutory auditors

We were appointed as statutory auditors of Thales by the Annual General Meeting held on June 25, 1983 for MAZARS and on May 15, 2003 for ERNST & YOUNG Audit.

As at December 31, 2019, MAZARS was in the thirty-seventh year and ERNST & YOUNG Audit in the seventeenth year of total uninterrupted engagement.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The Audit and Accounts Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risks management systems and where applicable, its internal audit, regarding the accounting and financial reporting procedures.

The consolidated financial statements were approved by the Board of Directors.

Statutory auditors' Responsibilities for the Audit of the Consolidated Financial Statements

• Objectives and audit approach

Our role is to issue a report on the consolidated financial statements. Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As specified in Article L. 823-10-1 of the French Commercial Code (*Code de commerce*), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- identifies and assesses the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management in the consolidated financial statements;
- assesses the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the consolidated financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein;
- evaluates the overall presentation of the consolidated financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation;
- obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The statutory auditor is responsible for the direction, supervision and performance of the audit of the consolidated financial statements and for the opinion expressed on these consolidated financial statements.

- **Report to the Audit and Accounts Committee**

We submit to the Audit and Accounts Committee a report which includes in particular a description of the scope of the audit and the audit program implemented, as well as the results of our audit. We also report, if any, significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Audit and Accounts Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the consolidated financial statements of the current period and which are therefore the key audit matters that we are required to describe in this report.

We also provide the Audit and Accounts Committee with the declaration provided for in Article 6 of Regulation (EU) No. 537/2014, confirming our independence within the meaning of the rules applicable in France such as they are set in particular by Articles L. 822-10 to L. 822-14 of the French Commercial Code (*Code de commerce*) and in the French Code of Ethics (*Code de déontologie*) for statutory auditors. Where appropriate, we discuss with the Audit and Accounts Committee the risks that may reasonably be thought to bear on our independence, and the related safeguards.

Courbevoie and Paris-La Défense, February 25, 2020

The statutory auditors French original signed by

Mazars

Grégory Derouet

Dominique Muller

Ernst & Young Audit

Jean-François Ginies

Serge Pottiez

7.3.2 Statutory auditors' report on the financial statements

This is a translation into English of the statutory auditors' report on the financial statements of the Company issued in French and it is provided solely for the convenience of English-speaking users. This statutory auditors' report includes information required by European regulation and French law, such as information about the appointment of the statutory auditors or verification of the management report and other documents provided to the shareholders. This report should be read in conjunction with, and construed in accordance with, French law and professional auditing standards applicable in France.

To the Annual General Meeting of Thales,

Opinion

In compliance with the engagement entrusted to us by your annual general meetings, we have audited the accompanying financial statements of Thales for the year ended December 31, 2019.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company as at December 31, 2019 and of the results of its operations for the year then ended in accordance with French accounting principles.

The audit opinion expressed above is consistent with our report to the Audit and Accounts Committee.

Basis for Opinion

• Audit Framework

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the statutory auditors' Responsibilities for the Audit of the Financial Statements section of our report.

• Independence

We conducted our audit engagement in compliance with independence rules applicable to us, for the period from January 1, 2019 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5 (1) of Regulation (EU) No 537/2014 or in the French Code of Ethics (*Code de déontologie*) for statutory auditors.

Justification of Assessments – Key Audit Matters

In accordance with the requirements of Articles L. 823-9 and R. 823-7 of the French Commercial Code (*Code de commerce*) relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the financial statements of the current period, as well as how we addressed those risks.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the financial statements.

Equity investments

Risk identified

Equity investments, recorded in the balance sheet as at December 31, 2019 for a net amount of M€ 14,292 represent a significant balance sheet item. They are recorded at their lower acquisition cost or at their inventory value in use.

As stated in Note 8 "Equity investments" to the financial statements, the inventory value is determined based on profitability forecasts, the underlying assets, recent transactions or the market price of any listed securities.

The inventory value estimate of these equity investments requires the exercise of the Management's judgment in the choice of the information to consider according to the investments concerned. Depending on the situation, this information may correspond to historical information (shareholders' equity) or forecast information (value of future discounted cash flows).

We considered the correct valuation of equity investments to be a key audit matter.

Our response

In order to assess the reasonableness of the equity investment estimate, our work mainly consisted in:

- for valuations based on underlying asset information:
 - comparing the shareholders' equity used against the financial statements of entities which were subject to an audit or analytical procedures.
- for valuations based on forecasts with the involvement of valuation expert in our audit team:
 - assessing the reliability of the process for establishing forecasts by examining the reasons of the differences between previous forecasts and actual figures,
 - assessing the cash flow projections with regard to the economic and financial context of each business,
 - comparing the consistency of the cash flow projections with the recent management's estimates presented to the Board of Directors,
 - evaluating the consistency of the growth rate used for the projected flows with market analyses and the consensus observed.
 - evaluating the calculation of the weighted average cost of capital applied to the flow projections.

Lastly, we also assessed the appropriateness of the information provided in Note 8 to the financial statements.

Specific Verifications

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by laws and regulations.

- **Information given in the management report and in the Other Documents with respect to the financial position and the financial statements provided to the Shareholders**

We have no matters to report as to the fair presentation and the consistency with the financial statements of the information given in the Board of Directors' management report and in the other documents with respect to the financial position and the financial statements provided to the shareholders.

We attest that the information relating to payment terms referred to in Article D. 441-4 of the French Commercial Code (*Code de commerce*) is fairly presented and consistent with the financial statements.

- **Report on Corporate Governance**

We attest that the Board of Directors' Report on Corporate Governance sets out the information required by Articles L. 225-37-3 and L. 225-37-4 of the French Commercial Code (*Code de commerce*).

Concerning the information given in accordance with the requirements of Article L. 225-37-3 of the French Commercial Code (*Code de commerce*) relating to remunerations and benefits received by, or allocated to directors and any other commitments made in their favor, we have verified its consistency with the financial statements, or with the underlying information used to prepare these financial statements and, where applicable, with the information obtained by your Company from controlled companies comprised in the consolidation scope. Based on these procedures, we attest the accuracy and fair presentation of this information.

With respect to the information relating to items that your Company considered likely to have an impact in the event of a public purchase offer or exchange, provided pursuant to Article L. 225-37-5 of the French Commercial Code (*Code de commerce*), we have agreed these to the source documents communicated to us. Based on our work, we have no observations to make on this information.

- **Other information**

In accordance with French law, we have verified that the required information concerning the purchase of investments and controlling interests and the identity of the shareholders or holders of the voting rights has been properly disclosed in the management report.

Report on Other Legal and Regulatory Requirements

- **Appointment of the statutory auditors**

We were appointed as statutory auditors of Thales by the Annual General Meeting held on June 25, 1983 for MAZARS and on May 15, 2003 for ERNST & YOUNG Audit.

As at December 31, 2019, MAZARS was in the thirty-seventh year and ERNST & YOUNG Audit in seventeenth year of total uninterrupted engagement.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with French accounting principles and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The Audit and Accounts Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risks management systems and where applicable, its internal audit, regarding the accounting and financial reporting procedures.

The financial statements were approved by the Board of Directors.

Statutory auditors' Responsibilities for the Audit of the Financial Statements

- **Objectives and audit approach**

Our role is to issue a report on the financial statements. Our objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As specified in Article L. 823-10-1 of the French Commercial Code (*Code de commerce*), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- identifies and assesses the risks of material misstatement of the financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management in the financial statements;
- assesses the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein;
- evaluates the overall presentation of the financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.

- **Report to the Audit and Accounts Committee**

We submit to the Audit and Accounts Committee a report which includes in particular a description of the scope of the audit and the audit program implemented, as well as the results of our audit. We also report, if any, significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Audit and Accounts Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the financial statements of the current period and which are therefore the key audit matters that we are required to describe in this report.

We also provide the Audit and Accounts Committee with the declaration provided for in Article 6 of Regulation (EU) No 537/2014, confirming our independence within the meaning of the rules applicable in France such as set in particular by Articles L. 822-10 to L. 822-14 of the French Commercial Code (*Code de commerce*) and in the French Code of Ethics (*Code de déontologie*) for statutory auditors. Where appropriate, we discuss with the Audit and Accounts Committee the risks that may reasonably be thought to bear on our independence, and the related safeguards.

Courbevoie and Paris-La Défense, February 25, 2020

The statutory auditors French original signed by

Mazars

Grégory Derouet

Dominique Muller

Ernst & Young Audit

Jean-François Ginies

Serge Pottiez

7.4 STATUTORY AUDITORS

For the period covered by the historical financial data, the Thales group statutory auditors were as follows:

7.4.1 Principal statutory auditors

Mazars

61, rue Henri Regnault
92400 Courbevoie – France
Represented by Mr Dominique Muller and Mr Gregory Derouet.
Current term approved by the General Meeting of 15 May 2019 and
expiring with the audit of the 2025 financial statements.

Ernst & Young Audit

1/2, place des Saisons
92400 Courbevoie – Paris-La Défense 1 – France
Represented by Mr Serge Pottiez and Mr Jean-François Ginies.
Current term approved by the General Meeting of 13 May 2015 and
expiring with the audit of the 2020 financial statements.

7.4.2 Additional statutory auditors

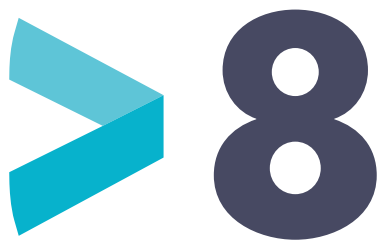
Auditex

1/2, place des Saisons
92400 Courbevoie – Paris-La Défense 1 – France
Current term approved by the General Meeting of 13 May 2015 and
expiring with the audit of the 2020 financial statements.

7.4.3 Statutory auditors' fees

The amount of fees paid to the statutory auditors of Thales SA (parent company) and members of their networks recognised in profit and loss for 2018 and 2019 are detailed in Note 14 to the Consolidated Financial Statements (page 231).

APPENDICES



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8.1 DECLARATION FROM THE PERSON RESPONSIBLE FOR THE UNIVERSAL REGISTRATION DOCUMENT

I hereby certify that, after having taken all reasonable measures to this effect, to the best of my knowledge, the information contained in this Universal Registration Document is accurate and does not omit any material fact.

I also certify that, to the best of my knowledge, the financial statements have been prepared in accordance with applicable accounting standards and give a fair view of the assets, liabilities, financial position and results of the Company and of all the entities included in the consolidation, and that the information in this Universal Registration Document taken from the management report and contained in the cross-reference table on pages 275 and 276 gives a fair view of the development and performance of the business and the financial position of the Company and of all the entities included in the consolidation, as well as a description of the main risks and uncertainties to which they are exposed.

I have received a letter from the statutory auditors confirming that they have completed the work they undertook to audit the information relating to the financial position and the financial statements, in addition to the historical financial statements incorporated by reference in this document, as well as a review of this document in its entirety.

Paris, La Défense, 8 April 2020

Patrice Caine
Chairman and CEO

8.2 CHANGES MADE TO THE STRUCTURE OF THE 2019 UNIVERSAL REGISTRATION DOCUMENT

As part of the implementation of the provisions relating to Prospectus Directive 2003/71/EC of 4 November 2003 (the Prospectus Regulation) and in consideration of the Guidelines on Risk Factors issued under said Prospectus Regulation by the ESMA on 1 October 2019 (ESMA 31-62-1293 FR), chapter 3 of Thales's Universal Registration Document pertaining to risk factors has been revised to take into account the regulatory changes.

8.3 HISTORICAL FINANCIAL INFORMATION INCORPORATED BY REFERENCE

In compliance with Article 19 of European Regulation No. 2017-1129 of the European Commission, the following information is incorporated by reference in this Universal Registration Document:

- the consolidated financial statements and corresponding audit reports presented on pages 174 to 222 and 254 to 256 of the 2018 Registration Document filed with the AMF on 8 April 2019;
- the financial information, key figures, a review of the Group's principal activities, business performance and financial position presented respectively on pages 6, 16-23, 26-34 of the 2018 Registration Document filed with the AMF on 8 April 2018;
- the consolidated financial statements and corresponding audit reports presented on pages 35 to 83 of the 2017 Registration Document filed with the AMF on 30 March 2018;
- the Group's financial information, key figures and management report, presented respectively on pages 4,5 and 8 to 34 of the 2017 Registration Document filed with the AMF on 30 March 2018.

The omitted sections of these documents are either irrelevant to the investor, or addressed elsewhere in this Universal Registration Document.

8.4 CROSS-REFERENCE TABLE OF THE ANNUAL FINANCIAL REPORT AND MANAGEMENT REPORT

The cross-reference table below may be used to identify the information contained in this Universal Registration Document that forms the basis of the Annual Financial Report, pursuant to Articles L. 451-1-2 of the French Monetary and Financial Code and 222-3 of the AMF General Regulations. It includes information required for the annual management report that must be prepared by the Board of Directors in accordance with Articles L. 225-100 *et seq.* of the French Commercial Code.

	Section	Page
Article L. 225-100 of the French Commercial Code:		
Analysis of changes in business	1, 2.1, 2.2, 2.3	6-15, 18-28, 32-38
Analysis of results	2.3	39 and 40
Analysis of financial position, including debt	2.3.7	40
Key financial and non-financial performance indicators	1, 2.3, 5.3	15, 32-40, 115 et 116
Main risks and uncertainties	3	49-61
Information about financial risks relating to the effects of climate change and measures taken to reduce them	3.1.8, 5.2, 5.5.2 to 3	56, 112, 132-142
Main features of internal control and risk management procedures relating to the preparation and processing of accounting and financial information	3.4	61-65
Information on the use of financial instruments	3.3.1, Note 6	59, 203
Exposure to price, credit, liquidity and cash flow risks	3.1.2, 3.3.1, 3.4, 7.1.6 Note 6	51, 59, 61, 203
Article L. 225-102 of the French Commercial Code:		
Employee share ownership	1, 6.2.1.3, 6.2.3.1 and 6.2.3.7 7.2.2.5, Notes 14 and 15	6-15, 164, 166, 174, 251, 252
Article L. 225-102 of the French Commercial Code:		
Non-financial performance statement^(a), including		
The Groups' Business Model	1	6-15
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Duty of care (Art. L. 225-102-4 of the French Commercial Code)	5.7.3.2	149-150
Other social and environmental information contained in the management report (Art. L. 225-100-1 4, L. 225-102-2 and L. 225-37-1 of the French Commercial Code)	5.4.2, 5.5.1 to 5.5.3	120-121, 129 to 142
Article L. 232-1 of the French Commercial Code:		
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Significant events since year end 2019	1, 3.1.1, 7.1.6 Note 12, 7.2.2.5, Note 22	6-15, 50, 226, 259
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Article L. 233-6 of the French Commercial Code:		
Acquisition of significant interests companies with their registered office in France	7.2.2.5 Note 23	262
Activities and results of Thales SA parent company	2.6.1.2, 2.6.1.3, 7.2	45, 233 à 263
Activities of Thales SA subsidiaries during financial year 2019	7.2.2.5 Note 23	260-261

(a) For more detail revert to the cross reference table for the non-financial performance statement in section 8.6.

	Section	Page
Article L. 233-13 of the French Commercial Code:		
Breaches of thresholds in the Company in 2018	N/A	N/A
Article R. 225-102 of the French Commercial Code:		
Table of results for the last 5 financial years	7.2.2.6	263
Article L. 225-211 of the French Commercial Code:		
Buyback by the Company of its own shares	6.2.3.4.3, 7.2.2.5 Note 14	170-171, 251-252
Articles L. 225-185 and L. 225-197-1 of the French Commercial Code:		
Reports on stock options and free shares	6.2.2.1 et 2, 6.2.3.5.1 et 4, 7.1.6 Note 9.4, 7.2.2.5 Note 15	165-166, 171-173, 220, 252 to 254
Articles L. 233-7 and L. 233-13 of the French Commercial Code:		
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Article L. 441-6-1 of the French Commercial Code:		
Information about supplier and customer payment terms	7.2.1.2	233-234
Article L. 511-6 of the French Monetary and Financial Code		
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Article 243 bis of the French Tax Code		
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Article 223 quater of the French Tax Code		
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8.5 CROSS-REFERENCE TABLE FOR THE REPORT ON CORPORATE GOVERNANCE

Upon recommendation of its Governance & Remuneration Committee, the Board of Directors approved, during its meetings of February 25th and March 24, 2020, its report on corporate governance, and asked the Chairman and CEO to report about it to the Shareholders' Meeting of May 6, 2020. Before being presented to the Governance & Remuneration Committee, such report was jointly established by representatives of the Group Secretary, Finance and Human Resources Departments.

For ease of reference, the following cross-reference table may be used to identify the information contained in this Universal Registration Document that forms the basis of such report on corporate governance, established pursuant to Articles L. 225-37 and subs. of the French Commercial Code.

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8.6 CROSS-REFERENCE TABLE - ANNEX 1 AND 2 OF EUROPEAN REGULATION N° 2019/980

For ease of reference, the following cross-reference table may be used to identify the main information required by Annexes I and II of Commission Delegated Regulation (EU) 2019/980 of 14 March 2019. The table shows the pages of this Universal Registration Document where information on each of the Regulation's items can be found.

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8.7 CROSS-REFERENCE TABLE FOR THE NON-FINANCIAL PERFORMANCE STATEMENT

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