



INTERNATIONAL DEFENCE COMPANIES



NOTEBOOK

2018 Edition

INTERNATIONAL DEFENCE COMPANIES

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French Defence Procurement Agency (DGA)

Strategy Directorate/Industrials Affairs and Economic Intelligence Departement

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Paris, November 22nd 2018

The "Notebook on International Defence Companies" presented by the Department for Industrial Affairs and Economic Intelligence of the French Defence Procurement Agency (DGA) provides key data and information taken from publicly available sources for a selection of international defence companies.

Because of its national and international industrial activities, Hensoldt is for the first time included in the 2018 edition.

This notebook does not in any way reflect the opinions or positions of the DGA or XERFI MCI, which contributed to its preparation.

In addition to the English version, a French-language, digital version of the notebook is available on the DGA website at www.defense.gouv.fr/DGA.

Sincerely,

François MESTRE

Director for Industrial Affairs and Economic Intelligence
DGA

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SCOPE

The 2018 edition of the Notebook on International Defence Companies covers a panel of about 60 companies. A specific section, “Key Data”, presents the following key consolidated financial indicators for each company, where such information is available (“N/A” meaning that data is not available):

- Revenue (euros)
- Sales change (as a percentage; calculated using data in local currency)
- Defence revenues (% of total)
- Export revenues (% of total)
- Operating profit/loss (euros)
- Operating margin (%)
- Net profit/loss (euros)
- Order book at the end of the fiscal year (euros)
- Employees

To ensure consistency, consolidated financial statements were the preferred source of information. Emphasis was given to the most recent, restated financial indicators.

Currency conversions were calculated using the annual average exchange rate (source: European Central Bank) during each company’s fiscal year. However, order book values were converted using the exchange rates at the closing date of each company’s fiscal year. Average annual exchange rates used for conversions are summarised in the table below. It should be noted that all financial indicators were converted using the average exchange rate for their corresponding year. To avoid a bias when calculating annual changes in business activity, the “Percentage sales change” was calculated from data in the original currency used in each company’s financial statement.

SOURCES

For publicly-listed groups or those that publish an annual statement of consolidated accounts, the following sources were used:

- Annual reports and reference documents
- Consolidated balance sheets and profit and loss statements
- Financial and investor presentations

For unlisted groups or those that do not publish an annual statement of consolidated accounts, the following sources were used:

- Press releases
- Company presentations
- Public presentations and management statements
- Parliamentary reports
- Data bases: Factiva, Diane
- Business press

List of companies that do not publish, or only partially publish, financial statements:

- ArianeGroup (formerly Airbus Safran Launchers)
- Arqus (formerly Renault Trucks Defense)
- Atlas Elektronik
- Aviation Industry Corporation of China (AVIC)
- Eletronica
- Diehl Defence
- General Atomics
- Iveco Defence Vehicles
- KMW + Nexter Defense Systems (KNDS)
- MBDA
- Oshkosh Defense
- Polska Grupa Zbrojeniowa (PGZ)
- Thales Alenia Space (TAS)
- ThyssenKrupp Marine Systems (TKMS)
- Turkish Aerospace Industries (TAI)

OWNERSHIP

The "Ownership structure" section draws data from the following sources:

- Company publications (websites, reference documents, investor presentations)
- Brokerage firms and major trading platforms (Morningstar, EDGAR, NYSE Euronext, Nasdaq, LSE, Borsa Italiana, Tokyo Stock Exchange, etc.)

CHARTS

Charts represent the sales breakdown by business segment and geographical region. For non-French companies, the names of business divisions or segments were translated into French. However, names of divisions or brands that are better known in English have not been translated.

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

The "Main programmes, cooperations and export partnerships" section presents the main programmes highlighted by companies in their external communication material (excluding upstream study programmes). Partnerships for each programme are also listed, without further details. They can take a number of forms: co-contractorship, co-development or co-production agreements, subcontracting agreements (for tier-1 equipment suppliers considered as "strategic partners"), marketing agreements, joint ventures (JV), or partnerships with foreign companies as part of offset agreements.

Due to the very concise format of the notebook, this section cannot claim to be exhaustive.

EURO EXCHANGE RATES*

COUNTRY	CURRENCY	1 EURO =			
		2014	2015	2016	2017
Australia	Australian Dollar	1,472	1,478	1,488	1,473
China	Renminbi	8,186	6,973	7,352	7,629
South Korea	Won	1 398,14	1 256,54	1 284,18	1 276,74
United States	US Dollar	1,329	1,110	1,107	1,130
India	Indian Rupee**	81,041	71,196	74,372	73,532
Japan	Yen	140,31	134,31	120,20	126,71
Norway	Norwegian Krone	8,354	8,950	9,291	9,327
Poland	Zloty	4,184	4,184	4,363	4,257
United Kingdom	British Pound	0,806	0,726	0,819	0,877
Russia	Ruble	50,952	68,072	74,145	65,938
Singapore	Singapore Dollar	1,682	1,526	1,528	1,559
Sweden	Swedish Krona	9,099	9,354	9,469	9,635
Swiss	Swiss Franc	1,215	1,068	1,090	1,112

* Exchange rates used for conversions were calculated as the annual average rate from January 1 to December 31 (source: European Central Bank)

** In the Indian numbering system, a comma separates every two digits (to the left of the last three). To make large numbers easier to read, India uses the "crore" as a unit of measurement. In this system, 1 crore equals 10,000,000 rupees.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial and military aircraft
- ▶ Commercial and military helicopters
- ▶ Unmanned aircraft systems (UAS)
- ▶ Space (satellites, services)
- ▶ Defence electronics
- ▶ Cybersecurity

GOVERNANCE

Chairman

Denis Ranque

Chief Executive Officer (CEO)*

Tom Enders

Chief Executive Military Aircraft

F. Alonso

* To be replaced by G. Faury as of April 2019.

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	AIR
Listed on	NYSE Euronext
Market Cap (€m)	72 155

Major shareholders (as of 28.09.2018)

SOGEPA (French State)	11,07%
GZBV (German State)	11,06%
Capital Research & Management Co. (World Investors)	6,17%
SEPI (Spanish State)	4,17%

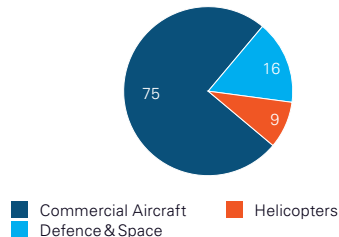
MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
MBDA	37,5%	France
Eurofighter Jagdflugzeug GmbH	46%	Germany
ArianeGroup	50%	France
ATR	50%	France
NH Industries	62,5%	France
AirTanker Holdings Ltd	40%	United Kingdom

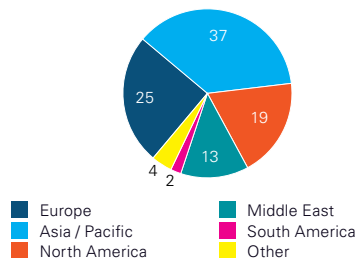
KEY FIGURES (Fiscal year ended: December 31**)

€ millions	2014	2015	2016	2017
Revenue	60 713	64 450	66 581	66 767
Δ (%)	5,46%	6,16%	3,31%	0,28%
Defence (%)	18%	18%	16%	15%
Export (%)	67%	69%	68%	75%
Operating profit/loss	3 991	4 062	2 258	3 421
Operating Margin (%)	6,57%	6,30%	3,39%	5,12%
Net profit/loss	2 350	2 698	1 000	2 877
Order book	857 519	1 005 864	1 060 447	996 822
Employees	138 622	136 574	133 782	129 442

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Orbital ATK*	BAE Systems	Thales	Leonardo	Safran	Dassault Aviation	TAI	Naval Group	Gemalto	Rolls-Royce
Military aircraft and Unmanned aircraft systems										
A400M military transport aircraft			●		●		●			
C295 and AC295 transport aircraft	●		●							
A330 MRTT multi-role tanker transport aircraft			●							●
Eurofighter Typhoon fighter aircraft		●		●						●
European MALE RPAS				●		●				
VSR700 shipborne UAV			●		●			●		
NGWS programme						●				
Military helicopters										
H125M single-engine helicopter (2t)			●		●					
H135M twin-engine helicopter (3t)			●		●					
H145M twin-engine helicopter (3t)			●		●					
AS565 MBe multi-role medium helicopter (4t)			●		●					
H215M twin-engine multi-role helicopter (9t)			●		●					
H225M twin-engine multi-role helicopter (11t)			●		●					
NH90 twin-engine multi-role helicopter (11t)			●	●	●					
Tiger HAP / HAD combat helicopter			●		●					
Space										
CSO optical earth observation satellite			●							
CERES space-born military intelligence system			●							
Syracuse 4 military communication satellite			●							
Cybersecurity										
Stormshield Data Security										●
CyberThreat Intelligence										

* Takeover by Northrop Grumman completed in June 2018.

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Airbus consolidated revenues reached a record €66.8bn in 2017. However, annual revenue growth slowed down (+0.3% compared to +3.3% in 2016).
- ▶ Divestments continued. After having sold its defence electronics business to U.S. investment fund KKR as well as its 49% stake in Atlas Elektronik to its partner ThyssenKrupp AG (via its TKMS shipbuilding division), Airbus completed the sale of its Canadian aeronautical maintenance subsidiary, Vector Aerospace, to StandardAero Aviation Holdings from the U.S.
- ▶ Outgoing CEO Tom Enders, who will be replaced by Guillaume Faury as of April 2019, announced job cuts that will affect around 3,700 positions in Europe. In France, 470 jobs could be cut. The decision comes in response to the expected fall in production rates for the A380 and the A400M.

Home market (Germany, Spain, France, United Kingdom)

- ▶ In February 2018, Airbus signed a Declaration of Intent with the seven A400M customer nations (Germany, France, United Kingdom, Spain, Turkey, Belgium, Luxembourg) aimed at adjusting the aircraft's delivery schedule and thereby reducing financial penalties and deferred payments.
- ▶ After the first A330 MRTT multi-role tanker transport aircraft was delivered to the French Air Force in October 2018, a further 15 aircrafts of this type (instead of the 12 initially planned) are set to be ordered as part of the 2019-2025 Military Planning Act. These planes will replace two fleets: the C-135FR and KC-135R Air-to-Air refueling aircrafts as well as the A310 and A340 transport aircrafts.
- ▶ Airbus and Boeing consider a joint bid for a €4bn contract to provide heavy-lift helicopters in Germany. The contract is due to be awarded in mid-2020 and the two companies are likely to be in competition with Lockheed Martin, which is partnering with German platform manufacturer and systems integrator Rheinmetall.

Export markets

- ▶ Airbus received an order from Hungary's Ministry of Defence for 20 H145M military helicopters. The order is part of the Zrinyi 2026 military modernisation programme.
- ▶ Airbus signed a \$273m (€230m) contract with the United States Armed Forces for 35 UH-72A Lakota helicopters (17 for pilot training and 18 for observer/controller missions). Airbus has already delivered more than 420 of these light helicopters as part of an agreement which was signed in 2005 and has been amended since.
- ▶ In August 2018, the NHI consortium (made up of Airbus Helicopters, Leonardo and Fokker) received confirmation for the sale of 28 NH90 multi-role helicopters to Qatar, of which 16 TTH (tactical transport) and 12 NFH (naval missions). The €3bn contract (of which €1.5bn for Airbus) includes an option for 12 additional helicopters.

Technology and Innovation

- ▶ Airbus R&D spending continued to decline, reaching €2.8bn in 2017 compared to €3bn the previous year.
- ▶ Airbus and Dassault Aviation joined forces to develop and build a next-generation combat aircraft (NGWS). The aim is to complete and later replace the Eurofighter Typhoon and Rafale fighter aircraft by 2035-2040.
- ▶ The French Defence Procurement Agency (DGA) selects Airbus Helicopters and Naval Group for a technology development contract in the area of unmanned aircraft systems. The aim is to prepare the commissioning of the future VSR 700 shipborne UAV (SDAM programme).

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial launch services (launchers and services)
- ▶ Strategic ballistic missile
- ▶ Propulsion systems
- ▶ Pyrotechnics (for launchers and satellites)
- ▶ Space instrumentation and equipment (optical, optronic, neutronic)
- ▶ Complex and secure infrastructures

GOVERNANCE

Chairman and CEO

Alain Charneau

Chief Operating Officer

David Quancard

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group

Market Cap

Major shareholders (as of 08.10.2018) %

Airbus 50%

Safran 50%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Arianespace	74%	France
Nucléutudes	98,9%	France
CILAS	63%	France
Pyroalliance	90%	France
Sodern	90%	France
EuroCryospace	45%	France
Europropulsion	50%	France
Regulus	40%	France

KEY FIGURES (Fiscal year ended: December 31st)

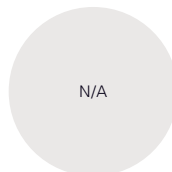
€ millions	2014	2015	2016	2017
Revenue*	-	1 215	2 227	3 408
Δ (%)	-	-	-	-
Defence (%)	-	-	N/A	N/A
Export (%)	-	-	N/A	N/A
Operating profit/loss	-	-8	102	247
Operating Margin (%)*	-	-0,66%	4,58%	7,25%
Net profit/loss	-	-	N/A	N/A
Order book	-	-	N/A	N/A
Employees	-	-	~9 000	~9 000

* Changes in scope since 2016.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



ARIANEGROUP (FORMERLY AIRBUS SAFRAN LAUNCHERS)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Safran	Thales	Naval Group*	Avio	RUAG	MT Aerospace**	SABCA	Air Liquide	Souriau
Commercial launch services										
Ariane 6 new-generation launcher (2020)	●	●	●			●	●	●	●	
Ariane 5 launcher	●	●	●			●	●	●	●	
Launch services (Ariane 5, Vega, Soyouz)										
Strategic ballistic missiles										
M51 missile	●	●	●	●						●
Propulsion systems										
Vulcain 2 (Ariane 5) and Vulcain 2.1 (Ariane 6) rocket engines		●								
Vinci rocket engine (Ariane 5ME)		●								
Prometheus rocket engine project	●	●								
Bipropellant thrusters (4N, 10N, 22N, 200N, 400N)										
Chemical monopropellant hydrazine thrusters (1N, 20N, 400N)										
Electric orbital propulsion systems (RIT 2X, RIT 10 EVO and RIT μX)										
M10 release and separation nuts (ME0032, ME0038)										
Combustion chambers										
Metallic container										
Pyrotechnics (for launchers and satellites)										
Vulcain Turbine pump starter		●								
Vinci engine ignition system		●								
Vega's Zefiro-9 third-stage engine ignition system					●					

* formerly DCNS

** OHB

STRATEGIC HIGHLIGHTS

Business trends

- ▶ As part of the reorganisation of the European launchers sector, Airbus Safran Launchers changed its corporate name and became ArianeGroup as of July 1st, 2017. The group remains a joint venture equally owned by Airbus and Safran. Its 7 subsidiaries (including Arianespace, Cilas and Pyroalliance) will adopt the same graphic identity.
- ▶ ArianeGroup's annual revenue stands at €3.4bn. It employs 9,000 staff in France (9 sites, including 1 in French Guiana) and Germany (4 sites).
- ▶ ArianeGroup continues to modernise and optimise its production systems. The group unveiled new solutions at its industrial sites (digitalisation, augmented reality (AR), cobots, 3D printing, etc.) aimed at reducing costs and raising productivity.
- ▶ To enhance its competitiveness amid an expected decrease in its workload, ArianeGroup plans to cut 2,300 positions among its workforce and that of its subcontractors over the 2018-2022 period. The group has pledged that all redundancies would be voluntary.

Home market

- ▶ The 81st consecutive successful launch of Ariane 5 allowed ArianeGroup to demonstrate its capabilities. For the second time in 2017, close to 10 metric tonnes of payload were transported, matching the company's record.
- ▶ The Joint Space Command (JSC) signed a contract with ArianeGroup to benefit from data collected through the GEOTracker geostationary observation network. The network, the result of a decade-long internal development effort by ArianeGroup, consists of 6 telescopes based in Chile, Spain, France and Australia.
- ▶ The first test of the Vulcain 2.1 engine, which will power the main stage of Ariane 6, was carried out in early 2018. The engine is an optimised version of Ariane 5's Vulcain 2 engine. Series of tests were carried out : thrust, mixing ratio, propellant supply conditions, on the Vulcain 2.1.
- ▶ Production began for 10 new Ariane 5 launchers. The batch will be launched from the Guiana Space Centre from 2020. According to ArianeGroup estimations, this production order will provide more than one billion euros in revenues to the European space industry, which involves more than 600 companies in 12 European countries, including 350 small and medium sized enterprises.
- ▶ The last two subsystems qualification campaigns of Vinci's re-ignitable engine, which will power the upper stage of the Ariane 6 launcher, were completed in France and Germany in February 2018. A total of 140 bench tests were carried out.

Technology and Innovation

- ▶ ArianeGroup deepened its scientific cooperation with the French National Aerospace Research Centre (ONERA) and the French National Centre for Space Studies (CNES). These partnerships will cover research activities, particularly in relation to launch systems.
- ▶ At the 2017 Paris Air Show, the European Space Agency (ESA) signed the first stage of a contract for the development of the Prometheus low-cost engine, which runs on liquid oxygen and methane. The unit cost of the engine is projected to reach around €1m, i.e. ten times less than the production cost of the current Vulcain 2 engine, thanks to digital control and the use of 3D printing.
- ▶ In June 2018, ArianeGroup conducted the first hot fire test of the ETID demonstrator, a next-generation upper stage engine technology. The test, conducted at the DLR German Aerospace Centre in Lampoldshausen, was a success.

BUSINESS AREAS

Platform manufacturer and systems integrator

Defense subsidiary of Volvo Group

- ▶ Wheeled armoured vehicles
- ▶ Tactical and logistics vehicles
- ▶ Propulsion systems for armoured vehicles
- ▶ Weapon systems
(Remote weapon system, RWS)
- ▶ Maintenance and modernisation

GOVERNANCE

Chairman and CEO Emmanuel Levacher
Chief Financial Officer (CFO) Christian Cusset

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	~380	~400	~410	~500
Δ (%)	-9,52%	5,26%	2,50%	21,95%
Defence (%)	100%	100%	100%	100%
Export (%)	~36%	~32%	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	~1 200	~1 200	~1 400	~1 500

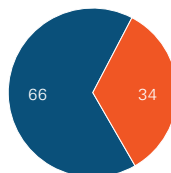
OWNERSHIP STRUCTURE

Symbol
Listed on Unlisted subsidiary
Market Cap

Major shareholders (as of 30.06.2018)

Volvo Group Government Sales | 100%

REVENUE BY BUSINESS LINE (%)

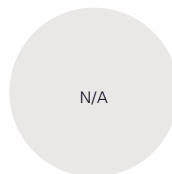


■ Platform development and Production
■ Services and MRO

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SOFEMA	4%	France
ODAS	2%	France

REVENUE BY REGION (%)



ARQUUS (FORMERLY RENAULT TRUCKS DEFENSE)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Nexter**	Thales	Astais	MetraVib**	AM General
Reconnaissance vehicles					
4x4 VBL Mk2 light armoured vehicle			●		
4x4 VBR light armoured vehicle					
4x4 PVP light protected vehicle					
Armoured combat and transport vehicles					
Griffon and Jaguar (Scorpion programme) EBMR (multi-role armoured vehicle)	●	●		●	
Maintenance for VAB armoured personnel vehicle					
6x6 VAB Mk3 armoured vehicle		●			
6x6 VAB Ultima Génie armoured vehicle				●	
Higuard MRAP (armoured vehicle resistant to improvised explosive devices)					
Bastion (Fortress) armoured vehicle					●
Propulsion systems for armoured vehicles					
VBCI (armoured combat vehicle)	●				
Light tactical vehicles					
4x4 VLRA, Sherpa Light and ALTV					
VLTP NP light utility vehicle					
Heavy tactical and logistics trucks					
4x4 / 6x6 / 8x4 / 8x8 KERAX					
4x4 / 6x6 Sherpa Medium					
6x6 Armis	●				
Special forces vehicles					
Areg, Torpedo, Sabre, PATSAS					

* KNDS
** ACOEM

STRATEGIC HIGHLIGHTS

Business trends

- ▶ In May 2018, the defense subsidiary of the Volvo Group (around €35bn of turnover in 2017), changed its name from RTD (Renault Trucks Defense) to Arquus. The change occurred after Volvo abandoned the sale of its Governmental Sales division in late 2017, as takeover bids were deemed insufficient. Renault Trucks Defense, Acmat and Panhard have thus been regrouped under the Arquus brand, which aims to strengthen its core business (armoured vehicles) and diversify its activities (systems integration). 150 new hires were planned for 2018.
- ▶ The order book reached a value of €1.9bn in 2017, including firm orders worth €600m which were mainly attributable to the Scorpion programme. In 2018, the group delivered 500 VLTP NP light utility vehicles out of an order for 3,700.
- ▶ However, Arquus lost a tender for VBMR light armoured vehicles (as part of the Scorpion programme) to Nexter (KNDS).
- ▶ All replacement parts activities, including those related to the Scorpion programme, will be centralised at the Fourchambault (Nièvre) site from 2019, representing an investment of more than €7m.

Home market

- ▶ Together with Nexter and Thales, Arquus is part of a temporary business venture (GME in French) that has been tasked to support the modernisation of the French Army (Scorpion programme, which involves the delivery of 110 EBRC Jaguars and 780 VBMR Griffons through 2025, for a total of 248 Jaguars and 1,722 Griffons planned). Arquus will oversee the mobility solutions of the Griffon and Jaguar vehicles as well as logistics for replacement parts for the whole GME.
- ▶ Three service and logistics support contracts for VABs, tactical trucks and vehicles built by Arquus' Panhard subsidiary were renewed for another 8-10 years.

Export markets

- ▶ Arquus has clients in more than 65 countries. The group aims to develop its international partnerships and grow its export order book (worth €100m in 2017) to reach half of group net sales in the medium term.
- ▶ Countries in Africa and the Middle-East are among Arquus' prime targets. In late 2016, the group won a €270m contract from Kuwait for 300 Sherpa armoured vehicles. It also registered smaller orders (€30-40m in total) from Senegal, Ivory Coast and Chad.
- ▶ Arquus benefits from significant direct and indirect sales opportunities, particularly in Belgium (participation in the Scorpion programme, with a commitment to purchase 60 Jaguars and 382 Griffons), the Netherlands (planned acquisition of a thousand armoured tactical vehicles in late 2018) and Qatar (order for 490 VBCI).
- ▶ In March 2018, Arquus signed an export partnership with Thales. Thales' SOTAS communication systems will be integrated into Arquus export vehicles.
- ▶ In October 2018, the group signed a partnership agreement with US-based AM General, which will produce Arquus' Bastion under licence and submit it in U.S. tenders.

Technology and Innovation

- ▶ The group invests about 4% of its net sales (about €20m) in R&D.
- ▶ Arquus in 2018 unveiled a self-driving version of its 4x4 Dagger armoured vehicle.
- ▶ At Eurosatory 2018, Arquus unveiled the prototype of its new Scarabée light armoured vehicle.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Submarines
- ▶ Surface ships
- ▶ Maintenance

GOVERNANCE

Chairman	Bruce Carter
Chief Executive Officer	Stuart Whiley
Chief Financial Officer	Ashley Menadue
CEO ASC Shipbuilding	Jim Cuthill

KEY FIGURES (Fiscal year ended: June 30th)

€ millions	2013-14	2014-15	2015-16	2016-17
Revenue	622	717	525	561
Δ (%) /AUD/**	-0,27%	12,08%	-22,19%	1,29%
Defence (%)	100%	100%	100%	100%
Export (%)	0%	0%	0%	0%
Operating profit/loss	-6	20	23	27
Operating Margin (%)	-0,94%	2,74%	4,32%	4,82%
Net profit/loss	-3	15	17	20
Order book	N/A	N/A	N/A	N/A
Employees	~2 400	~2 600	~2 600	~2 400

* Variation based on revenue in local currency.
See €/AUD exchange rates p.7.

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 01.10.2018)

Australian State		100%
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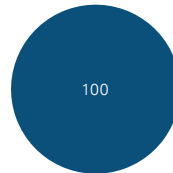
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name		%		Country
------	--	---	--	---------

REVENUE BY REGION (%)



■ Oceania

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	General Dynamics	Raytheon	Naval Group*	Babcock International	Lockheed Martin	Forgacs Marine & Defence Ptyd	BAE Systems	L3 Technologies	Navantia	Lürssen	Austal
Submarines											
Maintenance for Collins-class submarines		●		●							
Shortfin Barracuda Block 1A submarine			●		●						
Surface ships											
Hobart-class Air Warfare Destroyer (AWD)	●	●			●				●		
Hunter-class frigate (Sea 5000 programme)						●					●
OPV 80 offshore patrol vessel					●		●		●		

* formerly DCNS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After a sharp fall in 2015-2016, ASC net sales recovered in 2016-2017 (+1.3%). At AUD 811m (€561m), however, they remained significantly lower compared to two years earlier, when the group reported record sales.
- ▶ Annual operating income slightly improved to AUD 39m (€27m), raising operating margin from 4.3% to 4.8%. This was mainly driven by staff cuts at the Osborne site (Adelaide) as well as productivity gains for the Hobart-class Air Warfare Destroyer (AWD) programme.
- ▶ In May 2018, ASC launched an extensive digital transformation plan that will involve all of the group's programmes. The first phase of the plan will be jointly carried out with Accenture group.

Home market

- ▶ ASC is the key player of Australia's naval sector and a strategic partner for any foreign naval group seeking to penetrate this market. It is the main beneficiary of the Royal Australian Navy's modernisation programme (AUD 89bn, or €60bn), which was launched in 2015 to modernise the Australian Navy's fleet.
- ▶ In May 2017, the Australian government presented details for the "Naval Shipbuilding Plan". The modernisation programme includes the construction of 12 submarines (for a total amount of €34.5bn), 9 frigates (€24bn) and 12 OPVs (€2bn). It should lead to the creation of 5,000 jobs across Australian naval shipyards, and another 10,000 among suppliers.
- ▶ German naval shipyard Lürssen won a contract to deliver 12 OPVs as part of the SEA 1180 programme. It will partner with ASC, Austal and Forgacs Marine and Defence. The first two patrol vessels will be built at ASC's Osborne site. Construction should then be transferred to Austal's Henderson site, near Perth.
- ▶ ASC launched the third and final Hobart-class Air Warfare Destroyer. Named HMAS Sydney, it is now undergoing sea trials. Like the HMAS Hobart and HMAS Brisbane, respectively commissioned in September 2017 and October 2018, it is based on the design of Spanish Navantia's F100 frigates.
- ▶ As part of the SEA 5000 programme, BAE Systems has been chosen as prime contractor to collaborate with ASC on the construction of 9 Hunter-class frigates. These will replace the Anzac-class vessels of the Royal Australian Navy. Construction work will be carried out at the Osborne site and is expected to begin in 2020, with commissioning scheduled to begin 10 years later. ASC Shipbuilding will become a subsidiary of BAE Systems during the construction phase of the frigates. The Australian government will retain some shares in the group and recover all of its interests once the programme is completed.
- ▶ In August 2018, the Royal Australian Navy renewed its contract with ASC for Collins-class submarine training at its Stirling Navy Base training centre.

Technology and Innovation

- ▶ At the International Maritime Exposition in Sydney in autumn 2017, a research partnership on the use of MTU engines was established with Penske Power Systems. ASC engineers at the Osborne site will conduct tests on these diesel engines on behalf of ASC and Penske.
- ▶ ASC and Defence Science and Technology (DST), a unit of the Australian Department of Defence, signed a new strategic cooperation agreement focused on innovation in the submarine segment. Areas covered by the partnership include design, materials, and hydrodynamics, among others.



BUSINESS AREAS

Systems integrator/equipment supplier

Subsidiary of ThyssenKrupp AG's (TKMS) naval shipbuilding division

- ▶ Sonar and acoustic systems
- ▶ Ammunition
- ▶ Unmanned vehicles (surface and underwater)
- ▶ Maritime security systems
- ▶ Mine warfare systems

GOVERNANCE

Chief Executive Officer

M. Ozegowski

Chief Financial Officer

A. Kocherscheidt

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted subsidiary

Market Cap

Major shareholders (as of 03.10.2018)

ThyssenKrupp AG (through TKMS) | 100%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Advanced Lithium Systems Europe S.A.	49%	Greece
Cybicom Atlas Defence PTY	40%	South Africa
ET Marinesysteme GmbH	50%	Germany
Kta Naval Systems	N/A	Norway

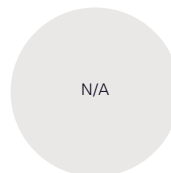
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	416	405	N/A	N/A
Δ (%)	-5,67%	-2,64%	N/A	N/A
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	51%	52%	N/A	N/A
Operating profit/loss	12	-2	N/A	N/A
Operating Margin (%)	2,88%	-0,49%	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	1 223	N/A	N/A	N/A
Employees	2 140	2 136	-2 000	-2 000

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	Systems Sunlight	Magellan Aerospace	Thales	Satehaven Marine	KPM Marine	Barrus	Kongsberg
Surface systems								
ANCS / ANCS-SC combat system								
Multi-role HMS Maggie-class vessel system				●	●	●		
K130 Braunschweig-class corvettes combat system (6 to 10)				●				
Submarine systems								
ISUS 100 combat system								
212CD-class submarine combat system								●
ODIN underwater warfare simulation								
Active Towed Array Sonar (ACTAS)								
ASO Hull-Mounted Sonar (HMS)								
Mine warfare systems								
Unmanned Mine Countermeasures (MCM) System ARCIMS								
Naval weapons								
Heavyweight torpedo SeaHake mod4								
Anti-torpedo torpedo (ATT) SeaSpider				●				
Torpedo batteries (Lithium)		●						
Unmanned vehicles								
SeaFox mine disposal vehicle	●							
SEICAM communication systems								
Services and product support								
Pansio-class minelayer								
K130 Braunschweig-class corvettes combat system (1 to 5)				●				

STRATEGIC HIGHLIGHTS

Business trends

- ▶ ThyssenKrupp AG acquired Airbus' 49% capital stake in Atlas Elektronik, thereby becoming its sole shareholder. As of April 2017, Atlas Elektronik was consolidated into ThyssenKrupp Marine Systems (TKMS), the German group's shipbuilding division.
- ▶ In December 2017, in the presence of representatives from the Norwegian and German governments, Kongsberg, TKMS and Atlas Elektronik established the Kta Naval Systems joint venture. Based in Kongsberg in Norway, with a branch in Bremen, the joint venture will be the exclusive provider of combat systems for TKMS submarines.
- ▶ The group announced the appointment of its new Chief Executive Officer, Michael Ozegowski. Mr Ozegowski succeeds Dr Jens Bodo Koch, who will become head of German arms company Heckler & Koch. The leadership change is effective as of May 1st, 2018.

Home market

- ▶ Atlas Elektronik historically generates about half of its revenues in its domestic market. This share is nevertheless set to fall in the medium term in view of the group's growing internationalisation.
- ▶ The "FüWES K130" consortium, led by Atlas Elektronik in partnership with Thales Deutschland, will provide the combat systems for the German Navy's 5 upcoming K130 Braunschweig-class corvettes. The ships will be built by 2025 by TKMS, Lürssen and German Naval Yards (owned by Iskandar Safa). Additionally, the consortium will modernise the combat system of the first 5 K130 Braunschweig-class corvettes, which were commissioned between 2008 and 2013.

Export markets

- ▶ The group relies on a strong international presence. Thanks to its local subsidiaries, Atlas Elektronik has significantly strengthened its positions in Northern Europe (United Kingdom, Finland, Norway, Denmark) and North America in recent years.
- ▶ In preparation for the Royal Canadian Navy's upcoming RMDS (Remote Mine Disposal System) programme, Atlas Elektronik Canada in June 2017 teamed up with Kraken Sonar Systems. The latter is a subsidiary of Kraken Inc., a Canadian group specialised in acoustic sensors. The partnership is expected to be extended to Asia.
- ▶ In accordance with an agreement signed in May 2015, Atlas Elektronik Finland completes the mid-life upgrade of the last of three Pansio-class minelayers of the Finnish Navy. The systems of all three minelayers have thus been replaced, extending the vessels' operational life until 2030.
- ▶ HMS Maggie, the British Royal Navy's new hydrographic survey vessel ordered from subsidiary Atlas Elektronik UK, completed sea trials in the Irish Sea in May 2018. The 6-year, £48m (approx. €55m) contract includes the delivery of 33 ships (with an option for 5 more) and service support until 2024.
- ▶ Atlas Elektronik UK also won a £13m contract (€15m) to provide an unmanned minesweeping system to the British Royal Navy. Details regarding the duration of the contract and the delivery schedule were not disclosed.

Technology and Innovation

- ▶ During the Oceanology International 2018 trade fair in London, Atlas Elektronik subsidiary Atlas Maridan officially announced the launch of a rental service for its new Autonomous Underwater Vehicle (AUV). The service will cater to the naval market but also the renewable energy and oil and gas exploration sectors.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial and military aircraft
- ▶ Transport and energy
- ▶ Electronic and electric equipment
- ▶ Special equipment and materials
- ▶ Engineering, consulting and financial services
- ▶ IT & Software
- ▶ Logistics services

GOVERNANCE

Chairman	Tan Ruisong
President	Luo Ronghuai
Executive Vice President	Li Yuhai

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 08.10.2018)

SASAC (Chinese State)	100%
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MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
AviChina Industry & Technology Co., Ltd	58,6%	China
Snecma-SAIC JV	50%	China
Cessna-AVIC Aircraft (Zhuhai) Co., Ltd	N/A	China
Cessna-AVIC Aircraft (Shijiazhuang) Co., Ltd	N/A	China
Xi'an AVIC Hamilton Sundstrand Aviation Electric Co., Ltd (AUAE)	50%	China
Commercial Aircraft Corporation of China, Ltd (COMAC)	N/A	China

KEY FIGURES (Fiscal year ended: December 31st)

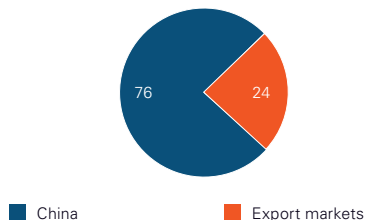
€ millions	2014	2015	2016	2017
Revenue	47 202	50 171	50 488	52 890
Δ (%) / CNY*	10,54%	-9,45%	6,10%	8,70%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	22%	N/A	24%
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	1 751	2 232	2 282	2 169
Order book	N/A	N/A	N/A	N/A
Employees	548 276	535 942	467 929	452 178

* Variation based on revenue in local currency.
See € / CNY exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



AVIATION INDUSTRY CORPORATION OF CHINA (AVIC)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	UAC Sukhoi	NPO Saturn	Antonov	Ivchenko-Progress	Kimov	Yakovlev	Honeywell Aerospace	Rolls-Royce	Safran	PAC
Fighter and trainer aircraft											
Chengdu J-20 fighter aircraft											
Chengdu J-10 fighter aircraft		●									
Shenyang J-31 fighter aircraft					●						
Shenyang J-11 fighter aircraft	●	●									
FC-1/JF-17 fighter aircraft					●		●				●
Hongdu L-15 advanced trainer/light attack aircraft				●		●					
Transport and AWACS aircraft											
AEWC Shaanxi Y-9 transport aircraft			●								
Y-20 transport aircraft			●								
Propulsion systems											
WS-9 (JH-7) Qinling aircraft engine								●			
WS-10 (J-10, J-11, J-15) Shenyang aircraft engine		●									
WS-13 (J-31) Guizhou aircraft engine											
WS-20 (Y-20) Shenyang aircraft engine											
WZ16 / Ardiden 3C (Z-15) helicopter engine										●	
Helicopters											
Harbin Z-9/Z-19 twin-engine helicopter	●										
H175/AC352	●									●	
Unmanned aircraft systems											
MALE Wing Loong I and II UAS											
UCAV Yaoying II UAS											
Cloud Shadow UAS											

STRATEGIC HIGHLIGHTS

Business trends

- ▶ AVIC net sales grew 8.7% in 2017, reaching CNY 403.5bn (€52.9bn). This however remained far from the group's target of CNY €1000bn (€131bn) in net sales by 2020.
- ▶ The dismantling of AVIC continued with the creation of Aero Engine Corporation of China (AECC) in late 2016. AVIC is majority shareholder together with Commercial Aircraft Corporation of China (COMAC). Going forward, AVIC will focus exclusively on military and aircraft equipment, while AECC, much like Safran of France, will specialise in engines.
- ▶ In December 2017, AVIC's avionics subsidiary, China Avionics Systems, issued CNY 2.4bn (€326m) in convertible bonds. This operation aims at supporting the company's growth over the coming years.
- ▶ As part of ongoing restructuring efforts, the group's organisational chart evolves. In May 2018, Tan Ruisong was named Group Chairman, replacing Lin Zuoming, while Luo Ronghuai took over as President.

Home market

- ▶ AVIC generates three-quarters of its revenue in its domestic market. As the leader in the Chinese aeronautical sector, the group is directly or indirectly involved in most military aircraft programmes through its subsidiaries, CAIC, Harbin, Shenyang Aircraft and Chengdu.
- ▶ Thanks to its monopoly position in China, AVIC is an essential partner for any foreign supplier that wishes to enter the Chinese market. Since 2014, it has a joint venture with Safran (Safran Aircraft Engines), Snecma-SAIC.
- ▶ Following a series of trials at Dingxin Airbase in 2017, the Chengdu J-20 stealth fighter aircraft has been approved for combat missions by the Chinese Army. The plane will be equipped with PL-15 medium-range air-to-air missiles.
- ▶ In April 2018, the Chinese Army unveiled the new AEWC Shaanxi Y-9 transport and reconnaissance aircraft, produced by Shaanxi Aircraft, a subsidiary of AVIC. The plane's design is based on the Russian Antonov An-12 and will also be destined for export markets.

Export markets

- ▶ The export market accounted for 24% of the group's net sales in 2017, compared to 16% in 2011. In value terms, more than CNY 54bn (approx. €7bn) additional revenues were generated internationally over the past six years.
- ▶ Highlighting AVIC's international ambitions, the group's new President, Luo Ronghuai, states that the group will accelerate its expansion across One Belt One Road (OBOR) countries by strengthening industrial partnerships with clients. More importantly, it will also build relations with supply chain players in these geographies.
- ▶ GAIC, an AVIC entity specialised in the construction of training aircraft, unveils the FTC-2000G, a new multi-role fighter-trainer aircraft. The plane, which is based on the JL-9G of China's Naval Air Force, is exclusively intended for exports, particularly to African countries.
- ▶ Serbia orders 6 MALE Wing Loon II UAS. Drone assembly will take place in Serbia with components delivered from China.



BUSINESS AREAS

Engineering support services company and systems integrator

- ▶ Engineering support services, production and integration of equipment (naval and land)
- ▶ Military aviation equipment support, Naval MRO and services
- ▶ Airbase support & Estate management, Naval base management
- ▶ Outsourcing contracts (training, fleet management service)

GOVERNANCE

Chairman	Mike Turner
Chief Executive Officer	Archie Bethel
Chief Executive Marine Division	John Howie

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	BAB
Listed on	LSE
Market Cap (£m)	2 954

Major shareholders (as of 31.03.2018)

Invesco Asset Management Ltd	10,13%
The Capital Group Companies Inc.	9,96%
Standard Life Aberdeen PLC	5,81%
Woodford Investment Management LLP	5,04%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Holdfast Training Services Ltd	74%	United Kingdom
ALC (Superholdco) Ltd	50%	United Kingdom
AirTanker Services Ltd	22,3%	United Kingdom
Duqm Naval Dockyard SAOC	49%	Oman
Naval Ship Management (Australia) Pty Ltd	50%	Australia
Helidax S.A.S.	50%	France

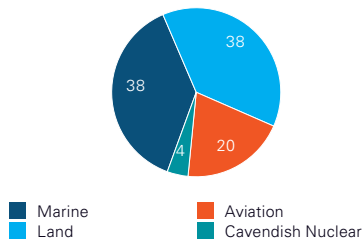
KEY FIGURES (Fiscal year ended: March 31st)

€ millions	2014-15	2015-16	2016-17	2017-18
Revenue *	5 090	5 678	5 405	5 279
Δ (%)/ E **	20,34%	4,05%	9,35%	2,47%
Defence (%)	48%	46%	48%	47%
Export (%)	22%	21%	25%	32%
Operating profit/loss*	449	481	427	420
Operating Margin (%)	8,81%	8,48%	7,91%	7,95%
Net profit/loss *	339	397	375	383
Order book	27 499	25 267	22 208	20 574
Employees	32 368	35 050	35 750	35 427

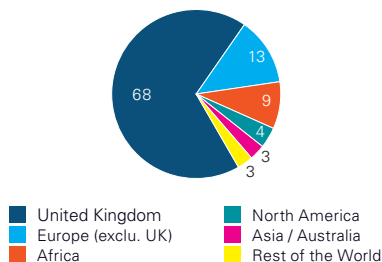
* Excluding JVs and associates.

** Variation based on revenue in local currency. See €/£ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	BAE Systems	Rolls-Royce	Lockheed Martin	DSME	Arney	Vard	Weir	Dassault Aviation	Airbus
Engineering and systems									
WHLS (Weapon Handling and Launch System) (Chang Bogo III)			●						
Dreadnought-class submarine	●	●							
Samuel Beckett-class offshore patrol vessels						●			
MRO and support services									
Hawk integrated operational support	●								
ALC-C vehicle capability fleet management (British Army)				●					
Royal Navy's type 23 frigates life extension programme (LIFEX)	●								
VISSC programme (Canadian Navy's Victoria-class submarines MRO)							●		
HADES programme (Royal Air Force support services ; 17 sites)									
Naval base management									
Maritime support delivery framework (HM Naval Base Devonport and HM Naval Base Clyde)	●								
Outsourcing contracts									
UK Military Flying Training System (MFTS) programme			●						●
Phoenix II Project (fleet management service for the MoD's white fleet; 17,000 vehicles)									
FOMEDEC programme (French Air Force training)							●		

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Excluding joint ventures and associates, group net sales grew 2.5% in 2017-2018, reaching £4.66bn (€5.28bn). While the order book slightly decreased, business prospects remain positive thanks to the group's various multi-year contracts.
- ▶ Three out of Babcock's four divisions contributed to sales growth during the year. Only the Marine division, which accounted for 38% of the group's net sales, saw sales decline (-5.7% from 2016-2017).
- ▶ The group generates 47% of its revenues from defence activities. However, the share varies significantly by division. Defence activities for instance accounted for 86% of revenues in Babcock's Marine division, compared to 34% for Land and 33% for Aviation.

Home market

- ▶ More than two-thirds of Babcock's revenues were generated in the United Kingdom, about 10 percentage points less than in 2014.
- ▶ The group is a key partner of the United Kingdom Ministry of Defence (MoD). As part of its Maritime Support Delivery Framework contract, signed in October 2014 and covering a period of five and a half years, Babcock is currently engaged in 23 service and support projects at the Clyde and Devonport naval bases.
- ▶ Babcock is part of the HADES programme of the Royal Air Force, a contract it won in November 2017. The agreement, worth £160m (approx. €180m) over five years, with an option for two additional years (€60m, or €68m), primarily includes plane maintenance and fleet logistics services across 17 sites in the United Kingdom.
- ▶ The group joined forces with Israel's Elbit Systems for the upcoming MoD procurement exercise ASDOT (Air Support to Defence Operational Training). The two companies are in competition with three other teams. The contract, whose first phase is to start in 2020, is estimated to be worth £1.2bn (approx. €1.35bn).
- ▶ The LIFEX (Life Extension) programme for the modernisation of 13 type 23 frigates of the Royal Navy, overseen by the Surface Ship Support Alliance (MoD, Babcock and BAE Systems), continued with the update of HMS Lancaster and HMS Richmond. The end of the programme is set for 2024.

Export markets

- ▶ The share of Babcock's international sales for the first time exceeded the 30% mark, reaching a key target set by the group in recent years.
- ▶ In June 2017, Babcock and Oman Drydock Company (ODC) established the Duqm Naval Dockyard joint venture. This new entity will be a strategic vehicle for the British group to win contracts in the Middle East. It will specialise in maintenance and repairs for naval ships at the Duqm seaport.
- ▶ Having been retained to construct the next Chang Bogo III-class submarine of the South Korean Navy, DSME selected Babcock to provide the vessel's Weapons Handling and Launch Systems (WHLS). These systems are already installed on British and Australian submarines.
- ▶ Babcock delivered the first Pilatus PC-21 turboprop-powered advanced trainer as part of the French Air Force's FOMEDEC programme. The programme, with Babcock as lead contractor and Dassault Aviation as a partner, covers the delivery and service support for a fleet of 17 Pilatus PC-21 over a period of 8 years and includes the provision of ground simulation facilities.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft (manned and unmanned aircraft)
- ▶ Naval platform and systems (surface ships and submarines)
- ▶ Land platform and systems (armoured vehicles and artillery systems)
- ▶ Defence electronics
- ▶ Cybersecurity

GOVERNANCE

Chairman Sir Roger Carr
 Chief Executive Officer C. Woodburn
 Chief Financial Officer Peter Lynas

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	BA
Listed on	LSE
Market Cap (€m)	16 864

Major shareholders (as of 28.09.2018)

Capital Research & Management Co. (World Investors)	5,52%
Invesco Asset Management Ltd	4,96%
Templeton Investment Counsel LLC	4,91%
Barclays Bank Plc (Private Banking)	3,97%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Eurofighter Jagdflugzeug GmbH	33%	Germany
FADEC International LLC	50%	United States.
Advanced Electronics Company Ltd	48%	Saudi Arabia
Panavia Aircraft GmbH	42,5%	Germany
MBDA	25%	France
CTA International S.A.	50%	France

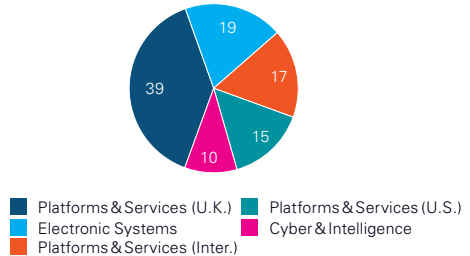
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue*	19 141	23 128	21 709	20 900
Δ (%) [€]**	-8,50%	8,79%	5,97%	2,99%
Defence (%)	93%	92%	91%	92%
Export (%)*	77%	77%	78%	79%
Operating profit/loss*	1 510	1 918	2 016	1 556
Operating Margin (%)*	7,89%	8,29%	9,29%	7,44%
Net profit/loss*	933	1 299	1 145	1 008
Order book	51 996	50 140	49 055	46 437
Employees	83 400	82 500	83 100	83 200

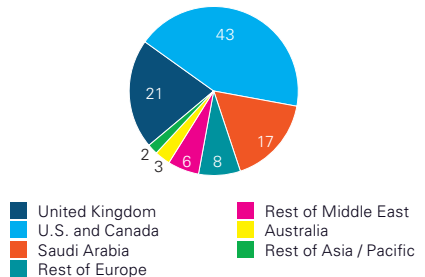
* Revenue excluding the group's share of revenue of equity accounted investments.

** Variation based on revenue in local currency. See €/£ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Leonardo	General Dynamics	Lockheed Martin	Northrop Grumman	Thales	Babcock International	Raytheon	Rolls-Royce	QinetiQ	ASC Pty Ltd	Safran	Nexter*
Military aircraft													
Eurofighter/Typhoon fighter aircraft	●	●											
F-35 programme (Level 1 partner)			●	●									
Hawk AJT trainer aircraft				●				●				●	
Taranis UCAV demonstrator								●	●				
Tempest fighter aircraft programme	●							●					
Land platform and systems													
CV90 infantry fighting vehicle					●								
40mm Cased Telescoped Armament System (40CTAS)													●
M109 Paladin Self-Propelled Howitzer													
Excalibur advanced precision guided 155mm and 127mm artillery shells							●						
Naval platform and systems													
Queen Elizabeth-class aircraft carriers					●	●		●	●				
Astute-class attack submarine		●			●			●					
Dreadnought-class submarine						●		●					
Type 26 frigate	●				●			●	●				
River-class Offshore Patrol Vessel													
Hunter-class Frigate (SEA 5000 program)											●		
Cyber & Intelligence													
GEOINT-ISR	●												

* KNDS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net sales grew 3% in 2017, reaching £18.3bn (€20.9bn). Growth slowed slightly due to adverse currency fluctuations and a 1% sales decline at the group's main division, Platforms & Services (UK).
- ▶ BAE Systems generates most of its revenues in defence-related activities (92% of net sales). All of the group's divisions are involved, in some way or another, in defence-related activities.
- ▶ Under the initiative of Charles Woodburn, the group's Chief Executive Officer since July 2017, BAE Systems announced an extensive reorganisation plan and upcoming job cuts that will affect 1,400 positions.

Home market

- ▶ BAE Systems generates 21% of net revenues in its domestic market. This share has been falling for several years (-2% compared to 2015) as a result of large export contracts and recent budget cuts at the United Kingdom Ministry of Defence (MoD).
- ▶ The first in a series of 5 new River-type OPVs was delivered to the MoD in January 2018. Named HMS Forth, it has been built at the Scotstoun naval shipyard. The remaining OPVs will be put into service by 2020.
- ▶ BAE Systems won a £2.4bn (€2.7bn) contract to deliver the seventh Astute-class nuclear-powered attack submarine (3 in service and 3 under construction) and accelerate work on the first of four Dreadnought-class submarines, which are to replace the current Vanguard-class fleet.
- ▶ In July 2018, BAE Systems, Leonardo (advanced sensors, electronics, avionics), Rolls-Royce (engines) and MBDA (weapons systems) teamed up to develop a new fighter aircraft that is intended to replace the Eurofighter Typhoon of the Royal Air Force in due course. By 2025, the UK Ministry of Defence (MoD) plans to invest approx. £2bn (€2.25bn) in this programme, named Tempest, which is distinct from the Franco-German initiative (NGWS).
- ▶ BAE Systems, Thales UK and CGI established a partnership to strengthen the capabilities of the Royal Navy in electronic warfare as part of the second phase of the MEWSIC (Maritime Electronic Warfare System Integrated Capability) programme.

Export markets

- ▶ The group generates almost 80% of its revenues through exports. Its main international markets are the U.S. (42% of revenues) and Saudi Arabia (17%). BAE Systems is also attempting to conquer the Turkish market. A partnership agreement, related to the development of a 5th generation fighter aircraft, was signed at the start of 2017 with Turkish Aerospace Industries.
- ▶ BAE Systems has been selected by the Royal Australian Navy for the SEA 5000 programme, which involves the construction of 9 Hunter-class frigates that are intended to replace the current Anzac-class ships. The group was in competition with Spain's Navantia and Italy's Fincantieri for the AUD 35bn contract (€24bn). However, it lost Australia's tender for the Land 400 project, which was awarded to Germany's Rheinmetall.
- ▶ In September 2018, Qatar confirmed an order worth £5bn (approx. €5.7bn) for 24 Eurofighter Typhoons and 9 Hawk trainer aircrafts (instead of the 6 initially planned). The first Typhoons are scheduled for delivery in 2022.

Technology and Innovation

- ▶ R&D expenses increased by almost 7% in 2017, reaching £1.6bn (€1.8bn).



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial aircraft
- ▶ Military aircraft (combat, transport, surveillance, unmanned aircraft systems)
- ▶ Defence electronics, cyber and C4ISR
- ▶ Missile defence and weapon systems
- ▶ Space

GOVERNANCE

Chairman and CEO
 Chief Financial Officer
 President and CEO Boeing
 Defense, Space & Security

D. A. Muilenburg
 G. Smith
 L.G. Caret

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	BA
Listed on	NYSE
Market Cap (\$m)	186 963

Major shareholders (as of 31.06.2018)

The Vanguard Group, Inc.	7,34%
Newport Trust Co.	5,73%
T. Rowe Price Associates, Inc.	5,54%
SSgA Funds Management, Inc.	4,57%
BlackRock Fund Advisors	4,37%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Hellfire Systems LLC	50%	United States
United Space Alliance	50%	United States
United Launch Alliance	50%	United States
Sea Launch Co. LLC	3%	Switzerland
Ural Boeing Manufacturing	50%	Russia

KEY FIGURES (Fiscal year ended: December 31st)

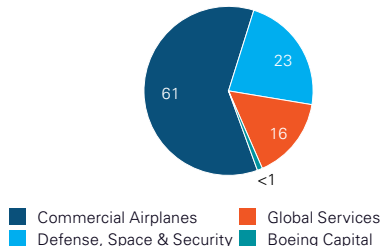
€ millions	2014	2015	2016	2017
Revenue	68 293	86 589	85 430	82 721
Δ (%)/(\$)*	4,78%	5,90%	-1,61%	-1,25%
Defence (%) **	34%	25%	24%	23%
Export (%)	58%	59%	59%	55%
Operating profit/loss	5 623	6 705	5 270	9 104
Operating Margin (%)	8,23%	7,74%	6,17%	11,01%
Net profit/loss	4 098	4 663	4 422	7 260
Order book	413 831	449 310	449 233	407 127
Employees	165 500	161 400	150 500	140 800

* Variation based on revenue in local currency.

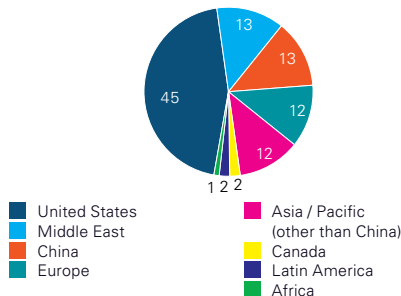
See €/€ exchange rates p. 7.

** Change in scope: Global Services not included in Defence, Space & Security net result from 2015.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Raytheon	Northrop Grumman	Bell Helicopter*	MHI	Lockheed Martin	Leonardo	HAL	KAI	Mahindra Defence Systems	Rhode & Schwarz	Kawasaki	IAI
Fighter aircraft and military helicopters												
AH-64 Apache military helicopter	●	●			●	●		●				
F/A-18E/F Super Hornet and EA-18G Growler		●					●		●			
F-15 Strike Eagle fighter aircraft				●								
Transport and surveillance aircraft												
V-22 Osprey vertical lift aircraft			●									
CH-47 D/F Chinook helicopter					●				●	●		
KC-46A Pegasus tanker aircraft					●							
P-8A Poseidon multi-mission maritime aircraft	●	●										
Unmanned aircraft systems												
MQ-25 Stingray refueling UAS												
ScanEagle tactical UAS												
Wave Glider ocean robot												
Echo Voyager UUV												
Weapon systems and guided missiles												
Joint Direct Attack Munition (JDAM)												
Missile defence												
Arrow 2 and Arrow 3 interceptors												●
Satellites												
Block IIA and IIF GPS satellites												
WGS satellites												

*Textron

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net sales fell 1.2% to \$93.4bn (€82.7bn) in 2017, particularly due to lower delivery volumes of twin-aisle civil aircraft and C-17 military transport aircraft.
- ▶ Net revenues of the Defense, Space & Security (BDS) division stood at \$21bn (€18.6bn), representing 23% of overall net sales. Delivery volumes fell for the 4th consecutive year in 2017 (170 aircraft delivered compared to 172 in 2016). However, the order book grew to \$49.6bn (€40.7bn).
- ▶ In June 2018, an agreement was concluded between Boeing and Safran. This partnership covers the creation of a U.S.-based joint venture that will focus on the conception and production of Auxiliary Power Units (APU).
- ▶ In July 2018, Boeing announced the signing of a Memorandum of Understanding with Embraer for the creation of a civil aviation joint venture in which Boeing will hold a 80% capital stake. The creation of a strategic partnership covering military activities is also considered.

Home market

- ▶ The U.S. market accounted for 45% of Boeing's overall net revenues, an increase of 5 percentage points on 2016. The domestic market's share is even higher for the BDS division, which generated 79% of its net sales from orders by the U.S. Department of Defense.
- ▶ In the military helicopter segment, Boeing in March 2017 won a multi-year \$3.4bn (€3bn) contract for the provision of 268 AH-64E Apache helicopters. In June 2018, the Bell-Boeing alliance received a \$4.2bn (€3.6bn) contract for the construction and delivery of 54 V-22 Osprey tilt rotor aircrafts (39 for the U.S. Navy, 14 for the U.S. Marine Corps, 1 for the U.S. Air Force), with delivery to be completed by 2024.
- ▶ Beating out General Atomics and Lockheed Martin, Boeing wins a \$805bn (€697bn) contract from the U.S. Navy for the development, construction and delivery of 4 MQ-25 Stingray refueling UAS. The 4 drones are expected to begin operations in 2024.
- ▶ In September 2018, Boeing was awarded a fourth production run of the KC-46A Pegasus tanker programme by the U.S. Air Force for \$2.9bn (€2.5bn). Boeing's total contract now covers the delivery of 52 aircraft for an overall sum of \$7.8bn (€6.7bn).

Export markets

- ▶ In 2017, Boeing generated 55% of its net revenues overseas, a 4 percentage points fall compared to 2016. Two reasons were behind this decline: on the one hand, a significant increase in orders in the U.S. market (+9%), and on the other, a fall in exports (-8.6%).
- ▶ Among the contracts signed in 2017, the Qatar deal stands out with an order of 36 F-15 fighter aircraft for \$12bn (€10.7bn). The U.S., Australia and the United Kingdom signed a \$3.4bn (€2.9bn) contract for the delivery of at least 27 P-8A Poseidon aircraft. Japan became the first foreign client to acquire a KC-46 tanker aircraft.
- ▶ Boeing strengthened its relationship with Saudi Arabia by signing, in early 2018, a Memorandum of Understanding for the creation of a joint venture with Saudi Arabian Military Industries. Under the agreement, the majority of its repair and maintenance activities for the Saudi Arabian fleet will be located in Saudi Arabia.

Technology and Innovation

- ▶ Research & Development spending fell 31% to \$3.2bn (€2.8bn).



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Communication and connectivity equipment and solutions
- ▶ Mission systems (safety and survival systems, aerial refuelling systems)
- ▶ Outsourced aviation services
- ▶ Solutions for communication (land, sea, air, space)
- ▶ Robotics

GOVERNANCE

Chairman	Michael Wareing
Chief Executive Officer	David Lockwood
Chief Financial Officer	David Mellors

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	COB
Listed on	LSE
Market Cap (€m)	2 381

Major shareholders (as of 05.10.2018)

Ameriprise Financial Inc.	11,04%
Silchester International Investors	10,01%
Causeway Capital Management LLC	7,54%
BlackRock	5,00%
Massachusetts Financial Services Company	4,99%

MAIN JOINT VENTURES AND ASSOCIATES

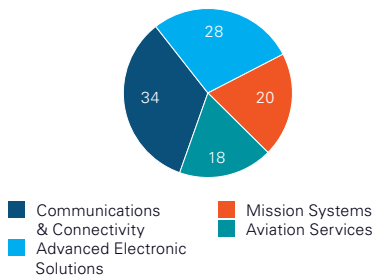
Name	%	Country
Aviation Défense Service S.A.	45%	France
Northrop Grumman Cobham Intercoms LLC	50%	United States
Philtec Co. Ltd	30%	South Korea
AirTanker Services Ltd	5%	United Kingdom
AirTanker Holdings Ltd	13,3%	United Kingdom

KEY FIGURES (Fiscal year ended: December 31st)

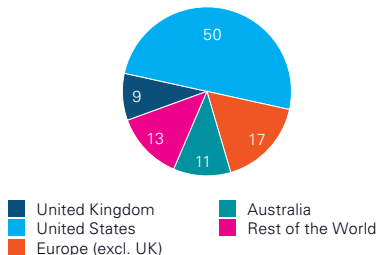
€ millions	2014	2015	2016	2017
Revenue	2 297	2 855	2 372	2 341
Δ (%) / [€]*	3,46%	11,90%	-6,18%	5,59%
Defence (%)	61%	62%	59%	60%
Export (%)	88%	89%	90%	91%
Operating profit/loss	71	17	-951	119
Operating Margin (%)	3,11%	0,58%	-40,08%	5,07%
Net profit/loss	36	-52	-970	90
Order book	3 220	3 375	3 441	3 044
Employees	12 707	11 505	10 692	10 813

* Variation based on revenue in local currency. See €/€ exchange rates p.7

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Northrop Grumman	Boeing	Lockheed Martin	Embraer	Airbus	Thales	Textron	Rockwell Collins	BAE Systems	Leonardo
Avionics equipment										
JetLAN advanced airborne computers		●	●		●					
ELT VHF/UHF antennas, navigation		●	●		●					
SATCOM terminals	●		●							
Tactical communication and surveillance systems	●					●		●		
Navigation systems										
Aircraft audio and radio management systems					●		●			●
Advanced electronic solutions										
RF and microwave modules	●	●	●		●			●	●	
Sensor solutions: RWR , antennas, radar, missile, navigation										
SPS Series Precision Positioners	●	●	●					●	●	
Transmitters and receivers for electronic warfare										
AESA antennas and radar subsystems	●	●								
Mission systems										
Aviation services (MRO, modification, flight inspection services, training)	●	●								
Refuelling systems (pods, aircrafts fuel tanks, hose and drogue systems)	●	●	●	●	●					
Explosive ordnance disposal (EOD) robot (Telemax, tEODor, OSCAR, NBCmax)										
Weapons carriage and release equipment, pylons		●	●	●	●	●		●	●	

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After a challenging 2016, Cobham's revenues grew 5.6% to £2.05bn (€2.34bn) in 2017. The performance was however mitigated as growth reached only 1% at constant scope and exchange rates, supported by the performances of the Mission Systems and Advanced Electronic Solutions divisions.
- ▶ Increased activity in turn supported operating performance, with operating margin reaching 5.1% for the year, compared to -40.1% in 2016. This was also the result of lower commercial expenses and, more significantly, a considerable reduction in operational costs, which soared during the previous year due to delays in the KC-46A tanker programme.
- ▶ Since the appointment of David Lockwood as Chief Executive Officer at the end of 2016, the group has been refocusing on its core businesses. In March 2018, it finalised the divestment of Cobham AvComm and Wireless Test & Measurement to Viavi Solutions for \$455m (approx €400m). Cobham AvComm and Wireless Test & Measurement specialises in network tests for the defence, public safety and aviation markets (e.g. TeraVM solution).
- ▶ In parallel, the group continued its internal reorganisation. Its two main divisions, Communications & Connectivity and Advanced Electronic Solutions, which together account for 62% of net sales, have been reorganised to better serve their respective target markets.

Home market

- ▶ The United Kingdom is currently the group's 3rd largest market after the U.S. and Australia. Cobham generated 9% of its sales in the UK during 2017, compared to 12% three years ago. In value terms, this represents a fall of £40m (€45m) compared to 2014 that was mainly related to budget constraints at the United Kingdom Ministry of Defence (MoD).
- ▶ Although Cobham's training contract with the UK Defence Helicopter Flying School expired in March 2018, the group remains a major partner of the MoD for the training and instruction of military personnel. Its capabilities in this area have recently been strengthened by the opening of the Cobham Helicopter Academy.
- ▶ In preparation for the MoD's upcoming ASDOT (Air Support to Defence Operational Training) tender, Cobham and Draken International teamed up with Britain's 3SDL. They will be in competition with 3 other teams. The contract, whose first phase is to begin in 2020, is estimated to be worth £1.2bn (approx. €1.35bn).

Export markets

- ▶ Cobham is heavily reliant on the American market, where it generates more than 50% of its revenues. The group provides numerous systems and components for the Lockheed Martin F-35 and Boeing KC-46 of the U.S. Air Force.
- ▶ In January 2018, NATO chose Cobham to prepare and train its aerial and naval units in electronic warfare over a period of five years. Contract details remained undisclosed.
- ▶ Cobham is retained by the Pentagon to create an autonomous life support system that will predict and respond to pilots' oxygen needs. The system, named SmartFLO, will replace VigilOX, initially developed by the group for the U.S. Air Force, from 2019.

Technology and Innovation

- ▶ Cobham's R&D spending decreased 1.6% to £122m (€130m) in 2017, representing 5.9% of group net sales.

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Executive jets
- ▶ Fighter aircraft
- ▶ Unmanned aircraft systems
- ▶ Maritime patrol aircraft
- ▶ Pyrotechnics and space activities
- ▶ Artificial intelligence (AI)

GOVERNANCE

Chairman and CEO	Éric Trappier
Chief Operating Officer	Loïc Segalen
Executive Vice President, Military and Space Programs	J-M. Gasparini

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue*	3 680	4 176	3 586	4 808
Δ (%)	-19,87%	13,46%	-14,13%	34,07%
Defence (%)	27%	40%	35%	39%
Export (%)	77%	83%	83%	89%
Operating profit/loss	353	361	218	348
Operating Margin (%)	9,59%	8,64%	6,08%	7,25%
Net profit/loss	398	482	384	489
Order book	8 217	14 175	20 323	18 818
Employees	11 745	12 177	11 942	11 398

*2014 revenue not restated

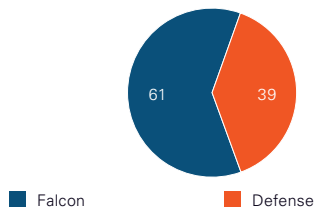
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	AM
Listed on	NYSE Euronext
Market Cap (€m)	11 404

Major shareholders (as of 30.06.2018)

GIMD	62,2%
Airbus	9,9%
Dassault Aviation	0,5%

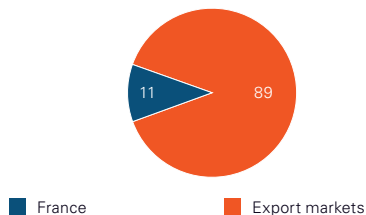
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Thales	25%	France
SECBAT	54%	France
GIE Rafale International	60%	France
Dassault Reliance Aerospace Ltd	49%	India

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Safran	HAL	Naval Group*	Saab AB	HAL	Leonardo	RUAG	Airbus	Honeywell
Fighter aircraft										
Rafale	●	●								
Mirage 2000	●	●	●							
Maritime patrol and reconnaissance aircraft										
Falcon 2000 MRA/MSA	●									
ATL2 modernisation	●			●						
Falcon 900 MPA										●
Falcon Epicure (CUGE programme)	●									
Unmanned aircraft systems										
nEUROn UCAV demonstrator				●	●	●	●	●	●	
European MALE RPAS						●		●		
NGWS programme								●		
Artificial intelligence										
Man Machine Teaming advanced study programme	●									

* formerly DCNS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Dassault Aviation's activity experienced major fluctuations in recent years. After a sharp fall in 2016, the group's net sales returned to growth in 2017, jumping 34.1% to €4.8bn. The Defense (+51.0%) and Falcon (+25.1%) divisions contributed to growth.
- ▶ Dassault's order book decreased after reaching a record in 2016, but remained at high levels (4-year backlog in 2017 worth €18.8bn, compared to €20.3bn last year). Medium-term business prospects therefore remain positive.
- ▶ As part of its "Leading our Future" transformation plan launched in 2016, the group initiated an extensive reorganisation of its factories. The move aims to increase factory specialisation. The Seclin machined metal parts factory for instance will take over a number of activities from the Argenteuil site.

Home market

- ▶ 2017 saw the delivery of one Rafale to the French Armed Forces (as opposed to 6 in 2016), bringing the total number of delivered Rafales to 149 out of a total of 180 on order. The 2019-2025 Military Planning Act projects the rapid resumption of delivery for tranche 4 of the fighter aircraft programme (28 aircraft to be delivered from 2022).
- ▶ In March 2018, the French Ministry of the Armed Forces selected Dassault Aviation to deliver the Universal Electronic Warfare Capability (CUGE) programme. The programme's new planes, Falcon Epicure (named after the electronic intelligence payload developed by Thales), are to replace the Transall Gabriel aircraft by 2025.
- ▶ The Man Machine Teaming (MMT) advanced study programme is launched at the Saint Cloud site. It will be integrated into the three-year FCAS programme and will focus on the integration of artificial intelligence into upcoming fighter aircraft.

Export markets

- ▶ The group generates almost 90% of its net revenues overseas, a 12 percentage points increase in 10 years. In the Defense division, exports are now much higher than French sales (€1,396m compared to €482m in 2017). This trend is set to continue, with the group's international stature growing since the sale of the Rafale to Egypt, India and Qatar.
- ▶ In October 2017, Dassault Aviation and Reliance laid the foundation stone for the Dassault Reliance Aerospace factory, a joint venture that will allow the French aviation company to achieve approx. 10% of the offset requirements stipulated in its Rafale agreement with India.
- ▶ Qatar exercised its option for 12 additional Rafales following its initial order of 24 in 2015. Another agreement between Dassault Aviation and Qatar is also signed for an optional order of 36 additional Rafales.
- ▶ Rafale International, a subsidiary of Dassault Aviation, signed a Memorandum of Understanding with Thales Belgium to establish a centre of excellence for cybersecurity in Belgium. The agreement is an industrial offset as part of the French Rafale bid for the F-16 replacement programme of the Belgian Air Component. However, the Rafale bid eventually lost to a rival bid from Lockheed Martin.

Technology and Innovation

- ▶ Group R&D spending grew 6.8% in 2017, reaching €313m.
- ▶ At the ILA Berlin Airshow in April 2018, Dassault Aviation, Airbus and Leonardo unveiled a life-size model of the European MALE RPAS drone. Meanwhile, Germany, France, Italy and Spain reaffirmed their commitment to jointly develop a sovereign solution for the defence and security of Europe.



DIEHL DEFENCE (FORMERLY DIEHL BGT DEFENCE)

BUSINESS AREAS

- Systems integrator/equipment supplier
 Defence division of German conglomerate Diehl
- ▶ Missile systems and air defence systems
 - ▶ Ammunition
 - ▶ Surveillance and reconnaissance systems
 - ▶ Transmission systems, support services and training

GOVERNANCE

President Corporate Division Claus Günther
 Chief Executive Officer T. Bodenmüller

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	488	405	435	456
Δ (%)	N/A	-17.01%	7.41%	4.83%
Defence (%)	100%	100%	100%	100%
Export (%)	53%	54%	31%	46%
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	2 832	2 315	2 301	2 341

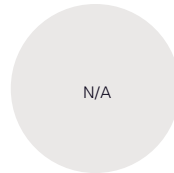
OWNERSHIP STRUCTURE

Symbol
 Listed on Unlisted division
 Market Cap

Major shareholders (as of 10.10.2018)

Groupe Diehl | 100%

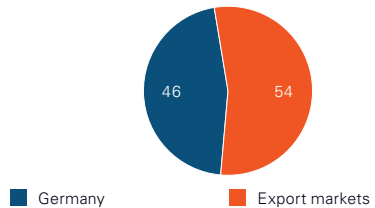
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name | % | Country

REVENUE BY REGION (%)



DIEHL DEFENCE (FORMERLY DIEHL BGT DEFENCE)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Raytheon	MBDA	Rheinmetal Defence	Schiebel	TKMS*	Leonardo	Saab AB	Rohde & Schwarz	Rafael	Elbit Systems	Kongsberg	Boeing	ESG
Missile systems and air defence systems													
Sidewinder (AIM-9) air-to-air guided missile	●												
IRIS-T missile		●											
IDAS submarine missile				●							●		
RBS15 Mk3 heavy anti-ship missile						●							
RAM Block 2 guided missile (infrared seeker)	●	●											
PARS 3 LR long-range anti-tank rocket system		●											
Spike anti-tank missile			●						●				
Ammunition													
40mm infantry ammunition													
76mm naval ammunition													
VULCANO guided ammunition family (155mm and 127mm)					●								
GBU-54 Laser JDAM weapon system												●	
Surveillance and reconnaissance													
SIMONE passive monitoring system													
Integration of the CAMCOPTER S-100 UAS (German Navy's Corvette K130, Army's command and control systems)				●									
Protection systems													
Integration of the J-MUSIC DIRCM system (Bundeswehr's military aircraft A400M)									●				
GUARDION drone defence system							●						●

* ThyssenKrupp Marine Systems, ThyssenKrupp Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Diehl Defence is the defence division of German conglomerate Diehl (€3.7bn turnover and 17,173 employees as of 2017) which operates in the fields of metallurgy (rods, tubes, profiles, synchronizer rings, precision components etc.), aviation (conception and production of full cockpit and display systems, flight control systems etc.) as well as metering devices. Diehl Defence accounts for about 12% of Diehl's total revenues and approximately 14% of its workforce.
- ▶ Net revenues of the Defence division reached €456m in 2017 (+4.8% during the year), driven by strong sales of RBS15 anti-ship missiles, RAM Block 2 guided missiles and Spike anti-tank guided missiles produced under licence for NATO.
- ▶ The group is currently restructuring its defense activities under a single holding company: Diehl Defence GmbH & Co. KG (consisting of Diehl Defence Holding GmbH and Diehl BGT Defence GmbH & Co. KG). The aim is to achieve economies of scale and to better respond to client needs.

Home market

- ▶ In 2017, Germany accounted for 54% of Diehl Defence's net revenues, compared to 69% in 2016. The group has been refocusing on more dynamic markets in the past few years.
- ▶ Diehl is a long-standing partner of the Bundeswehr. After two decades of shrinking defence budgets, Berlin announced its intention to modernise and strengthen its army, committing to raise military spending to 1.5% of GDP by 2024.
- ▶ In May 2018, Diehl Defence and Boeing Defense, Space & Security (BDS) signed a partnership agreement for the sale of the GBU-54 Laser JDAM weapon system to the Bundeswehr.
- ▶ In June 2018, the group announced the signing of a contract for the delivery of RAM Block 2 surface-to-air missiles to the German Navy. RAM-System GmbH, in which Diehl holds a 50% capital stake, will oversee the deal.

Export markets

- ▶ International markets accounted for 46% of the Defence division's net sales in 2017 (€208m), a significant increase compared to 2016 (31%).
- ▶ Saab and Diehl Defence extended their partnership following the signing of a contract between Saab and Swedish Defence Material Administration (FMV) covering the provision of next-generation RBS15 anti-ship missiles. The deal is estimated to be worth €320m.
- ▶ As a supplier of short-range missiles to the Royal Thai Air Force since 2011, Diehl Defence in June 2018 signed a new contract to provide IRIS-T air-to-air short-range missiles to the Royal Thai Air Force.

Technology and Innovation

- ▶ Since 2015, German groups Diehl Defence, ESG and Rohde & Schwarz have collaborated on the development of a joint protection system against the unauthorised use of drones. The defence system, GUARDION, was used at July 2017's G20 summit in Hamburg.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Naval shipbuilding
- ▶ Plant construction (Floating Power Plant, onshore, nuclear and petrochemical)
- ▶ Energy (wind power generation)

GOVERNANCE

Chairman and CEO
Chief Financial Officer

Sung Leep Jung
Keunmo Lee

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol KRX : 042660
Listed on Korea Stock Exchange
Market Cap (KRW m) 3 988

Major shareholders (as of 31.12.2017)

KDB Bank	56,01%
KEB Hana Bank	8,45%
National Pension Service	3,87%
Financial Services Commission	2,18%
Woori Bank	1,86%

MAIN JOINT VENTURES AND ASSOCIATES

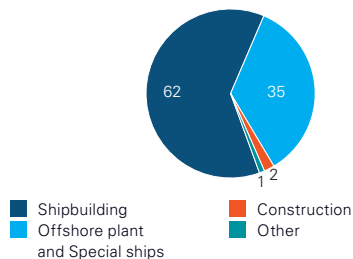
Name	%	Country
Shinhan Heavy Industry Co. Ltd	89,22%	South Korea

KEY FIGURES (Fiscal year ended: December 31st)

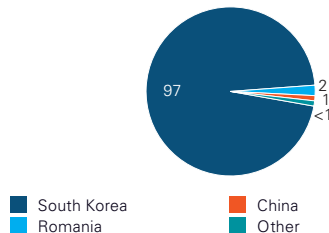
€ millions	2014	2015	2016	2017
Revenue	11 130	12 291	9 982	8 695
Δ (%) [KRW]*	6,70%	-0,76%	-16,99%	-13,40%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	-404	-1 691	-1 192	1
Operating Margin (%)	-3,63%	-13,76%	-11,94%	0,01%
Net profit/loss	-610	-1 758	-2 172	506
Order book	52 300	42 700	34 000	24 000
Employees	39 650	39 235	40 000	35 000

* Variation based on revenue in local currency.
See € / KRW exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	General Electric	Hanwha	Atlas Elektronik*	BAE Systems	TKMS**	BMT Defence Services	Rolls-Royce	LIG Nex1	Thales	Babcock	Raytheon	Saab AB	Safran
Surface ships														
Chungmugong Yi Sun-sin-class (KDX-II) destroyer	●	●		●				●	●					
Sejong the Great-class (KDX-III) destroyer	●	●					●							
Daegu-class frigate (FFX-II)							●				●			
Pohang-class corvette														
Tide-class tanker						●							●	
Multi-mission combat ship	●													
DW 3000H-class frigate									●					
Cheonghaejin-class submarine rescue ship														
ASR-II submarine rescue ship project														
Submarines														
Son Won-II-class submarine (derived from the HDW class 214)				●	●		●	●						
Chang Bogo-class submarine (derived from the HDW class 209)			●	●	●		●	●						
KSS-III (Chang Bogo III) Korean attack submarine programme		●						●		●				●

* ThyssenKrupp Group

** ThyssenKrupp Marine Systems, ThyssenKrupp Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ DSME's net revenues continued to fall (-13.4%), reaching KRW 11,102bn (€8.7bn), a level comparable to its 2010 performance. However, the group was able to raise its net profit to KRW 646bn (€506m) after several years of heavy losses.
- ▶ Faced with a crisis in the freighter construction market, the group has turned to liquefied natural gas (LNG) carriers, which currently account for 41% of its revenues. Its defence activities are focused on the construction of submarines and surface combatants, particularly for the South Korean Navy.
- ▶ Following an initial rescue package in 2015 (KRW 4,200bn, or €3.3bn), a second package is currently under negotiation (KRW 6,700bn, or €5.2bn). The bailout is contingent on an extensive restructuring of the group that will entail 2,000 job cuts.
- ▶ In 2017, DSME divested several subsidiaries, including Daewoo Shipbuilding and Engineering Co Ltd (DSEC), its ship design unit, in order to improve cash flows. In July 2018, the group sold its 51% stake in the Mangalia shipyard to Dutch Damen Shipyards Group for KRW 23.9bn (€18.2m). DSME also intends to offload Samwoo Heavy Industry and Shinhan Heavy Industries.

Home market

- ▶ DSME is a key contractor of the South Korean Navy, along with Hyundai Heavy Industries and Hanjin Heavy Industries, particularly for its role in the modernisation of the South Korean fleet.
- ▶ In 2017, the group delivered the first Daegu-class frigate of the FFX II programme (of the 7 remaining ships, one will be constructed by DSME) as well as the sixth Son Won-II submarine of the KSS II programme, a local version of the Type 214 submarine of Germany's TKMS.
- ▶ Meanwhile, the programme for three Chang Bogo III attack submarines continued to make progress, with two units under construction at the group's shipyards. DSME partners with Babcock for this programme.
- ▶ New orders for FFX II Daegu-class frigates and KSS II and KSS III submarines (which will complete the modernisation of the ROKN) are expected.

Export markets

- ▶ The strategy to increase exports is progressing steadily thanks to the know-how acquired through technology transfers, which have been negotiated as part of contracts in various national markets (particularly with Germany's TKMS in the submarine segment), as well as achievements at the national level.
- ▶ In 2017, DSME delivered the first two Tide-class tankers of the four ordered by the Royal Navy in 2012 (MARS programme).
- ▶ The year also saw the launch of the first DW 3000H-class frigate for the Royal Thai Navy (contract won in August 2013). The frigate was conceived and constructed by DSME. Negotiations with the Thai government for a second frigate are underway.
- ▶ In August 2017, DSME delivered the first South Korean submarine for export, a Chang Bogo attack submarine (derived from TKMS' HDW class 209). The unit is the first of three ordered by Indonesia in December 2011.

Technology and Innovation

- ▶ R&D spending made up less than 0.4% of net revenues in 2017, standing at KRW 41bn (€32m).



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Military aircraft and helicopter systems
- ▶ Unmanned aircraft systems
- ▶ C4ISR systems
- ▶ ISR & Electro-optic systems, EW and SIGINT
- ▶ Land systems and artillery systems
- ▶ Cybersecurity
- ▶ Simulation and training

GOVERNANCE

Chairman	M. Federmann
Chief Executive Officer	B. Machlis
Chief Financial Officer	J. Gaspar

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	2 226	2 800	2 945	2 989
Δ (%) / (\$) *	1,13%	5,05%	4,91%	3,61%
Defence (%)	97%	97%	97%	97%
Export (%)	78%	83%	81%	78%
Operating profit/loss	621	808	867	883
Operating Margin (%)	27,89%	28,87%	29,43%	29,54%
Net profit/loss	135	186	216	213
Order book	5 160	6 029	6 555	6 378
Employees	11 851	12 134	12 470	12 781

* Variation based on revenue in local currency. See €/\$/ exchange rates p.7.

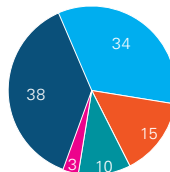
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	ESLT
Listed on	NASDAQ et TASE
Market Cap (\$m)	5 057

Major shareholders (as of 31.07.2018)

Michael Federmann	45,82%
Fidelity Management & Research Co.	1,52%
Fidelity Select Defense & Aerospace Portfolio	1,36%
The Vanguard Group, Inc.	1,31%

REVENUE BY BUSINESS LINE (%)

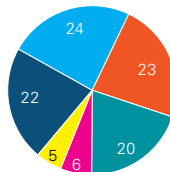


■ Airborne Systems
 ■ C4ISR Systems
 ■ Land Systems
 ■ Electro-optic Systems
 ■ Other (civil engineering mainly)

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
UAV Tactical Systems Ltd	51%	United Kingdom
AEL Sistemas S.A.	75%	Brazil
HALBIT Avionics Pvt Ltd	26%	India
Opgal-Optronik Industries Ltd	50%	Israel
Vision Systems International, LLC	50%	United States

REVENUE BY REGION (%)



■ Israel
 ■ North America
 ■ Europe
 ■ Asia / Pacific
 ■ Latin America
 ■ Other

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	Embraer	Thales	Diehl Defence	Boeing	Rockwell Collins	Electronica	Kraken Robotics	HAL
Military aircraft systems									
Avionic systems (F-16I, MiG-21, Jaguar)	●			●				●	
Modernisation projects (C-130, Mi-17, F-5, F-35)	●	●							
Joint Helmet Mounted Cueing System (F-16, F/A-18, F-15)					●				
Helmet Display and Tracking System (ANVIS/HUD)									
F-35 Helmet Mounted Display System (HMDS)				●					
Unmanned aircraft systems									
Hermes (900 StarLiner, 450, 900, 900F) UAS		●	●						
Skylark (I, I LEX, II, III) UAS								●	
Seagull USV							●		
C4ISR									
WIN battle management system									
TADIRAN tactical radio and communication systems									
CoMPASS and SPECTRO XR electro-optic payloads									
SkEye Wide Area Persistent Surveillance (WAPS)									
Electronic warfare									
J-MUSIC DIRCM system		●		●		●			
Land systems and artillery systems									
Remote Controlled Weapon Station (RCWS)									
XACTnv, XACTth, MINI N/SEAS weapon sights									

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Elbit Systems net revenues increased 3.6% to \$3.4bn (€3.0bn) in 2017. The Airborne Systems, Land Systems and Electro-optic Systems divisions contributed to growth (+2.4%, +23.5 % and +23.6%, respectively), while C4ISR Systems division revenues fell 6.2%.
- ▶ With 97% of its 2017 net sales coming from defence activities, Elbit Systems remains one of the foremost Israeli defence companies.
- ▶ Defence and security activities of its CYBERBIT subsidiary have been integrated into the Land Systems and C4ISR Systems divisions since January 1st, 2018.
- ▶ In 2018, the group moved forward with its external growth strategy. It completed the acquisition of Universal Avionics Systems Corp. for \$120m (€101m) and agreed to buy Israel's IML Systems Ltd for \$523m (€438m).

Home market

- ▶ The Israeli market accounted for 22% of Elbit Systems' revenues in 2017.
- ▶ In 2017, Elbit Systems won a contract worth approx. \$100m (€88.5m) to provide and maintain the Israel Defense Forces' radio communication systems over a period of 15 years. The group was also retained to provide and operate C-130H and C-130J flight simulators (a contract worth \$74m or €65m over a period of 13 years).
- ▶ In August 2018, a \$85m (€71m) contract was signed with the Israeli Navy for the provision of electronic warfare systems. The deal covers a period of 10 years.

Export markets

- ▶ 78% of the group's revenues were generated in the export markets in 2017. Sales were concentrated in North America (24%), Europe (23%) and Asia/Pacific (20%).
- ▶ A new law was introduced by Israeli authorities in June 2017 allowing Israeli groups to establish partnerships in certain export markets (UAS in particular) instead of competing against each other.
- ▶ Elbit Systems remains one of the U.S. Army's preferred contractors. Through the group's American subsidiary, numerous contracts were signed between 2017 and early 2018 (operator interface and integrated data processing capabilities, C-26 and UC-35 fleet maintenance, etc.), representing a total value of more than \$300m (€265m).
- ▶ The group strengthened its position in Europe, where it signed several contracts worth more than \$400m (€350m) in total. It also opened offices in Germany (particularly to facilitate the deployment of the DIRCM system in partnership with Diehl Defence), and signed a strategic partnership agreement with Lockheed Martin through its British subsidiary as part of the Royal Navy's Maritime Electronic Warfare Programme (MEWP).
- ▶ Numerous contracts were also signed in Asia/Pacific (\$110m, or €97m, for the modernisation of Mi-17 helicopters; \$300m, or €265m, to provide command and control systems, etc.); in Australia, with a \$150m (€126m) maintenance contract for the Australian Defence Force's BMS C2 battle management system; as well as in Brazil.

Technology and Innovation

- ▶ R&D spending increased 3.3% to \$301.4m (€266.7m), representing 8.9% of group revenues.



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Electronic attack & Self protection
- ▶ Electro optical infra red
- ▶ ISR
- ▶ Cyber EW & Intelligence
- ▶ Cybersecurity
- ▶ UAS and counter-UAV systems
- ▶ Support services and maintenance

GOVERNANCE

Chairman and CEO
Chief Financial Officer

Enzo Benigni
Roberto Turco

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	221	231	219	222
Δ (%)	9,41%	4,52%	-5,19%	1,37%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	34	34	N/A	N/A
Operating Margin (%)	15,38%	14,72%	N/A	N/A
Net profit/loss	19	23	18	17
Order book	N/A	842	N/A	N/A
Employees	708	790	N/A	800

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group

Market Cap

Major shareholders (as of 31.12.2017)

Benigni Family	35,34%
Thales	33,33%
Leonardo	31,33%

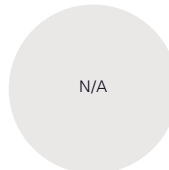
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
CY4GATE Srl	75,5%	Italy
Consortium SIGEN	50%	Italy
SOLYNX	24,11%	Italy
Consorzio Cals Italia	7,14%	Italy
Consorzio per la Ricerca sui Semiconduttori Composti	4,14%	Italy

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Elbit Systems	Thales	Airbus	EuroDASS	Expert System	Lockheed Martin	Indra	Hensoldt
Military aircraft and helicopter systems								
ESM ALR/733 system (NH90, EMB-145)								
ELT/572 DIRCM (C-130J, AW101)	●				●			
ELT/160 radar warning receivers (NH90)								
ESM et ELINT ELT/800 systems (C-27J)								
Praetorian DASS (Eurofighter)			●	●				
EDGE escort jamming pod (Eurofighter, Tornado)								
ESM ELT/741 system (C-27J, NH90)								
Naval systems								
Seal ESM system (Baynunuh-class corvettes)								
Nettuno 4100 ECM system (Horizon-class frigates, Cavour aircraft carrier)								
Multiplatform systems								
EuroDIRQM IR counter measure system							●	
Electronic warfare suite								
Virgilius (A129, Baynunuh corvettes, LHD, PPA)								
Loki ELT/950								
Cybersecurity								
CY4Gate Digital & Spectrum Intelligence Integrated Suite (D-SINT)					●			
Counter-UAV system								
Antin-Drone Interception Acquisition Neutralization (ADRIAN)								
UAS systems								
European MALE RPAS subsystem	●					●	●	

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After a significant decline in 2016, Elettronica net revenues recovered by 1.4% to €222m in 2017. However, net profit fell sharply (-6.1% to €16.9m) during the year.
- ▶ Elettronica is an electronics specialist and partner of the principle Italian platform manufacturers and systems integrators, particularly Leonardo and Fincantieri.
- ▶ In June 2018, Elettronica and Spain's Indra Sistemas announced a partnership for the development of a next-generation IR counter measure system, EuroDIRQM, which uses the new Quantum Cascade Laser (QCL) technology. A prototype has already been tested by the Italian Air Force.
- ▶ The group moved forward with its strategy to extend its offering in electronic warfare solutions. It launched a land-based version of its LOKI ELT/950 EW system (which is based on the Virgilius electronic warfare suite) and in late 2016 unveiled the ADRIAN counter-UAV system.

Home market

- ▶ In its domestic market, Elettronica, together with Leonardo and Fincantieri, is a contractor for the modernisation programme of the Italian Navy's fleet. The overall programme includes the FREMM multipurpose frigates programme (10 units on order), the PPA (Pattugliatore Polivalente d'Alta) class frigates programme (7 units on order), the LSS logistic support ship and the new LHD helicopter assault vessel (delivery scheduled for 2022).
- ▶ The group is also involved as partner in primary national aeronautical defence programmes (Eurofighter aircraft, AW-101 medium-lift helicopter, C-27J military transport aircraft, NH90 twin-engine multi-role helicopter).

Export markets

- ▶ The group is working with armed forces across 28 countries. As of 2017, 20% of its order book was destined for the European market and 37% for major export markets.
- ▶ The electronics specialist is strengthening its presence in the Middle East, particularly in the UAE (maintenance and mobile electronic solutions) and, more recently, Kuwait (in connection with the Eurofighter Typhoon contract).
- ▶ Elettronica has been selected to provide key defence systems to the Qatar Armed Forces, including protection technologies for 7 corvettes (Virgilius electronic warfare suite) as well as the Praetorian DASS self-protection system for the Eurofighter Typhoon fleet.

Technology and Innovation

- ▶ R&D spending fell 4% to €9.9m in 2017, representing 4.5% of net revenues.
- ▶ The group unveiled new products such as the EDGE escort jamming pod as well as the EuroDIRQM IR counter measure system developed in partnership with Indra.
- ▶ In April 2018, the group announced the signing of a framework agreement with Hensoldt, Indra and Thales to jointly develop a suite of technology solutions for the European MALE RPAS (Remotely Piloted Aircraft System) project, which is led by a consortium made up of Airbus Defence and Space, Dassault and Leonardo.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial and military aircraft (light, transport and surveillance)
- ▶ Radar systems
- ▶ C4ISR systems
- ▶ Space systems

GOVERNANCE

Chairman	A. Gonçalves Silva
President and CEO	P. C. de Souza e Silva
Chief Financial Officer	J-A. de A. Filippo
CEO Defence & Security	J. M. de F. Schneider

KEY FIGURES* (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	4 732	5 341	5 617	5 168
Δ (%)/\$)**	0,86%	-5,74%	4,88%	-6,08%
Defence (%)	23%	14%	15%	16%
Export (%)	79%	89%	89%	87%
Operating profit/loss	941	1 001	1 117	943
Operating Margin (%)	19,88%	18,75%	19,89%	18,25%
Net profit/loss	262	73	152	233
Order book	17 231	20 508	18 616	15 199
Employees	19 167	19 373	18 506	18 433

* Group results in USD.

** Variation based on revenue in local currency. See €/\$/ exchange rates p.7.

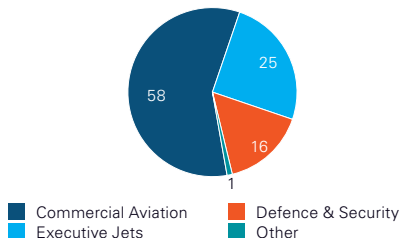
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	ERJ, EMBR3
Listed on	NYSE et B3SA3
Market Cap (\$m)	4 030

Major shareholders (as of 01.06.2018)

Mondrian Investment Partners Ltd.	9,94%
Caixa de Previdência dos Funcionários do Banco do Brasil	4,80%
Brandes Investment Partners LP	4,15%
BlackRock Fund Advisors	3,52%
The Vanguard Group, Inc.	2,34%

REVENUE BY BUSINESS LINE (%)*

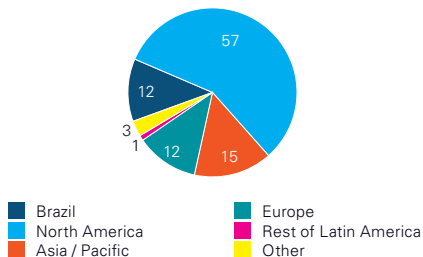


* Commercial aviation activity taken over by Boeing in July 2018.

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
OGMA-Indústria Aeronáutica de Portugal	65%	Portugal
Visiona Tecnologia Espacial	51%	Brazil
Bradar Aerolevantamento	25%	Brazil

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	Elbit Systems	Sierra Nevada Corp.	DRDO*	Telebras	Saab AB	BAE Systems	CTEX**	Thales Alenia Space	Aero Vodochody	Rockwell Collins	FAdeA
Light attack and trainer aircraft												
EMB-314 Super Tucano (A-29)	●	●	●									
A-4 Skyhawk modernisation programme												
A-1M (AMX) modernisation programme												
Fighter aircraft												
FX-2 Programme (Gripen NG)					●							
Airborne early warning and control aircraft												
EMB-145 AEW&C				●								
EMB-145 Multi INTEL												
Military transport aircraft												
KC-390	●	●				●			●	●	●	
Radar and C4ISR systems												
SABER-M60 surveillance radar							●					
SABER-M200 surveillance radar							●					
SENTIR-M20 portable ground radar							●					
SABER-S200R secondary radar (IFF)												
SISFRON integrated border monitoring system programme		●										
Satellites												
SGDC-1 Geostationary Satellite for Communications and Defense				●			●					

* Defence Research and Development Organization
 ** Centro Tecnológico do Exército

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Embraer net revenues declined 6.1% to \$5.8bn (€5.2bn) in 2017, impacted by weaker results in its two main divisions, Commercial Aviation (-4.4%) and Executive Jets (-14.2%). Defence & Security accounted for 16% of net sales in 2017.
- ▶ The Defence & Security division continued to grow, generating \$950.7m (€841.6m) in sales in 2017. However, the performance remained far below sales levels reached prior to the slowdown of 2015, which was caused by military budget cuts in Brazil and a general economic crisis affecting the country.
- ▶ In 2017, 40% of Defence & Security net sales were generated by non-aviation programmes, particularly C4I, satellites and land-based systems.
- ▶ In July 2018, Boeing and Embraer announced the creation of a joint venture, 80% owned by the U.S. aircraft manufacturer, which will give Boeing control of Embraer's Commercial Aviation division. The deal is expected to close by end-2019. The two aircraft manufacturers are already partners for the KC-390 programme and are considering the creation of a second joint venture in the defence area.

Home market

- ▶ The Defence & Security division is heavily dependent on the Brazilian defence budget, with 66.3% of its 2017 net revenues generated in Brazil, up from 58.3% during the previous year. The group is the main beneficiary of large-scale defence programmes that have been launched in the country over the last decade (Super Tucano, KC-390, F-X2 Gripen, SISFRON and SGDC, in particular).
- ▶ As part of the FX-2 fighter aircraft programme (36 Gripen NG aircraft to be delivered between 2019 and 2034), more than 350 Brazilian personnel are to be trained at Saab factories in Sweden by 2024. As of mid-2017, 30 have returned to work in Brazil, with a number of them employed at GDDN (Gripen Design and Development Center inaugurated in 2016 in São Paulo).
- ▶ At the end of 2017, Embraer's KC-390 achieved Initial Operational Capability (IOC), a key milestone before its official launch. However, following a number of incidents occurring in 2018, delivery of the first of 28 KC-390s ordered by the Brazilian Air Forces was postponed to the first half of 2019.

Export markets

- ▶ Export sales are driven by the Super Tucano, the EMB-145 AEW&C and now also the KC-390, whose international marketing is partly overseen by Boeing.
- ▶ At the end of 2017, Embraer and its partner, Sierra Nevada Corporation, received an order for 6 A-29 Super Tucano aircraft from the U.S. Air Force. These 6 fighter aircraft come in addition to the 20 already ordered by the U.S. Army for the Afghan Air Force, whose delivery is scheduled to be completed by end-2018. 6 A-29 Super Tucano were also ordered by the Philippines in 2017 and 12 by Nigeria in 2018.
- ▶ In February 2018, Embraer signed a letter of intent with aviation services company SkyTech (a joint venture between Portugal's HiFly and Australia's Adagold Aviation), which could acquire up to 6 KC-390. Negotiations with Portugal for the acquisition of 5 KC-390 are ongoing.

Technology and Innovation

- ▶ R&D expenditure increased 3.4% in 2017, reaching \$49.2m (€43.6m).



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Naval shipbuilding (commercial and military)
- ▶ Offshore
- ▶ Naval equipment and systems (propulsion systems, guidance systems)
- ▶ Maintenance and services

GOVERNANCE

Chairman	Giampiero Massolo
Chief Executive Officer	Giuseppe Bono
Executive Vice President Naval Vessels	Angelo Fusco

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	4 399	4 183	4 429	5 020
Δ (%)	15,43%	-4,91%	5,88%	13,34%
Defence (%)	24%	25%	26%	24%
Export (%)	82%	85%	84%	85%
Operating profit/loss	198	-137	157	221
Operating Margin (%)	4,50%	-3,28%	3,54%	4,40%
Net profit/loss	55	-289	14	53
Order book	9 814	15 721	18 231	22 053
Employees	21 689	20 019	19 181	19 545

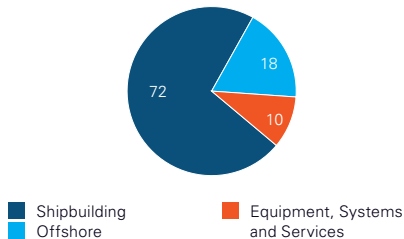
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	FCT
Listed on	Borsa Italiana
Market Cap (€m)	1 839

Major shareholders (as of 06.08.2018)

Fintecna S.p.A. (state-owned)	71,60%
Norges Bank Investment Management	1,73%
Deutsche Asset & Wealth Management Investment GmbH	1,08%
Dimensional Fund Advisors LP	0,77%

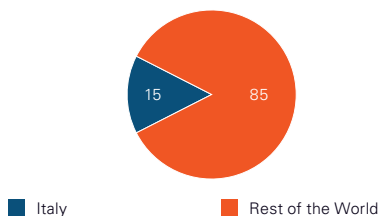
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Orizzonte Sistemi Navali	51%	Italy
Etiihad Ship Building LLC	35%	United Arab Emirates
Marinette Marine Corp.	87,44%	United States
Centro Per Gli Studi Di Tecnica Navale Cetena S.p.A.	86,10%	Italy
Vard Holdings Ltd	85,51%	Singapore

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Gibbs & Cox	Lockheed Martin	Naval Group*	Thales	Leonardo	Electronica	Renk	General Electric	TKMS**
Surface ships									
PPA multipurpose offshore patrol vessel				●					
Multi-role corvette (export market)				●					
Horizon-class frigate		●	●	●			●		
FREMM-class air-defence frigate		●	●	●		●	●		
Freedom-class LCS frigate	●	●							
Cavour aircraft carrier				●					
San Giusto-class amphibious transport dock				●					
Multi-role Landing Helicopter Dock (LHD)				●	●				
Vulcano-class LSS				●					
Submarines									
U212A Todaro-class submarines (under TKMS licence)									●
Propulsion systems and guidance systems									
Propeller propulsion system and shaft lines									
Propulsion systems									
Rudder roll governance and stabilization system									
Turbines									
Positioning system				●					

* formerly DCNS

** ThyssenKrupp Marine Systems, ThyssenKrupp Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Fincantieri net revenues grew for a third consecutive year in 2017 (+13.3%), exceeding the €5bn mark for the first time.
- ▶ Performance was underpinned by the group's external growth strategy (increased capital stake in Vard in 2017, after having gained majority control in 2013) as well as the performance of the Shipbuilding division (both civil and military), which grew almost 20% prior to intra-group eliminations.
- ▶ At Euronaval 2018, Naval Group and Fincantieri announced their intention to create a joint venture starting from 2019. The entity should enable them to undertake joint R&D programmes and make joint bids for binational programmes and foreign tenders.
- ▶ Fincantieri announced key targets of its 2018-2022 Business Plan. It aims to grow revenues by at least €2bn in 5 years and to reach an EBITDA of 8-9% by 2022, compared to 6.8% in 2017.

Home market

- ▶ While the company enjoys a monopoly position, it generates only 15% of its net revenues in the Italian market. This share has fallen by more than 9 percentage points since 2013 due to cuts in the Italian defence budget as well as an increased focus on international growth opportunities.
- ▶ Construction of the first PPA (Pattugliatore Polivalente d'Altura) multipurpose offshore patrol vessel at the Muggiano naval shipyard began in early 2017. The unit will be delivered in 2021, followed by a second in 2022. Both frigates are part of a batch of 7 vessels ordered in May 2015 by the Italian Navy as part of its renewal programme. The five remaining ships will be delivered by 2026.
- ▶ In April 2018, Fincantieri launches its first Vulcano LSS, built for the Italian Navy. The design of the 193m LSS (Logistic Support Ship) will serve as the basis for the new ships commissioned by the French Navy for its Flotlog programme.
- ▶ The group delivers the 7th of 10 FREMM frigates ordered by the Italian Navy. Named Federico Martinengo, it has been built at the Muggiano naval shipyard.

Export markets

- ▶ Export revenues account for 85% of the group's net revenues. The acquisition of offshore specialist STX OSV (renamed Vard) in 2013 was a key step in Fincantieri's internationalisation strategy.
- ▶ The U.S. Navy placed a new order with Marinette Marine, Fincantieri's U.S. subsidiary, for one Freedom-class LCS frigate. It is the U.S. Navy's 14th order for that type of vessel. The contract, worth \$584m (approx. €500m), also involves Lockheed Martin.
- ▶ In July 2018, Fincantieri began construction work on the first of 4 multi-role corvettes ordered by the Qatar Ministry of State for Defence Affairs. These 107m long and 15m wide Doha-class corvettes, a larger version of the Falaj 2 patrol ships, will be equipped with a helicopter deck and the MBDA missile system. Delivery dates were not announced.
- ▶ In October 2018, Leonardo and Fincantieri strengthened their cooperation by making their joint subsidiary, Orizzonte Sistemi Navali, the exclusive provider of combat systems for Fincantieri's export naval ships.

Technology and Innovation

- ▶ R&D expenditure reached €113m in 2017, up more than 17% year-on-year.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Sensors, radar systems, directed energy weapons
- ▶ Unmanned aircraft systems
- ▶ Electromagnetic systems, advanced arresting gear
- ▶ Energy solutions (nuclear, renewable)
- ▶ R&T project (nuclear fusion)

GOVERNANCE

Chairman and CEO
Chief Financial Officer
CEO GA-ASI

James N. Blue
Liam Kelly
Linden P. Blue

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	N/A	~2 704	~2 710	~2 570
Δ (%)	N/A	N/A	N/A	N/A
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	N/A	7 500	7 500	7 000

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 30.06.2017)

Blue Family	100%
-------------	------

REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ConverDyn	50%	United States
TRIGA International	N/A	United States

REVENUE BY REGION (%)



GENERAL ATOMICS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	Boeing	Leonardo	Huntington Ingalls	Harris Corp.	GKN	Sener	QinetiQ	CAE	Raytheon	Honeywell
Unmanned aircraft systems and ISR											
Predator B/ Reaper MQ-9				●	●	●		●			
MQ-9B (Skyguardian and Seaguardian)		●			●				●	●	
Gray Eagle MQ-1C and Gray Eagle Extended Range (GE-ER)											
Predator XP											
Avenger (Predator C) UCAS											
EMALS, advanced arresting gear											
EMALS		●		●							
Advanced Arresting Gear (AAG)								●			
Blitzer electromagnetic railgun											
Laser system											
High Energy Liquid Laser Area Defense System (HELLADS)	●										
Sensors											
Lynx radar											
Highlighter I and II airborne electro-optical sensors (in development)											
Claw 3 integrated sensor payload control and analysis software											
Ground control stations											
Legacy GCS, STORM GCS and Advanced Cockpit GCS											

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues remained stable at an estimated \$2.9bn (approx. €2.6bn) in 2017, underpinned by sound performances in UAS and electromagnetic defence systems.
- ▶ General Atomics' performance was supported by UAS orders from the U.S. Air Force (USAF), which plans to double the number of UAS patrols by 2019.
- ▶ A new variant of Predator B, SkyGuardian, was launched in January 2017 together with a maritime surveillance version, SeaGuardian. The UAS received STANAG 4671 (NATO) and DEFSTAN 00-970 (UK) certification. A review by the LufABw (Bundeswehr military airworthiness authority) is ongoing.
- ▶ The group increased its capabilities through external growth. It acquired Surrey Satellite Technology (microsatellite technology) in 2017 and Syntronics (custom electro-mechanical technologies including projectile and missile guidance systems) in early 2018.

Home market

- ▶ Thanks to its Predator and Reaper systems, General Atomics is market leader in the MALE UAS segment in the U.S.
- ▶ In June 2017, the company became the exclusive provider of the EMALS system (a 10-year, \$533m (€472m) contract) and the Advanced Arresting Gear (AAG) system (\$195m, or €173m) for the three upcoming Ford-class aircraft carriers.
- ▶ In May 2017, the USAF ordered 36 new MQ-9 Reapers for \$400m (€354m). General Atomics was selected to provide 20 Gray Eagles (contract value \$222m, or €196m) and to modernise 122 MQ-9 Block 5 over 6 years (contract value \$206m, or €182m). A \$328m (€290m) contract for MRO services for the MQ-9 Reaper fleet was also won at the end of the year.
- ▶ General Atomics lost a U.S. Navy tender to develop the MQ-25 Stingray refueling aerial drone, which was awarded to its rival Boeing.

Export markets

- ▶ The group's export strategy is limited by the International Traffic in Arms Regulations (ITAR) and the Missile Technology Control Regime (MTCR) of the American administration. The majority of its sales are conducted through Foreign Military Sales (FMS) procedures and primarily involve bids that do not directly come from armed forces.
- ▶ General Atomics, whose MQ-9 Reaper is already operated by the French, British and Italian Air Forces, strengthened its position in Europe. As part of the British MQ-9B Protector programme, and via FMS procedures, the group secured a \$81m (€68m) contract for integration and component level testing for the UK-specific MQ-9B SkyGuardian. The Netherlands also selected the MQ-9 Reaper for Dutch military use. An order from the Spanish Air Force is expected in 2019.
- ▶ The group is continuing discussions for the sale of 22 MQ-9B SeaGuardian UAVs to India, a contract estimated at \$2bn, or approx. €1.7bn.

Technology and Innovation

- ▶ The group is engaged in several R&D programmes: modernisation of Predator UAV, propulsion systems for unmanned underwater vehicles, lithium-ion batteries, high energy density capacitors, etc.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial aircraft (Gulfstream, Jet Aviation)
- ▶ Armoured vehicles
- ▶ Weapon systems, artillery systems, ammunition
- ▶ Naval (surface ships and submarines)
- ▶ C4ISR
- ▶ IT solutions and cybersecurity

GOVERNANCE

Chairman and CEO Phebe N. Novakovic
 Chief Financial Officer Jason W. Aiken

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	GD
Listed on	NYSE
Market Cap (\$m)	54 213

Major shareholders (as of 30.06.2018)

Longview Asset Management LLC	11,03%
Capital Research & Management Co. (Global Investors)	7,97%
Newport Trust Co.	7,11%
The Vanguard Group, Inc.	6,80%
BlackRock Fund Advisors	4,44%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
GR Dynamics LLC	50%	United States
Defense Munitions International LLC	50%	United States
American Powder Company	50%	United States
GD Mission Systems International Middle East	N/A	United Arab Emirates
RGNnext	50%	United States

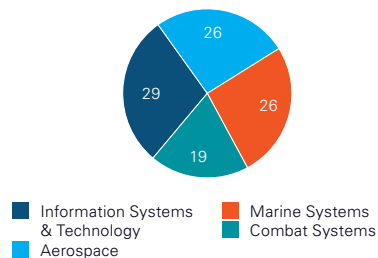
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015*	2016*	2017
Revenue	23 214	28 632	27 607	27 410
Δ (%) / \$]**	-0,25%	3,01%	-3,84%	1,35%
Defence (%)	60%	60%	64%	63%
Export (%)	25%	26%	24%	24%
Operating profit/loss	2 926	3 869	3 373	3 696
Operating Margin (%)	12,61%	13,51%	12,22%	13,49%
Net profit/loss	1 906	2 735	2 323	2 577
Order book	59 646	61 905	59 019	52 341
Employees	99 500	99 900	98 800	98 600

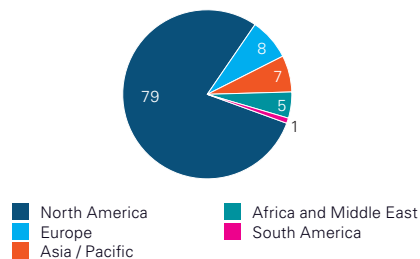
* 2015 and 2016 figures restated

** Variation based on revenue in local currency. See €/\$ exchange rates p. 7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



GENERAL DYNAMICS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	BAE Systems	Rafael	Thales	Northrop Grumman	Huntington Ingalls	Raytheon	Rockwell Collins	Lockheed Martin	Harris Corp.	Austal	Honeywell	IAI
Aircraft												
Gulfstream special mission aircraft												●
Submarines												
Virginia-class nuclear-powered attack submarines			●	●								
Ohio-class ballistic missile submarines (to be replaced by Columbia-class from 2021)			●	●								
Surface ships												
Zumwalt-class destroyers (DDG-1000)	●		●	●	●							
Arleigh Burke-class destroyers (DDG-51)			●	●	●							
Military vehicles												
Abrams M1A1, M1A2 and M1A2 SEPv3 main battle tanks												●
MOWAG Piranha												
AJAX (Scout SV) UK programme			●		●		●					
Weapons, artillery systems, ammunition												
Samson remote controlled weapon station		●										
Guns/cannons for fighter aircraft (20mm, 25mm et 30mm)												
Hydra-70 family of rockets (70mm)												
Mission systems and C4ISR												
Bowman and Morpheus (in development) C4I systems	●					●		●				
Warfighter Information Network-Tactical (WIN-T)	●					●	●	●				
Open architecture computing infrastructure OPEN CI (LCS frigates)									●			

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After falling in 2016, net revenues returned to growth (+1.4%), reaching \$31bn (€27.4bn) in 2017. Growth was underpinned by higher sales at the Aerospace and Combat Systems divisions (+4% and +7.6% respectively). Defence activities represented 63% of net revenues, maintaining a stable share on average in recent years.
- ▶ General Dynamics strengthened its Information Systems & Technology division with the purchase of IT services competitor CSRA for approx. \$9.7bn (€8bn) in February 2018. CSRA generates almost all of its revenues via contracts from the American government.
- ▶ The group operates in the civil aviation market through its Gulfstream subsidiary, thereby reducing its reliance on military contracts.

Home market

- ▶ The group remains heavily dependent on its domestic market (76% of sales in 2017), particularly on orders from the U.S. government, with the U.S. Department of Defense one of its main clients.
- ▶ In the surface ship segment, the U.S. Navy awarded General Dynamics three contracts: one in early 2018 to design the next-generation FFG(X) frigate (worth \$14.9m, or €12.5m); another in mid-2018 to provide services related to the Arleigh Burke-class DDG 51 programme (worth \$49.8m, or €41.7m); and a third in September 2018 to build 4 Arleigh Burke-class destroyers (worth \$3.9bn, or €3.3bn).
- ▶ General Dynamic's Land Systems division currently oversees the modernisation of 435 M1A1 Abrams tanks (M1A2 SEPv3 configuration) for the U.S. Army. 7 M1A2 SEPv4 prototypes are also to be delivered to the U.S. Army.
- ▶ In August 2018, as part of the CHS-5 (Common Hardware Systems-5) programme, the Information Systems & Technology division won a \$3.9bn (€3.3bn) equipment contract from the U.S. Army.

Export markets

- ▶ Almost 25% of net sales are generated in the export markets, a share that has remained stable on average in recent years.
- ▶ The group has a strong presence in Europe thanks to General Dynamics European Land Systems and its British subsidiary, GD UK. In the United Kingdom, General Dynamics oversees the development of a tactical communications system (MORPHEUS programme). Several contracts were won over the 2017-early 2018 period, in Romania (contract value \$1bn, or €0.8bn to provide 227 Piranha-class vehicles), Sweden and Denmark. Promising developments are also underway in Spain and the Czech Republic.
- ▶ In February 2017, General Dynamics won a CAD \$404m (€280m) tender to modernise 141 Canadian LAV III light armoured vehicles.

Technology and Innovation

- ▶ R&D spending stood at \$521m in 2017 (compared to \$418m, or €378m, in 2016). This considerable increase was partly driven by the development of G500 and G600 commercial jets. Defence R&D costs are largely funded by government contracts.
- ▶ In submarines, General Dynamics continues its R&D activities for the Virginia-class nuclear-powered attack submarine. It is also exploring new technologies that can be integrated into the vessel, including the Virginia Payload Module. The development of Columbia-class ballistic missile submarines, which are to enter production in 2021 and replace the Ohio-class fleet, is ongoing.



GENERAL ELECTRIC AVIATION (GE AVIATION)

BUSINESS AREAS

Engine manufacturer, systems integrator/equipment supplier
 Subsidiary of General Electric (GE) conglomerate

- ▶ Aircraft engines (combat aircraft, transport, aircraft, helicopters), gas turbines, propulsion systems
- ▶ Digital systems (avionics, electrical power, structures, dowty propellers)
- ▶ Support services and maintenance solutions

GOVERNANCE

Chairman and CEO
 Chief Financial Officer
 CEO Military Systems

David L. Joyce
 Shane Wright
 Tony Mathis

OWNERSHIP STRUCTURE

Symbol
 Listed on
 Market Cap

Unlisted subsidiary

Major shareholders (as of 10.10.2018)

General Electric | 100%

MAIN JOINT VENTURES AND ASSOCIATES

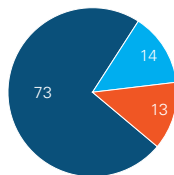
Name	%	Country
CFM International	50%	United States
NGS Advanced Fibers	25%	Japan
TUSAS Engine Industries	46%	Turkey
Advanced Ceramic Coatings	50%	United States
GE Aviation / Woodward	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	18 058	22 216	23 723	24 226
Δ (%) / (\$)*	9,58%	2,75%	6,49%	4,24%
Defence (%)	17%	15%	13%	14%
Export (%)	59%	61%	60%	61%
Operating profit/loss	3 743	4 961	5 524	5 878
Operating Margin (%)	20,73%	22,33%	23,29%	24,26%
Net profit/loss	N/A	N/A	N/A	N/A
Order book	110 535	138 057	146 571	142 083
Employees	44 000	45 000	45 000	44 500

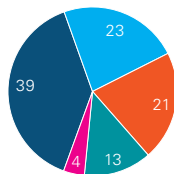
* Variation based on revenue in local currency. See €/€ exchange rates p. 7.

REVENUE BY BUSINESS LINE (%)



Commercial Engines & Services
 Military
 Systems & Other

REVENUE BY REGION (%)



United States
 Europe
 Asia
 Africa and Middle East
 Americas (excl. U.S.)

GENERAL ELECTRIC AVIATION (GE AVIATION)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Hainwina Techwin	Safran	MTU Aero Engines	IHI	ITP	GKN	TransCanada Turbines	Aviastar*	HAL
Aircraft engines									
Adaptive Cycle Engine									
F110 (F-16C/D, F-15SG, F-15SA, F-15S, F-2)	●	●	●			●			
F404 (F/A-18C/D Hornet, F-117, T-50, Gripen NG)	●					●			
F414 (F/A-18E/F, EA-18G, Gripen NG, Tejas Mk II)		●		●	●				
F108/CFM56-7B (Boeing AEW&C, P-8 Poseidon)		●							
F138/CF6 (C-5M, KC-10, B767 AEWACS, A310 MRTT)		●							
Helicopter engines									
T700/CT7 (UH-60, AH-64D/E, NH90, Surion)	●			●	●			●	
T408 (formerly GE38) (CH-53K)			●						
T901 (AH-64, UH-60) (in development)									
Gas turbines									
GE LM2500 (FREM, Arleigh Burke, Cavour, INS Vikrant, USS Independence)	●	●	●			●	●		●
Systems and structures									
Landing gear systems (X-47B, T-38)									
Fuel tanks and pods (F/A-18, Eurofighter Typhoon)									
Refuelling probe (A400M)									
Pylons and structures (P-8 Poseidon, HAWK AJT)									
Propellers (C-27J, C-130J, US-2, Saab 2000, Fokker 50/60, Q400)									

* Boeing

STRATEGIC HIGHLIGHTS

Business trends

- ▶ GE Aviation continued to grow, with net revenues increasing 4.2% to \$27.4bn (€24.2bn). Performance was underpinned by sales of commercial engines, particularly the LEAP engine produced by CFM International, a joint venture between GE Aviation and Safran Aircraft Engines.
- ▶ Revenues from the Military division stood at \$3.8bn (€3.4bn), a 12% increase compared to 2016. Growth was partly driven by an increase in the number of engines delivered (617 compared to 571 in 2016).
- ▶ At the end of 2017, GE Aviation signed a strategic partnership with India's Tata Group for the production and assembly of aeronautical components for the LEAP engine. Further production opportunities in the Indian industry are expected in both the civil and military segments.

Home market

- ▶ In 2017, GE Aviation generated 39% of its revenues in the U.S. However, the military engines segment (aeronautical and naval) remains heavily dependent on orders from the U.S. Department of Defense.
- ▶ The U.S. Air Force, one of the group's main defence clients, awarded a new \$1bn (€903m) contract to GE Aviation in April 2017 for the production of 2,500 T700 engines by 2019.
- ▶ New contracts were also won from the U.S. Navy, including an order in March 2017 for 28 F414-GE-400 engines for the F/A-18E/F Super Hornet and the EA-18G Growler, and another in November 2017 for 22 T408-GE-400 engines for the CH-53K King Stallion helicopters.
- ▶ Delivery of LM2500 marine gas turbines, which power the Independence-class LCS and Arleigh Burke-class destroyer of the U.S. Navy, continues. The group is also well positioned to equip 20 frigates of the U.S. Navy's FFG(X) programme with LM2500 marine gas turbines (first deliveries expected in 2020).

Export markets

- ▶ GE Aviation generates 61% of its sales in the export markets, mainly of commercial engines across Europe (23%), Asia (21%) and Africa/Middle East (13%).
- ▶ In the military segment, the LM2500 marine gas turbines are a resounding success in the export markets (counting 35 navies as clients). It has recently been chosen by the Japanese, South Korean, Australian, German, French and Italian navies.
- ▶ At the end of 2017, GE Aviation signed a Memorandum of Understanding with Australian group RJE Global for the assembly of the LM2500 marine gas turbines that will power the Hunter-class frigates that are being built by BAE Systems as part of the Royal Australian Navy's SEA 5000 programme. The two leading candidates to provide the Royal Canadian Navy with new-generation LCS ships, Alion et Navantia, also propose models equipped with LM2500 marine gas turbines.

Technology and Innovation

- ▶ The first full engine test of the next-generation Future Affordable Turbine Engine, which has been developed in partnership with the U.S. Army, was successfully completed in October 2017.
- ▶ Having successfully carried out the first tests in December 2017, GE Aviation and the U.S. Army in March 2018 proceeded with the preliminary design review for the T901 engine. This initiative is part of the Improved Turbine Engine (ITEP) programme. The design and configuration of the engine have been approved by the U.S. Army.
- ▶ In July 2018, the U.S. Air Force Life Cycle Management Center (AFLCMC) provided GE Aviation with an additional \$437m (€387m) to continue its R&D work on adaptive cycle engines.



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Radar systems
- ▶ Defence electronics
- ▶ Optronics
- ▶ Communication and display systems
- ▶ UAS
- ▶ IFF (Identification Friend or Foe) systems

GOVERNANCE

Chairman and CEO
Chief Financial Officer
Chief Operating Officer

Thomas Müller
Axel Salzmann
Peter Schlotte

OWNERSHIP STRUCTURE

Symbol

Listed on

Market Cap

Unlisted group

Major shareholders (as of 31.12.2017)

KKR & Co LP	74,9%
Airbus	25,1%

MAIN JOINT VENTURES AND ASSOCIATES

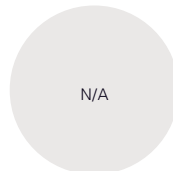
Name	%	Country
Hensoldt Cyber	N/A	Germany

KEY FIGURES (Fiscal year ended: December 31st)*

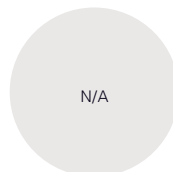
€ millions	2014	2015	2016	2017
Revenue	-	-	~1 000	~1 100
Δ (%)	-	-	-	-
Defence (%)	-	-	N/A	N/A
Export (%)	-	-	N/A	N/A
Operating profit/loss	-	-	N/A	N/A
Operating Margin (%)	-	-	N/A	N/A
Net profit/loss	-	-	N/A	N/A
Order book	-	-	N/A	N/A
Employees	-	-	~4 000	~4 300

* Group results published from 2016.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Indra	Leonardo	Thales	Lockheed Martin	Electronica	Curtis-Wright	CoreAVI
Radar systems								
AESA E-CAPTOR (Eurofighter)	●	●	●					
PrecISRSM and ASR airborne multi-mission surveillance radars								
TRML 3D/32 and 4D mobile air surveillance and defence radars								
TRS 3D and 4D naval radars								
Counter Battery Radar (COBRA)	●			●	●			
Defense electronics								
AN/AAR-60 missile warning system (MILDS and MILDS-F)								
Airborne Missile Protection Systems (AMPS)								
ALTAS and COLDS NGB laser warning systems								
Jamming systems (DRFM, Sky Buzzer, MFJS, VPJ)								
Multifunctional self-protection system for vehicles (MUSS)								
Optronics								
Optronics systems (DVE, KLP TW, NDV 70, SPECTUS, TSU, NDP 30)								
MEOS II N ship surveillance system								
Electro-optical targeting systems (EOTS and EOTS II)								
Communication and display systems								
MIDS LVT		●	●	●				
DO-254/178 Mission Computer						●	●	
UAS								
ISTAR (European MALE RPAS)		●		●	●			

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Hensoldt was established through the sale of Airbus's Defence Electronics unit to U.S. investment firm KKR in February 2017 (for approx. €1.1bn). Airbus retains a 25.1% share in Hensoldt until full separation is achieved.
- ▶ Hensoldt consists of Hensoldt Sensors (Germany), Hensoldt Optronics (Germany and South Africa) and Hensoldt France. Operations are mostly focused on defence, with limited activities in the civil aviation sector. The group positions itself as a specialist in sensors for protection and surveillance.
- ▶ The group aims to achieve net revenues of €1.3bn in 2018 (€1.1bn in 2017), and €2bn by 2020, by focusing on innovation and the export markets.
- ▶ Hensoldt acquired 3 companies over 2017-2018: PentaTec, an engineering start-up; Kelvin Hughes, a British radar specialist; and EuroAvionics, a German provider of avionics systems.

Home market

- ▶ In 2018, the group delivered the first updated MIDS (Multifunctional Information Distribution System) terminal to the Bundeswehr. Hensoldt will update more than 400 MIDS terminals for the Bundeswehr over the coming years at its Taufkirchen site in Germany.
- ▶ As part of a programme aimed at modernising air traffic surveillance across German military air bases, Hensoldt delivered and installed the seventh ASR-S radar of the 20 on order (contract value €250m).
- ▶ As part of the European MALE RPAS programme, the group partners with Elettronica, Indra and Thales to deliver ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance, i.e. sensors, data processing, communications, etc.).
- ▶ In 2018, Hensoldt established a partnership with Raytheon in the area of civil and military radars.

Export markets

- ▶ 2 ASR-NG radars out of the 9 ordered by the Royal Australian Air Force were installed in 2018. ASR-NG radars have also been ordered by Canada and the United Kingdom.
- ▶ The French Armed Forces selected Hensoldt test equipment that is used to ensure the correct performance of identification systems onboard aircraft and ships. The contract, worth several million euros, covers the delivery of 130 BTI1000I IFF (Identification Friend or Foe) testers.
- ▶ The group in 2018 won a contract to equip the Belgian Air Force's F-16 fighter aircrafts with the MILDS F missile detection systems. The system has already been chosen by Denmark, Norway and the Netherlands. Hensoldt also secures a contract from Leonardo to update 450 land-based, naval and aerial platforms (IFF Mode 5) across the United Kingdom by 2019 (contract value €290m).
- ▶ Hensoldt aims to strengthen its international presence, particularly in the Asia-Pacific region. To do so, it established one of its five global "sales hubs" in Singapore and signed a cooperation agreement with South Korean defence group Huneed Technologies covering IFF technologies.

Technology and Innovation

- ▶ The group's main innovation focuses are big data, robotics and cybersecurity.
- ▶ At Eurosatory 2018, Hensoldt unveiled the new TRML-4D radar and a portable version of its counter-UAV Xpeller system, XpellerGear.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Fighter aircraft
- ▶ Helicopters
- ▶ Structures and components
- ▶ Avionics
- ▶ Engines

GOVERNANCE

Chairman and CEO
Chief Financial Officer

R. Madhavan
C.B. Ananthakrishnan

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	HAL
Listed on	NSE et BSE
Market Cap (RS Cr.)	26 866

Major shareholders (as of 31.03.2018)

Indian State	89,97%
Life Insurance Corporation of India	7,00%
State Bank of India	0,48%

MAIN JOINT VENTURES AND ASSOCIATES

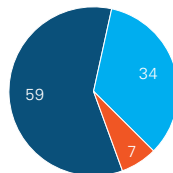
Name	%	Country
BAeHAL Software Ltd	49%	India
Indo-Russian Aviation Ltd	48%	India
Helicopter Engines MRO Pvt Ltd	50%	India
HALBIT Avionics Pvt Ltd	50%	India
Indo-Russian Helicopters Ltd	50,5%	India
HATSOFF Helicopter Training Pvt Ltd	50%	India

KEY FIGURES (Fiscal year ended: March 31st)

€ millions	2014-15	2015-16	2016-17	2017-18
Revenue	2 017	2 295	2 392	2 422
Δ (%) [RS Cr.]*	3,26%	6,18%	6,14%	3,86%
Defence (%)	95%	96%	97%	93%
Export (%)	3%	3%	3%	2%
Operating profit/loss	410	444	487	440
Operating Margin (%)	20,31%	19,34%	20,35%	18,17%
Net profit/loss	308	277	355	274
Order book	N/A	N/A	N/A	7 612
Employees	31 144	30 300	29 526	29 035

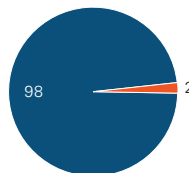
* 1 crore equals 10 000 000 rupees. Variation based on revenue in local currency. See €/INR exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



■ Aircraft & Helicopters ■ Other
■ MRO

REVENUE BY REGION (%)



■ India ■ Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Elbit Systems	Dassault Aviation	Thales	BAE Systems	RUAG	Boeing	Airbus	Safran	NPO Saturn	Tumansky	Rolls-Royce	UAC
Military aircraft												
Su-30 MKI fighter aircraft*	●	●										●
MiG-27M fighter aircraft*												●
LCA Tejas fighter aircraft	●	●										
Hawk-i Advanced Jet Trainer (AJT)*			●									
Do-228 maritime patrol aircraft*				●								
Military helicopters												
Dhruv twin-engine multi-role helicopter						●						
Chetak and Cheetah multi-role helicopters*						●						
Unmanned aircraft system												
Skylark mini-UAS*	●											
Modernisation projects												
Jaguar DARIN III												
Mirage 2000	●	●										
Structures												
Weapons bay doors (F/A-18, P-8I)					●							
Engines												
AL31 FP (Su-30MKI)*								●				
R-29B (MiG-27M)*									●			
Adour Mk811 (Jaguar, Hawk)*							●			●		
Artouste III B (Chetak et Cheetah)*							●					
Ardiden 1H1 (Dhruv)							●					

* Built under licence

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Net revenues increased by almost 4% over 2017-2018, reaching 18,284 crores (€2.4bn). Over the year, HAL produced 40 aircraft and helicopters and 105 engines.
- ▶ The order book was worth 61,123 crores (€7.6bn) as of March 31, 2018. It includes the delivery of 25 Su-30 MKI, 16 Dornier Do-228 and 16 Cheetah helicopters to the Indian Armed Forces.
- ▶ The group's operations are almost entirely focused on defence activities. Nevertheless, it plans to diversify its activities by increasing its civil aviation offering. Its capabilities have been built up in collaboration with Russian and European contractors, through technology transfers negotiated as part of national defence procurement contracts ("Make in India" policy).
- ▶ Seeking to partially open up group ownership to investors, the Indian government approved the public listing of 10% of HAL's shares. In March 2018, HAL became listed on the Indian stock market (National Stock Exchange of India and Bombay Stock Exchange).

Home market

- ▶ The group is heavily dependent on its domestic market, which accounted for 98% of its total sales in 2017-2018. During that year, HAL received orders from the Indian Army and Navy for 41 Advanced Light Helicopters (contract value 6,100 crores, or approx. €800m) and 8 Chetak helicopters.
- ▶ At the end of 2017, the Indian Army confirmed its intention to purchase 83 LCA (Light Combat Aircraft) Tejas MK1A, with production to begin in 2019, and 15 LCH (Light Combat Helicopters).
- ▶ As part of the "Make in India" policy, HAL intends to reinforce its domestic presence. A Memorandum of Understanding signed between HAL and the Indian government covering the 2017-2018 period stipulates a 5% increase in the group's local programmes.
- ▶ HAL's local programmes include: the LCH (Light Combat Helicopter); the LUH (Light Utility Helicopter); the Hawk-i (Hawk-India, variant of the Hawk Mk132 aircraft trainer); and the Hindustan Turboprop Trainer-40 (HTT-40).
- ▶ In April 2018, HAL and Mahindra established a partnership with Boeing in order to bid for an Indian government tender covering 110 fighter aircraft (potential contract value \$15bn, or €12bn). Should the bid be successful, the F/A-18 Super Hornet will be produced in India in line with local production requirements.

Export markets

- ▶ Export sales remain limited and partly rely on civil aviation and space activities, in particular subassemblies for Boeing 737 and Airbus A320 aircraft.
- ▶ To grow its international presence, HAL is focusing on overseas sales of its Do-228 aircraft as well as its Dhruv and Chetak/Cheetah helicopters, which have been ordered by Nepal, Afghanistan, Namibia and Ecuador.
- ▶ The group also plans to export its Indian Multi Role Helicopter (IMRH), which was presented at Aero India 2017.

Technology and Innovation

- ▶ Group R&D expenses stood at 1,612 crores (€214m) in 2017-2018, a 25% increase on the previous year, representing 8.8% of net revenues. HAL has 11 R&D centres and is increasing its partnerships with higher education institutions.



BUSINESS AREAS

Engine manufacturer, systems integrator/equipment supplier

- ▶ Commercial and military aerospace (engines, avionics, electric power)
- ▶ Defence electronics and ISR
- ▶ Protection solutions
- ▶ Infrastructures, Energy
- ▶ Equipment for car industry

GOVERNANCE

Chairman and CEO	Darius Adamczyk
CEO Honeywell Aerospace	Tim Mahoney
Chief Financial Officer	Greg Lewis

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	HON
Listed on	NYSE
Market Cap (\$m)	108 326

Major shareholders (as of 30.06.2018)

The Vanguard Group, Inc.	6,80%
BlackRock Fund Advisors	4,28%
SSgA Funds Management, Inc.	3,86%
Massachusetts Financial Services Co.	3,75%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ITEC LLC	50%	United States
ATEC LLC	50%	United States
LHTEC	50%	United States
Integrated Guidance Systems LLC	50%	United States
Honeywell TAECO Aerospace Co. Ltd	65%	China

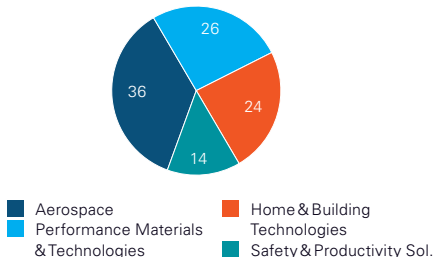
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	30 328	34 758	35 503	35 871
Δ (%) / (\$)*	3,20%	-4,28%	1,87%	3,13%
Defence (%)	12%	12%	11%	10%
Export (%)	41%	38%	42%	44%
Operating profit/loss	4 388	6 151	6 037	6 328
Operating Margin (%)	14,47%	17,70%	17,00%	17,64%
Net profit/loss	3 190	4 295	4 344	1 465**
Order book	15 084	16 702	16 390	14 750
Employees	127 000	129 000	131 000	131 000

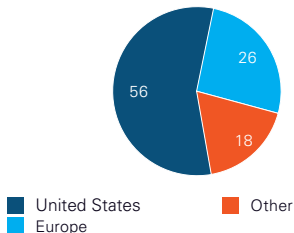
* Variation based on revenue in local currency. See €/£ exchange rates p.7

** Net profit impacted by the Tax Cuts and Jobs Act.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Rolls-Royce	Lockheed Martin	AIDC	Pratt & Whitney*	PT Dirgantara Indonesia	KHI	HAL
Engines and Auxiliary Power Units (APU)							
T55 engine (CH-47, MH-47)						●	
HPW3000 engine (via ATEC JV)				●			
TPE331 engine (MQ-9 Reaper, HTT-40, NC212i)					●		●
AGT 1500 engine (Abrams M1)							
CTS800 engine (TLUH)	●						
F124/F125 engine (M346, L-159, T-100, F/A-259 Striker)			●				
36-150 APUs (AH-64, UH-60, CH-47)							
G230 and G250 APUs (F-35, F-22)							
Avionics							
Enhanced Ground Proximity Warning System (EGPWS)							
Embedded GPS/INS (EGI)							
Weather radar system							
RDR-4000M 3-D							
Security and maintenance							
Health and Usage Monitoring System (HUMS)							
Ballistic protection							
Gold Shield body armor							
Control actuation system							
Missile steering and electronic control for GMLRS		●					
Satellite communications system							
JetWave							

* UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Honeywell net revenues grew 3.1% to \$40.5bn (€35.9bn) in 2017. Growth was underpinned by an increase in volume sales, particularly at the Safety & Productivity Solutions division.
- ▶ Defence activities accounted for 10% of 2017 net sales, compared to 11% in 2016.
- ▶ In October 2017, the group announced plans to spin off two of its units into two independent publicly-traded companies, effective by end-2018. The first company will focus on heating, ventilation, air-conditioning, home security and the distribution of security and fire protection products, while the second company will specialise in transportation systems.
- ▶ Honeywell increased its cybersecurity capabilities with the purchase of Nextnine in June 2017. In parallel, the group launched Honeywell Venture, a \$100m (€92m) venture investment fund focused on investing in or acquiring start-ups.

Home market

- ▶ Honeywell generated 56% of its net revenues in the U.S. in 2017, a smaller share compared to recent years' average (58% in 2016, 62% in 2015). Sales to the U.S. Department of Defense accounted for only 11% of domestic revenues, i.e. \$2.5bn (€2.2bn).
- ▶ The group is involved in the main U.S. aerospace programmes (engines, avionics, embedded electronics, APU, etc.)
- ▶ Performance was supported by multi-year maintenance and modernisation contracts (e.g. CH-47 Chinook T-55 engine modernisation for the USAF).
- ▶ In August 2018, Lockheed Martin selected Honeywell to provide control actuation systems for its GMLRS (multiple launch rocket) system.

Export markets

- ▶ 44% of group revenues came from foreign markets in 2017. With a 26% share of sales, Europe remains the group's main international market.
- ▶ MRO activities supported export sales. The group particularly relies on licensed production and partnerships, especially in Asia.
- ▶ In April 2017, the Indonesian group PT Dirgantara Indonesia (PTDI) selected Honeywell's TPE331 engines for its NC212i transport aircraft. 34 units are to be delivered by 2020. 6 PTDI engineers are to be trained by Honeywell, with the deal also including technology transfers.
- ▶ Honeywell strengthened its partnership with Israel Aerospace Industries (IAI) following the signing of a new agreement covering the integration of IAI's GPS ADA jamming system with Honeywell's embedded GPS/INS (EGI) system.

Technology and Innovation

- ▶ R&D expenses fell 1.6% to \$1.8bn (€1.6bn) in 2017, accounting for 5% of net revenues. R&D activities are concentrated in the U.S., Europe, China and India.
- ▶ In October 2018, Honeywell and the U.S. Army carried out the first tests for a prototype vision system that integrates augmented and virtual reality functions, which is intended for use in the Bradley Fighting Vehicle. The technology has been developed as part of the Ground-X-Vehicle Technologies programme of the U.S. Defense Advanced Research Projects Agency (DARPA).



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Defence and security (air defence, radar, UAS, surveillance systems, C4I)
- ▶ Transportation
- ▶ Energy and Industry
- ▶ Financial services
- ▶ Public and Health sectors
- ▶ Telecom and Media

GOVERNANCE

Chairman and CEO	F. Abril-Martorell
Chief Financial Officer	J. Lázaro Rodríguez
Head of Defense and Security	Manuel Escalante

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	IDR
Listed on	SIBE
Market Cap (€m)	1 513

Major shareholders (as of 11.10.2018)

SEPI (Spanish State)	18,70%
Corporación Financiera Alba	10,50%
Fidelity Management & Research LLC	8,40%
T. Rowe Price International Ltd	5,10%

MAIN JOINT VENTURES AND ASSOCIATES

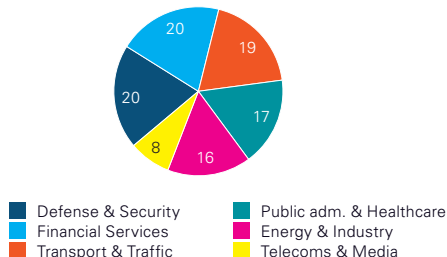
Name	%	Country
Inmize Sistemas S.L.	50%	Spain
Euromids S.A.S.	25%	France
UTE Indra-Eurocopter	63%	Spain
SAES Capital S.A.	49%	Spain
Eurofighter Simulation System GmbH	26%	Germany

KEY FIGURES (Fiscal year ended: December 31st)

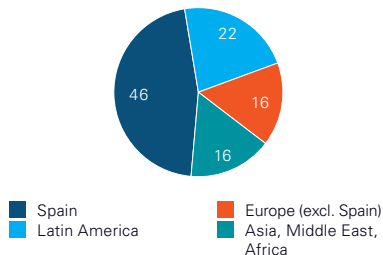
€ millions	2014	2015	2016	2017
Revenue	2 938	2 850	2 709	3 011
Δ (%)	0,82%	-2,98%	-4,95%	11,14%
Defence (%)	17%	19%	22%	20%
Export (%)	61%	57%	57%	54%
Operating profit/loss	-42	-641	162	196
Operating Margin (%)	-1,45%	-22,50%	5,96%	6,50%
Net profit/loss	-90	-642	70	129
Order book	3 473	3 193	3 129	3 612
Employees	39 130	37 060	34 294	40 020*

* Includes Tecnocom and Paradigma staff.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Cybaero	IAI	Airbus	Navantia	Lockheed Martin	Electronica	Thales	Hensoldt	Boeing
C2 systems									
SILVER Battlefield Management System (BMS)									
Lince Battlefield Management System (BMS)						●			
UAS and air collision avoidance system									
Pelicano VTOL UAS	●								
ISTAR MANTIS UAS									
European MALE RPAS					●	●	●		
Optronics and vetronics									
Fire control systems and sights (Armoured vehicles)									
Defence electronics									
RF ALQ-500 ECM system (Spanish F/A-18)									
ALR-400 Radar warning receiver (A400M, F/A-18, NH-90)									
InSHIELD DIRCM system			●						●
EuroDIRQM system					●				
Simulation solutions									
EF-2000 fighter aircraft simulator (Eurofighter)									
A400M military transport aircraft simulators			●						
Helicopters simulators (Tigre, NH90, AW159 Wildcat, MH 53, Chinook, H145)			●						
Radars and sonars									
3D Lanza radar family									
Naval suite for submarines (S-80)				●					
S-band AESA (F-110)				●	●				

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Following two years of falling sales, Indra Sistemas net revenues grew 11.1% to more than \$3bn in 2017. The result was however mostly boosted by the acquisition of Tecnomoc, an IT consulting firm, for \$324m (€305m). At constant scope, revenues remained virtually flat.
- ▶ Sales at the Defense and Security division, which accounts for 20% of group net revenues, fell 1% on an annual basis. Growth in aircraft systems did not entirely offset the weaker performance of the Eurofighter programme.
- ▶ In November 2017, Indra Sistemas announced its 2018-2020 Strategic Plan. The blueprint builds on the restructuring programme initiated in 2015 and is focused on a few key areas, i.e. portfolio development, accelerating commercial transformation, and the renewal of production capacities.

Home market

- ▶ Indra Sistemas generated 46% of its net revenues in Spain in 2017, a 7 percentage points increase on 2014. For the Defence and Security division, the domestic market's share reached roughly 50%. This share has been rising in recent years due to the signing of various multi-year deals in Spain.
- ▶ The group is one of the main beneficiaries of the Spanish Armed Forces' major equipment modernisation programmes (F-110 frigates with Navantia, NH90 helicopter simulator, etc.).
- ▶ The group was selected by the Organisation for Joint Armament Co-operation to provide inSHIELD DIRCM IR countermeasures for the Spanish Air Force's fleet of 9 A400Ms. This system was certified by NATO in October 2017.
- ▶ In June 2018, Indra Sistemas, via its Santa Barbara Sistemas subsidiary, conducted a first demonstration of the mission system that will equip the upcoming 8x8 VCR combat vehicles built by General Dynamics European Land Systems. As part of the contract from the Ministry of Defence of Spain, the two companies (IS and GD) will collaborate with Sapa.

Export markets

- ▶ Net revenues of the Defense and Security division have decreased in recent years. This has been linked to a fall in the production rate of the Eurofighter. Eurofighter orders are expected to pick up again in 2020.
- ▶ In December 2017, TKMS, the naval division of the German conglomerate ThyssenKrupp AG, chose Indra Sistemas to provide the satellite communications systems for two of its submarines. The companies have been partners since 2009, particularly in relation to the U212 submarine programme of the German Navy.
- ▶ The groups concluded two deals in early 2018: the first to equip the Mexican Navy's OPVs with the RIGEL RESM/RECM defence electronics system; and the second with the Colombian organisation CODALTEC to develop the first air defense system designed in Colombia.

Technology and Innovation

- ▶ R&D spending reached €202m in 2017, a 24% increase from the previous year (€163m). R&D as a share of net revenues increased from 6.0% to 6.7%.
- ▶ A consortium led by the German group Rheinmetall and consisting of Spain's Indra Sistemas and GMV Aerospace & Defence, Italy's Leonardo and Larimart, and Swedish Saab AB, won the EU's first defense research contract. The project covers EU-wide standardisation of electronics and defence systems, voice communication, software and sensors.



ISRAEL AEROSPACE INDUSTRIES (IAI)

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial and military aircraft
- ▶ Unmanned aircraft systems
- ▶ Space systems and C4ISR systems
- ▶ Missile systems and air-defence systems
- ▶ Cyberdefence
- ▶ Naval systems and platform

GOVERNANCE

Chairman	Harel Locker
Chief Executive Officer	Nimrod Sheffer
Executive Vice President Military Aircraft	Shaul Shahar

OWNERSHIP STRUCTURE

Symbol	ARSPB1
Listed on	TASE
Market Cap	Unlisted group

Major shareholders (as of 24.10.2018)

Israeli State	100%
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MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
EAE Aerospace Solutions	50%	Brazil
D.T.S. Ltda.	50%	Chile
Tiltan Systems Engineering	30%	Israel
Pioneer UAV Inc.	50%	United States
HELA Systems Pvt Ltd	26%	India

KEY FIGURES (Fiscal year ended: December 31st)

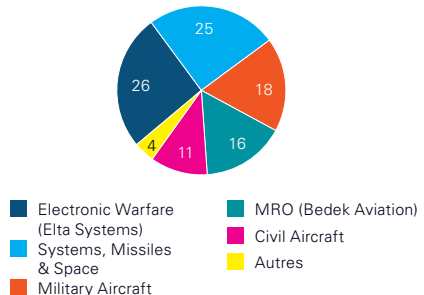
€ millions	2014	2015	2016	2017
Revenue	2 881	3 342	3 232	3 116
Δ /% / (\$)*	5,08%	-3,11%	-3,53%	-1,59%
Defence (%)	73%	75%	73%	70%
Export (%)	78%	78%	77%	76%
Operating profit/loss**	106	42	63	107
Operating Margin (%)	3,68%	1,27%	1,96%	3,44%
Net profit/loss**	20	8	20	66
Order book	7 495	7 807	8 538	9 339
Effectifs	16 008	15 734	15 359	14 857

* Variation based on revenue in local currency.

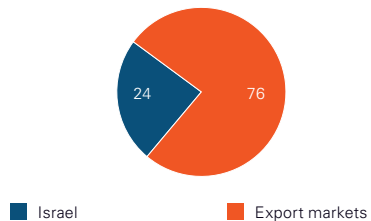
See €/\$ exchange rates p.7.

** 2016 figures restated.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



ISRAEL AEROSPACE INDUSTRIES (IAI)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Boeing	Indra Sistemas	DRDO (Indel)*	Lockheed Martin	Rheinmetall Defence	MDA Corp	Telespazio**	L3 Technologies	Honeywell	Rafael
ISR systems											
POP electro-optical stabilized payload (POP200, POP300, POP300-I, etc.)											
Space systems											
OPSTAT3000 optical reconnaissance satellite							●				
Unmanned aircraft systems											
Heron 1 MALE UAS	●				●	●		●			
Searcher Mk III tactical UAS			●								
Heron TP MALE UAS	●		●								
Bird-Eye UAS (400/650/650D)											
Air Hopper unmanned helicopter											
Theatre defence											
Arrow (1/2/3) anti tactical ballistic missiles (ATBM) defence system		●									
ELM-2084-MMR radar					●						
GPS Anti-Jam Navigation System									●		
LR-SAM/MR-SAM (Barak 8) defence system				●							●
Naval systems											
SuperDvora Mk.3 patrol boat											
ELM-2248 MF-STAR and ELM-2258 ALPHA radar											
ELM-2022 radar	●										
Land systems											
MGLGB advanced laser/GPS guided gliding bomb					●						
Green Rock ELM-2138M radar											
Military aircraft											
C-130 Avionics Modernisation Programme											

* Defence Research and Development Organization ** Leonardo and Thales joint venture

STRATEGIC HIGHLIGHTS

Business trends

- ▶ IAI net revenues fell for the third consecutive year in 2017 (-1.6%). Only the MRO division (BedeK Aviation) reported sales growth, partly offsetting lower revenues across the group's other divisions.
- ▶ Defence activities' annual results declined, weighed down by the performances of the Military Aircraft and Systems, Missiles and Space divisions. As a result, the share of military activities in annual net revenues fell from 73% to 70% in 2017.
- ▶ At the end of 2017, the group announced that its activities would be reorganised under 4 divisions (from 6), with a separate division for civil aviation (engineering, systems and MRO). At the same time, Nimrod Sheffer was appointed to replace Joseph Weiss as Chief Executive Officer.

Home market

- ▶ IAI is the leading Israeli aerospace and defence group. Slightly less than 25% of its consolidated revenue is generated in its domestic market.
- ▶ The Israeli Air Force announced plans to bolster its Heron TP UAS fleet. The drone's mission capabilities include intelligence gathering, target acquisition and battle damage assessment.
- ▶ IAI's Barak-8 defence system was selected by the Israeli Navy to equip Sa'ar-6-class corvettes. The system, jointly developed with Rafael Advanced Defense Systems, will allow Israel to monitor and defend its Exclusive Economic Zone (EEZ), its naval facilities and coastal areas. With this new order, the total value of Barak-8 contracts reaches \$5bn (approx. €4.2bn).

Export markets

- ▶ IAI generates more than three-quarters of its net revenues in the export market (76% in 2017). The group is particularly active in Asia thanks to strong diplomatic ties between Israel and India. It is aiming to grow its market share in Africa and South America.
- ▶ Elta Systems, a subsidiary of IAI, was selected by the Canadian government to install ELM-2022 radars on 16 Airbus C295 tactical airlifters on order. These maritime surveillance radars, which are particularly useful in search and rescue missions, already equip more than 250 military aircraft worldwide.
- ▶ In October 2018, IAI signed a contract with the Indian Navy for the installation of LR-SAM anti-aircraft missiles (naval version) on 7 vessel types (Visakhapatnam and Kolkata-class destroyers, Kamorta-class corvettes, Project 17A-class frigates, INS Vikrant aircraft carrier). The \$777m contract (€680m), signed with Indian state-owned Bharat Electronic Limited (BEL), follows a \$630m (€551m) deal concluded in 2017 for the same equipment.

Technology and Innovation

- ▶ Annual R&D spending grew 10% to \$182m (€161m) in 2017, up from \$165m (€149m) the previous year. R&D expenditure represented 5.2% of net revenues in 2017, an annual increase of 0.6 percentage point.
- ▶ IAI and Israeli Military Industries Systems (IMI Systems) are at the final development stage for Rampage air-to-surface missiles. The missile is designed to be launched from a fighter aircraft 150km from its target. Production and commercialisation are scheduled to begin from 2019.



IVECO DEFENCE VEHICLES

BUSINESS AREAS

Platform manufacturer and systems integrator
 Defence subsidiary of CNH Industrial conglomerate

- ▶ Military vehicles (light multi-role vehicles, armoured fighting vehicles, main battle tank)
- ▶ Civil security vehicles

GOVERNANCE

Iveco Brand President	P. Lahutte
CEO Iveco Specialty Vehicles	A. Nasi
CEO Iveco Defence Vehicles	V. Giannelli

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	N/A	235	343	337
Δ (%)	-	-	46,08%	-1,63%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	9	12	1
Operating Margin (%)	N/A	3,77%	3,37%	0,19%
Net profit/loss	N/A	3	3	7
Order book	N/A	N/A	N/A	N/A
Employees	N/A	N/A	N/A	N/A

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted subsidiary
Market Cap	

Major shareholders (as of 23.08.2018)

CNH Industrial	100%
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REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Consorzio Iveco Oto-Melara	50%	Italy

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Leonardo	BAE Systems	KMW**	Lohr - Soframe	Cristamini	FPT Industrial**
Main battle tank						
Ariete main battle tank	●					
Armoured fighting vehicles						
Centauro II and Freccia armoured fighting vehicles	●					
Superav 8x8 amphibious armoured vehicle		●				
VBTP 6x6 amphibious armoured vehicle						●
PUMA (4x4 and 6x6) light wheeled armoured fighting vehicle family	●					
PzH 2000 155mm self-propelled howitzer	●		●			
MPV 4x4 medium protected vehicle			●			
VTM 4x4 light vehicle			●			
Tactical and logistic wheeled vehicles						
PPT 8x8 special high-mobility military vehicle				●		
MUV and M40.15 WM Torpedo						●
M1250.70T WM 8x8 logistic vehicle						●
Trakker and MLL logistic vehicles						
Light multi-role vehicles						
Light Multi-role Vehicle (LMV)		●			●	
Light Multi-role vehicle (LMV 2)						

* KNDS

** Subsidiary of CNH Industrial

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Iveco Defence Vehicles is part of the "Specialty Vehicles" subdivision of the "Commercial Vehicles" unit of CNH Industrial (CNHI), an Italian conglomerate incorporated under Dutch law that was formed through the merger of Fiat Industrial with its US subsidiary CNH Global in 2013. In addition to its military business, CNH Industrial operates in the manufacture of agricultural and construction machinery.
- ▶ Iveco Defence Vehicles' non-consolidated net revenues stood at €337m in 2017 (down 1.6% from the previous year), accounting for about 1.25% of CNHI's total revenues.

Home market

- ▶ Iveco Defence Vehicles is renewing its vehicle line-up, including the Centauro II armoured fighting vehicle in partnership with Oto-Melara (Leonardo) and the LMV multi-role vehicle for the Italian Army.
- ▶ In July 2018, Iveco Defence Vehicles received an order from the Italian Army for the delivery of Centauro II armoured fighting vehicles. The contract, which includes logistics support, is worth €159m and covers 136 units (including an initial batch of 10).

Export markets

- ▶ Iveco Defence Vehicles generates about 50% of net revenues in the export markets, particularly in Europe and South America (contract with the Brazilian Army since 2009). In 2018, Brazil announced the purchase of more than a hundred multi-role LMV Lynx vehicles, which will be produced by Iveco's Brazilian subsidiary.
- ▶ In partnership with BAE Systems, Iveco Defence Vehicles has been selected to provide amphibious vehicles to the U.S. Marine Corps. The contract, signed in June 2018, is worth \$400m (€343m) for the first four years and covers the delivery of an initial 30 vehicles, with an option for 204 units in total.
- ▶ At the end of 2017, Iveco Defence Vehicles received an order from the German Army for 4x4 Eurocargo (280 units by 2018). This contract came in addition to another 133 8x8 Trakkers on order.
- ▶ Iveco Defence Vehicles was chosen by the Romanian Army to deliver 173 logistics vehicles by 2018. It was also chosen by the Swiss Army to provide 400 Stralis and Trakker trucks between 2017 and 2021.
- ▶ In 2018, Iveco Defence Vehicles delivered the last batch of an order of 62 light-wheeled armoured fighting vehicles to the Norwegian Army.

Technology and Innovation

- ▶ At Eurosatory 2018, Iveco Defence Vehicles presented its innovations for multi-role vehicles and tactical and logistic wheeled vehicles. Showcased models included a 4x4 light vehicle, a Military Utility Vehicle (MUV), the High Mobility 8x8 as well as the Eurocargo 4x4 and Trakker 8x8 trucks.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Main battle tanks, armoured vehicles, infantry fighting vehicles
- ▶ Weapon systems, artillery systems, ammunition
- ▶ Mechanical and hydraulic equipment
- ▶ Electronic equipment
- ▶ Optical and vision systems for armoured vehicles
- ▶ NRBC solutions
- ▶ Simulation and training solutions

GOVERNANCE

Chairman of the Supervisory Board Christian Jourquin
 Co-President of the Directorate Stéphane Mayer
 Co-President of the Directorate Frank Haun

OWNERSHIP STRUCTURE

Symbol
 Listed on Unlisted group
 Market Cap

Major shareholders (as of 30.06.2018)

Giat Industries S.A.	50%
Wegmann & Co. GmbH	50%

MAIN JOINT VENTURES AND ASSOCIATES

Name % Country

NEXTER

CTA International	50%	France
TNS-MARS	37,5%	France
Cime Bocuze	34%	France

KMW

ARTEC GmbH	36%	Germany
PSM GmbH	50%	Germany

KEY FIGURES (Fiscal year ended: December 31st*)

€ millions	2014	2015	2016	2017
Revenue	-	-	2 624	2 648
Δ (%)	-	-	-	0,91%
Defence (%)	-	-	100%	100%
Export (%)	-	-	N/A	N/A
Operating profit/loss	-	-	277	303
Operating Margin (%)	-	-	10,54%	11,43%
Net profit/loss	-	-	190	212
Order book	-	-	8 600	9 200
Employees	-	-	6 800	7 329

* New entity combining KMW and Nexter Defense Systems officially formed in December 2015.

REVENUE BY BUSINESS LINE (%)





REVENUE BY REGION (%)



KMW + NEXTER DEFENSE SYSTEMS (KNDS)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Safran	Arquus*	BAE Systems	Rheinmetall Defence	Diehl Defence	Zorbiac Aerospace	General Dynamics	JV Iveco-Oto Melara	METKA	FNSS	Texelis
Armoured vehicles												
 NEXTER												
 KMW												
Leclerc main battle tank	●	●										
VBCI armoured infantry fighting vehicle			●									
Griffon VBMR multi-role armoured vehicle	●		●									
Jaguar EBRC reconnaissance and combat armoured vehicle	●		●									
Serval VBMR multi-role armoured vehicle												●
Leopard 2 main battle tank				●		●		●				
Boxer 8x8 multi-role armoured vehicle				●								
Puma armoured infantry fighting vehicle				●								
Fennek 4x4 armoured vehicle											●	
Weapon systems and artillery systems												
40mm Cased Telescoped Armament System (40CTAS)			●									
CAESAR 155mm self-propelled gun-howitzer		●										
ARX20 remote controlled weapon station												
PzH 2000 155mm self-propelled howitzer				●			●					
Donar 155mm / L52 howitzer						●						
FLW (100, 200 and 500) RCWS												
Ammunition												
SPACIDO course correction system**	●				●	●						
20mm, 25mm and 30mm ammunition for artillery systems												
90mm, 105mm and 120mm shell for guns												
BONUS 155mm artillery shell			●									

* formerly Renault Trucks Defense

** Partnership with Junghans, a joint venture between Thales and Diehl Defence

STRATEGIC HIGHLIGHTS

Business trends

- ▶ The merger of competitors KMW from Germany and France's Nexter Defense Systems was completed in July 2015 following a year of negotiations. The deal created a European leader in land armaments and munitions, with a mission to become "the Airbus of armoured vehicles".
- ▶ KNDS generated net revenues of approx. €2.6bn in 2017 (+0.9% year-over-year), with an order book valued at €9.2bn. Nexter's net revenues stood at €900m in 2017, with new orders valued at €1.635bn, compared to €866m and €771m, respectively, in 2016.
- ▶ KNDS made a bid to buy Renault Trucks Defense (RTD, now Arqus), before the sale was cancelled by Volvo in late 2017.

Home market (France, Germany)

- ▶ The two upcoming joint French-German programmes, i.e. Main Ground Combat System (MGCS) and Common Indirect Fire System (CIFS), whose delivery is scheduled for 2030-2035, will provide KNDS with the opportunity to work on joint programmes.
- ▶ Nexter, together with Arqus and Thales, is a contractor for the French Army' Scorpion Programme. The VBMR Griffon and EBRC Jaguar will be assembled at the Nexter factory in Roanne (Loire). The group plans to deliver a first batch of 319 Griffons and 20 Jaguars. Nexter has also been contracted to update the Leclerc tank (200 units).
- ▶ In February 2018, Nexter won a contract to build 400 light VBMRs (multi-role armoured vehicles) in partnership with Texelis, for delivery by 2026. A first regiment will be equipped with these vehicles, dubbed Serval, in late 2022.
- ▶ KMW won a contract from the German Army to upgrade 104 Leopard 2 tanks to A7V standard (in partnership with Rheinmetall) as well as 32 used tank chassis between 2019 and 2023 (contract value €760m). It also won a €88m contract for the modernisation of 30 Fennek LGS.

Export markets

- ▶ 58% of Nexter orders (approx. €950m) came from export markets in 2017. Sales include some 400 vehicles, of which 15 Caesars to Denmark (6 more on option) and 18 to Indonesia (8 more on option). The group also won €720m worth of munitions contracts, particularly from the Middle East, India and Cyprus.
- ▶ Nexter's export outlook is positive, with Belgium interested in its Scorpion programme (the country plans to purchase 417 Griffons and 60 Jaguars for €1.1bn); Qatar having signed a letter of intent for 490 VBCI (Al Rayyan programme, contract value €1.5bn); and bids placed in 2 tenders in India for the provision of Caesar and Trajan howitzers.
- ▶ KMW won a contract in Finland for its LEGUAN bridge layer system. The deal covers the modernisation of current equipment and the delivery of 4 new units equipped with the Leopard 2 chassis over 2019-2020.
- ▶ As part of the UK's Mechanised Infantry Vehicles (MIV) programme, which involves the provision of 600 to 800 armoured vehicles, KNDS considers putting forward a vehicle.

Technology and Innovation

- ▶ R&D spending represented 18% of Nexter's net revenues in 2017 (approx. €160m).
- ▶ At Eurosatory 2018, KNDS presented the European Main Battle Tank (EMBT), the first product jointly developed by Nexter and KMW. Containing various components used in the Leopard 2 and Leclerc tanks, this new tank will be available for sale from 2021.



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Weapon systems, missile defence
- ▶ Naval systems and defence systems (turrets and CMS)
- ▶ C4ISR
- ▶ Space and aircraft systems (structures, propulsion)

GOVERNANCE

Chairman
President and CEO
President, Kongsberg Defence & Aerospace

E. Reiten
G. Håøy
Eirik Lie

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	1 989	1 903	1 705	1 554
Δ (%)/[NOK]*	1,78%	2,52%	-6,97%	-8,55%
Defence (%)	35%	35%	40%	44%
Export (%)	77%	83%	83%	81%
Operating profit/loss	151	105	74	83
Operating Margin (%)	7,75%	5,54%	4,37%	5,33%
Net profit/loss	105	84	70	60
Order book	2 325	2 041	1 862	1 588
Employees	7 664	7 688	7 159	6 830

* Variation based on revenue in local currency.
See €/NOK exchange rates p.7.

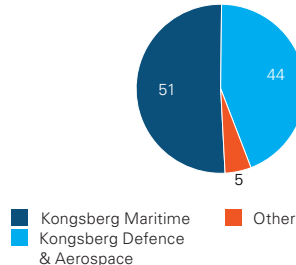
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	KOG
Listed on	Oslo Stock Exchange
Market Cap (NOK m)	14 232

Major shareholders (as of 27.08.2018)

Norwegian State	50,00%
Folketrygdfondet	6,53%
MP Pensjon PK	3,07%
Must Invest AS	2,39%

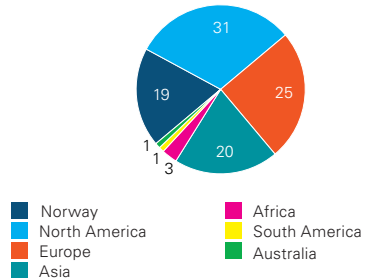
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Kongsberg Satellite Services AS	50%	Norway
Patria Oyj	49,9%	Finland
Kta Naval Systems	50%	Norway

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	PGZ	Raytheon	Northrop Grumman	BAE Systems	Rheinmetall Defence	Babcock	Magellan Aerospace	Orbital ATK*	Lockheed Martin	Nammo
Defence systems											
PROTECTOR remote weapon station (RWS, MCT-30, Lite)	●				●			●			
Missile systems											
Penguin anti-ship missile											●
Naval Strike Missile (NSM)	●	●				●					●
Joint Strike Missile (JSM)		●		●							
2,75" (SAL or GPS) guided rocket							●				
Air defence systems											
NASAMS advanced surface-to-air missile system		●									
HAWK XXI medium range surface-to-air missile system		●									
C4ISR											
Tactical network solutions (FDC, BNDL, NAN)		●									
AGS System Master Archival/ Retrieval Facility Information (SMARF)			●								
C4I cortex system											
Naval systems											
MCM C2 tactical system											
PROTEUS submarine command team trainer		●									
MSI-90U Mk2 combat management system for submarine											
Military aircraft											
F-35 programme (fuselage parts, landing gear, JSM fuselage)			●						●		

* Takeover by Northrop Grumman completed in June 2018

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Kongsberg posted another significant fall in revenues in 2017 (-8.6%). As in previous years, the decrease was primarily driven by the Kongsberg Maritime division (-13.6%), which was weighed down by subdued activity in the offshore segment.
- ▶ On October 1st, 2017, the Kongsberg Defence Systems and Kongsberg Protech Systems divisions merged to form Kongsberg Defence & Aerospace. The move is expected to generate annual cost savings of NOK 100m (approx. €10.5m) starting from 2018.
- ▶ Revenues of the new Kongsberg Defence & Aerospace division remained stable in 2017 (+0.3%). The order book is valued at approx. NOK 10bn (€1bn). Defence activities accounted for 44% of group net sales.
- ▶ Kongsberg announced the purchase of Rolls-Royce's civilian marine activities for £500m (€565m). The deal is expected to be completed in early 2019.

Home market

- ▶ Kongsberg has been one of Lockheed Martin's sub-contractors for the F-35 fighter aircraft programmes since 2010. It equips about 100 planes every year. In 2018, the group received a new NOK 525m (€56m) order for components for more than 150 F-35s.
- ▶ The group is also undertaking tests to integrate the JSM missile on the F-35. These tests are set to continue until 2023. In this context, Kongsberg signed a NOK 700m (€75m) contract with the Norwegian Defence Material Agency in June 2018.
- ▶ A joint venture, Kta Naval Systems, was created in 2017 by Kongsberg, ThyssenKrupp Marine Systems (TKMS, ThyssenKrupp AG's shipbuilding division) and Atlas Elektronik (a TKMS subsidiary). It will be the exclusive provider of combat systems for ThyssenKrupp submarines. At the same time, a strategic partnership covering submarine purchases was signed between Norway and Germany.
- ▶ Kongsberg strengthened its cooperation with its Finnish partner Patria (in which it holds a 49.9% capital stake) in the area of missile systems, particularly with the development of a "Missile Competence Center" in Finland.

Export markets

- ▶ New export deals for the NSM missile were concluded, including one with the Malaysian Navy to equip 6 ships (contract value €124m). The NSM, provided by Raytheon and Kongsberg, has also been chosen by the U.S. Navy for its LCS frigates. The initial contract is worth \$14.8m (€13m), rising to \$847.6m (€750m) if all options are included.
- ▶ Kongsberg won contracts for the NASAMS air defence system in Lithuania (NOK 1bn or €107m) and Indonesia (NOK 600m or €64m). Australia and Norway also signalled their interest for the system.
- ▶ Kongsberg was selected to equip the turrets and remote weapon stations of 490 Nexter VBCI 2 vehicles that Qatar intends to purchase (Al Rayyan programme, estimated contract value €1.5bn). Kongsberg expects revenues of approx. NOK 15bn (€1.6bn) from this contract over the next 8 years.
- ▶ The group is pursuing further development of its PROTECTOR remote weapon station, particularly with the U.S. Army (MCT-30 variant) and the Swiss Army.

Technology and Innovation

- ▶ Kongsberg R&D spending reached NOK 663m (€71m) in 2017, representing 4.6% of net sales.



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Aerospace systems (integrated solutions, MRO, modernisation, ISR aircraft)
- ▶ Electronic systems (EW, optronics, radar systems, simulation, acoustic systems, UAS)
- ▶ Communication systems (terminals, radios, data link solutions, antennas, semiconductors)
- ▶ Homeland security (cybersecurity, IT solutions, intelligence systems)

GOVERNANCE

Chairman and CEO Christopher E. Kubasik
 Chief Financial Officer Ralph G. D'Ambrosio

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	LLL
Listed on	NYSE
Market Cap (\$m)	14 601

Major shareholders (as of 31.08.2018)

Vanguard Group Inc.	10,90%
ClearBridge Investments LLC	7,07%
BlackRock Fund Advisors	5,80%
SSgA Funds Management Inc.	4,19%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
IBL LLC	33%	United States
Aviation Communication & Surveillance Systems LLC (ACSS)	70%	United States
AYESAS	40%	Turkey
Global Military Aircraft Systems LLC (GMAS)	49%	United States

KEY FIGURES (Fiscal year ended: December 31st)

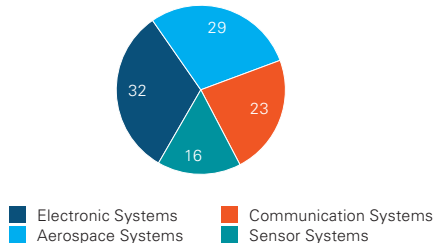
€ millions	2014	2015	2016	2017
Revenue *	7 295	8 320	8 321	8 474
Δ / (%)/[\$] **	-4,09%	-4,75%	-0,23%	3,94%
Defence (%)	82%	84%	83%	81%
Export (%)	27%	27%	25%	23%
Operating profit/loss *	753	708	865	903
Operating Margin (%)	10,32%	8,50%	10,39%	10,65%
Net profit/loss	510	-203	654	613
Order book	7 997	7 737	7 950	7 403
Employees	45 000	38 000	38 000	31 000

* Restated figures in 2017 for the entire period 2013-2017.

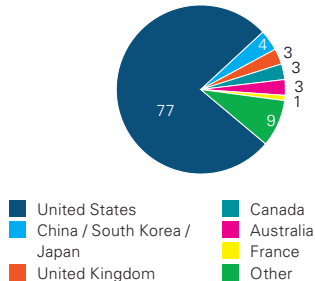
** Variation based on revenue in local currency.

See €/€ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



L3 TECHNOLOGIES (FORMERLY L-3 COMMUNICATIONS)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	Rockwell Collins	BAE Systems	Northrop Grumman	General Atomics	Lockheed Martin	Textron	Immarsat
Aerospace systems								
RC-12W/SPYDR and SPYDR II tactical aircraft			●			●		
RC-135 Airseeker ISR/SIGINT aircraft								
Block I modification for the E-6B Mercury aircraft	●							
EC-130H USAF programme (systems integration and maintenance of 14 USAF's EC-130H)	●	●			●			
Electronic systems								
Avionic systems (navigation products, aviation recorders, TCAS, electrical distribution)	●		●	●	●			
EO/IR sensor systems (imaging and targeting systems)			●	●	●			
MX-series electro-optical payload								
Sonar systems								
Mast systems								
Unmanned systems								
CUTLASS Tactical UAS								
APEX Tactical UAS								
REMORA autonomous underwater vehicle								
Communication systems								
Tactical SATCOM terminals (Panther, Hawkeye, Cheetah)							●	
Data link solutions (tactical network, transmitter responder, receiver, modem)								
Xenon Ion propulsion system (702sp satellite)	●							

STRATEGIC HIGHLIGHTS

Business trends

- ▶ L3 Technologies net revenues recovered in 2017 (+3.9%) following several years of deteriorating performances. This rebound was primarily linked to strong growth in Electronic Systems division (+10%), now the group's largest division, and Communication Systems division (+9%).
- ▶ Following a name change at the end of 2016, L3 Technologies moved forward with the reorganisation of its activities. During the third quarter of 2018, the Aerospace Systems and Sensor Systems divisions merged to form a new division, ISR Systems (Intelligence, Surveillance & Reconnaissance).
- ▶ L3 Technologies pursued its external growth strategy by acquiring seven companies in 2017. In August 2018, it completed the purchase of Azimuth Security and Linchpin Labs, which together form a new subsidiary, L3 Trenchant. In parallel, L3 Technologies divested its Vertex Aerospace subsidiary.
- ▶ In October 2018, L3 Technologies and Harris Corporation announced a stock-for-stock merger. The new entity, named L3 Harris Technologies, will become the 6th largest defence group in the U.S., with estimated revenues of \$16bn (€14bn) and 48,000 employees.

Home market

- ▶ The domestic market accounts for the largest share of revenues. The U.S. Department of Defense alone accounts for two thirds of group sales. The major clients are the U.S. Air Force and the U.S. Navy.
- ▶ The group won several tenders from the U.S. Armed Forces in 2017-2018, including a \$391m (€337m) 3-year contract for night vision equipment and a \$97m (€86m) contract to provide communication systems for Apache helicopters.
- ▶ Together with Boeing, L3 Technologies participates in the U.S. Navy's unmanned undersea vehicle (UUV) programme. The group is responsible for communications and protection systems.
- ▶ In May 2017, L3 Technologies delivered the first KC-10 aerial refueling tanker aircraft as part of the Contractor Logistics Support (CLS) contract awarded by the USAF in 2016. The deal covers 59 USAF aircraft and 2 Royal Netherlands Air Force aircraft.

Export markets

- ▶ The group aims to increase export sales (23% of 2017 revenues), particularly in Asia and the Middle East. In early 2018, it created international boards, consisting of L3 Technologies staff and local experts, to accelerate growth (defence and commercial) in Australia, Canada and the United Kingdom.
- ▶ Acting as a subcontractor, L3 Technologies provides communication and navigations systems for 12 OPV (Offshore Patrol Vessels) of the Royal Australian Navy (RAN). Working under BAE Systems, the group will also contribute to the SEA 5000 programme, which involves the provision of 9 Hunter-type frigates for the RAN.
- ▶ In 2017, deals were concluded with South Korea (transmission systems for military vehicles until 2019) and Taiwan (4 simulators).
- ▶ The group is also engaged in the modernisation of KC-135R transport aircraft. As part of the USAF and the UK Ministry of Defence's joint Airseeker programme, the planes will be reconfigured to RC-135W specifications.

Technology and Innovation

- ▶ L3 Technologies R&D spending reached \$287m in 2017 (€254m), an 11% annual increase.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aeronautics
- ▶ Defence electronics
- ▶ Helicopters
- ▶ Defence systems
- ▶ Space systems

GOVERNANCE

Chairman
Chief Executive Officer
Chief Financial Officer

G. De Gennaro
A. Profumo
A. Genco

KEY FIGURES (Fiscal year ended: December 31st)*

€ millions	2014	2015	2016	2017
Revenue	12 764	12 995	12 002	11 527
Δ (%)	-6,76%	1,81%	-7,64%	-3,96%
Defence (%)	54%	65%	64%	N/A
Export (%)	84%	84%	82%	85%
Operating profit/loss	444	623	687	562
Operating Margin (%)	3,48%	4,79%	5,72%	4,88%
Net profit/loss	20	527	507	274
Order book	29 383	28 793	34 798	33 578
Employees	54 380	47 156	45 631	45 134

* Figures restated - adoption of IFRS11 (2013) and IFRS15 (2017); divestment of Transport BU (2014).

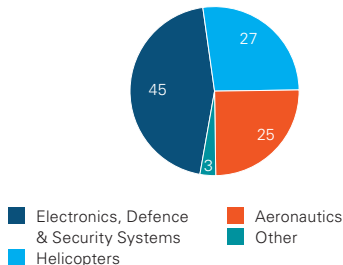
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	LDO
Listed on	Borsa Italiana
Market Cap (€m)	4 726

Major shareholders (as of 11.09.2018)

Ministry of Economy and Finance (Italy)	30,20%
Schroder Investment Management Ltd	2,64%
Lia Advisory (Malta) Ltd	2,01%
The Vanguard Group, Inc.	1,76%

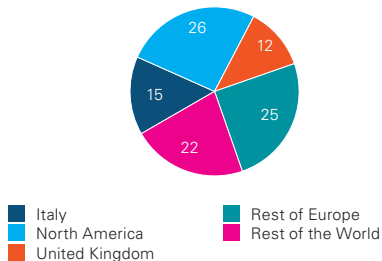
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
NHIndustries	32%	France
Elettronica	31,33%	Italy
Telespazio	67%	Italy
Thales Alenia Space	33%	France
MBDA	25%	France
ATR	50%	France
Avio	25,88%	Italy

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	TAI	PGZ	KHI	Boeing	Naval Group*	Dassault Aviation	Saab AB	General Dynamics	BAE Systems	Orbital ATK**	Airbus
Military aircraft and UAS											
Eurofighter Typhoon fighter aircraft								●		●	
M346 advanced trainer	●		●								
NEURON UCAV demonstrator (smart bomb bay, electrical system and various subsystems)					●						
C-27J Spartan and MC-27J Praetorian tactical airlifter									●		
Falco and Falco EVO tactical UAS											
European MALE RPAS definition study					●						●
Helicopters											
AW159 twin-engine helicopter (6t)							●				
NH90 twin-engine helicopter (11t)											●
AW101/MCH-101 three-engine helicopter (16t)			●								
T129 combat helicopter	●										
Weapons and artillery systems											
VULCANO 127/64 lightweight naval gun											
Black Shark heavyweight torpedo and MU90 lightweight torpedo					●						
Defence electronics											
EMPAR radar (FREMM)											
E-CAPTOR AESA radar (Eurofighter)									●		●
Raven ES AESA radar (Gripen NG)							●				
Space (excl. Thales Alenia Space)											
SICRAL 2 military communications satellite (ground segment)											

* formerly DCNS

** Takeover by Northrop Grumman completed in June 2018

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues declined by 4% in 2017 due to a weaker performance in the Helicopters division (-10.4%). Military helicopters accounted for 65% of segment revenue.
- ▶ As part of the group's 2018-2022 Industrial Plan, the LEAP 2020 (Leonardo Empowering Advanced Partnership 2020) programme was launched in July 2018 to optimise the supply chain.

Home market

- ▶ Leonardo is a sub-contractor for Lockheed Martin's F-35 programme. In January 2018, it delivered the first short takeoff and vertical landing aircraft (F-35B Lightning II) assembled at its Cameri site in Italy to the Italian Navy.
- ▶ In June 2018, the group was selected to equip the Italian Navy's U212A submarines with Black Shark Advanced (BSA) heavyweight torpedoes produced by WASS. It will also provide associated logistics and MRO services.
- ▶ Leonardo strengthened its role in the training of pilots of the Italian Air Force with the establishment of the International Flight Training School in July 2018. The group will also provide 4 new M346 training aircraft from 2019.

Export markets

- ▶ Significant deals were concluded with Qatar over 2017-2018. As part of an order for 28 NH90 helicopters (worth more than €3bn), Leonardo will deliver 12 NH90 NFH (frigate helicopter) by 2025. Airbus will deliver 16 NH90 TTH (tactical troop transport helicopter). The contract includes an option for 12 additional units (6 TTH and 6 NFH).
- ▶ The group's U.S. subsidiary, Leonardo DRS, concluded a \$193m (€166m) deal with the U.S. Army to provide protection systems for the new Abrams tank.
- ▶ In July 2018, Leonardo signed a five-year contract with the UK Ministry of Defence for simulation solutions for different aircraft used in the United Kingdom (Typhoon, Tornado, Chinook, etc.).
- ▶ In September 2018, Spain announced plans to acquire 23 NH90 helicopters for €1.5bn. At the same time, Boeing and Leonardo won a \$2.4bn (approx. €2bn) contract from the U.S. Air Force to supply 84 MH-139 helicopters (based on Leonardo's AW139). Leonardo will assemble the units at its Philadelphia (Pennsylvania) site.
- ▶ In October 2018, Leonardo and Fincantieri strengthened their cooperation by making their joint subsidiary, Orizzonte Sistemi Navali, the exclusive provider of combat systems for Fincantieri's export naval ships.
- ▶ Leonardo strengthened its position in Poland by winning a €115m contract for 4 M346 training aircraft, scheduled for delivery by 2020, with an option for 4 additional units (the Polish Air Forces already have 8 M346 in service). The group also signed a letter of intent with PGZ to participate in the development of the new AW249 combat helicopter, which will replace the A129 Mangusta from 2026.

Technology and Innovation

- ▶ Group R&D spending increased 12% to €1.54bn in 2017, representing 13% of net revenues.
- ▶ In July 2018, Leonardo established partnerships with L3 Technologies and Ultra Electronics CSS to develop anti-submarine systems.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aerospace (aircraft, helicopters, UAS, satellites and launch vehicles)
- ▶ Missiles, guided weapons and missile defence
- ▶ Maritime systems (surface ships, combat systems)
- ▶ Defence electronics
- ▶ Cyber solutions

GOVERNANCE

Chairman and CEO Marilyn A. Hewson
 Chief Financial Officer Bruce L. Tanner

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	LMT
Listed on	NYSE
Market Cap (\$m)	83 456

Major shareholders (as of 30.06.2018)

SSgA Funds Management, Inc.	15,96%
The Vanguard Group, Inc.	7,27%
Capital Research & Management Co. (World Investors)	6,07%
BlackRock Fund Advisors	4,47%

MAIN JOINT VENTURES AND ASSOCIATES

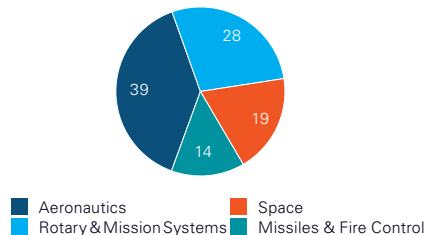
Name	%	Country
Ascent Flight Training Holding Ltd	50%	United Kingdom
MEADS International Inc.	58%	United States
United Space Alliance LLC	50%	United States
United Launch Alliance LLC	50%	United States
Raytheon-Lockheed Martin Javelin JV	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

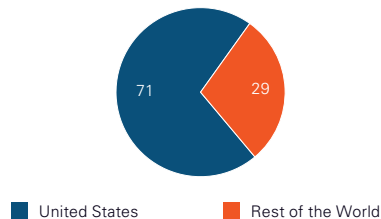
€ millions	2014	2015	2016	2017
Revenue	30 057	36 519	42 681	45 175
Δ (%) / \$ [*]	1,79%	1,48%	16,56%	8,04%
Defence (%)	~ 90%	~ 90%	89%	88%
Export (%)	22%	22%	27%	29%
Operating profit/loss	3 771	4 245	5 013	5 240
Operating Margin (%)	12,55%	11,62%	11,74%	11,60%
Net profit/loss	2 719	3 248	4 790	1 772
Order book	61 367	87 012	91 231	83 349
Employees	112 000	126 000	97 000	~100 000

* Variation based on revenue in local currency. See €/\$/ exchange rates p.7

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	MHI	TAI	Boeing	BAE Systems	Northrop Grumman	Pratt & Whitney*	General Dynamics	Fincantieri	Raytheon	Leonardo	Navanite	KAI	Gibbs & Cox	TASL
Military aircraft														
F-35 Lightning II multi-role fighter aircraft	●	●		●	●	●				●				
F-22 Raptor air-superiority fighter aircraft			●			●								
F-16 Fighting Falcon fighter aircraft	●					●						●		●
T-50 multi-trainer aircraft											●			
C-5M Super Galaxy strategic transport aircraft														
C-130J Super Hercules tactical airlifter														
P-3C Orion maritime patrol aircraft	●													
Sea Hawk (MH-60R) and Black Hawk (H-60 / S-70) twin-engine multi-role helicopter	●	●												
King Stallion CH-53K three-engine helicopter														
Surface ships														
Freedom-class Littoral Combat Ship (LCS)							●							
Multi-Mission Surface Combatant (MMSC)*													●	
Navigation and combat systems														
Trident missile navigation system														
AEGIS combat system								●		●				
Space														
GPS III satellite						●								
Missile systems and missile defence														
PAC-3, PAC-3 MSE and THAAD Interceptors & THAAD missile defence system								●						
Hellfire II and Javelin anti-tank missiles								●						
Multiple Launch Rocket System (MLRS)			●											

* UTC ** Variant of Freedom-class Littoral Combat Ship

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Net revenues grew 8% to \$51bn (€45.2bn) in 2017. Growth was driven by the Aeronautics (+13.4%), Missiles & Fire Control (+9.1%) and Rotary & Mission Systems (+5.6%) divisions.
- ▶ With more than \$44.7bn (€39.6bn) of revenues from military activities, Lockheed Martin remains the world's number one defence contractor. Defense operations accounted for 88% of group net sales, a share that has remained stable in recent years.
- ▶ After significant staff cuts in 2016 (2,500 positions), Lockheed Martin in July 2018 announced 1,800 new hirings to accelerate production on the F-35 programme. To further support the production rate, the group also opened a new plant in Pinellas Park (Florida) while expanding its Orlando (Florida) site.

Home market

- ▶ With 71% of sales generated in the U.S., Lockheed Martin remains heavily dependent on its domestic market. The U.S. Department of Defense is the group's biggest client.
- ▶ In the military helicopters segment, Lockheed Martin (through its Sikorsky subsidiary) in June 2017 won a \$3.8bn (€3.4bn) contract covering the supply of 257 H-60 Black Hawk helicopters to the U.S. Army and foreign clients via the FMS (Foreign Military Sales) process. Should a further option be exercised (for 130 additional units), the value of the contract could reach \$5.2bn (approx. €4.4bn).
- ▶ In September 2018, Lockheed Martin was chosen by the U.S. Department of Defense (DOD) to provide 141 F-35 fighter aircrafts for a total value of \$11.5bn (€9.7bn). According to Lockheed Martin, the F-35 unit price will decline for the 11th consecutive year, to \$89.2m (€75m). The jet fighters' F135 engines are included in a separate contract signed between the DOD and Pratt & Whitney.
- ▶ In the maritime segment, the group will provide the 6th and 7th Freedom-class frigates (LCS 11 and LCS 13) to the U.S. Navy. The ships were built at the naval shipyard of its partner Marinette Marine, a Fincantieri subsidiary.

Export markets

- ▶ The export markets accounted for almost 30% of sales in 2017, a 2 percentage points increase compared to 2016. A significant share of international sales is conducted through the FMS process.
- ▶ The group has established several partnerships and joint ventures in the Middle East (UAE and Saudi Arabia), Asia-Pacific (Australia, Singapore and India - where it will produce the F-16 Block 70 in partnership with Tata Advanced Systems should India select the aircraft in an open tender), and Europe (Poland, the United Kingdom and Germany - where the group signed a cooperation agreement with MBDA, covering the MEADS programme, and with Rheinmetall, covering the supply of the CH-53K to Germany).
- ▶ The F-35 is seeing strong export sales. In June 2017, Lockheed Martin signed a MoU with the Pentagon covering the sale of 440 F-35 to 11 countries (the U.S., Australia, Denmark, Italy, Israel, Japan, the Netherlands, Norway, Turkey, South Korea and the U.K.) over 2018-2020. In October 2018, beating a rival bid from Dassault Aviation, Lockheed Martin's F-35 was chosen by Belgium to replace its F-16 fleet (estimated contract value €3.6bn). The Finnish government is also considering the F-35 to replace its F/A-18C/D fleet.
- ▶ In June 2018, Lockheed Martin won a \$1.2bn (€1bn) contract to provide 16 F-16 Block 70 fighter aircraft to the Royal Bahraini Air Force (via the FMS process).
- ▶ In October 2018, Lockheed Martin and BAE Systems were selected by the Royal Canadian Navy to provide 15 new vessels based on the British Type 26 frigate (contract value \$56bn, or approx. €47bn).

Technology and Innovation

- ▶ R&D spending grew 22% to \$1.2bn (€1bn) in 2017, representing 2.4% of net revenues.



BUSINESS AREAS

Missiles producer, systems integrator

- ▶ Ground based air defence (air-surface systems)
- ▶ Air dominance (air-to-air missile, guided missile systems, naval cruise missile)
- ▶ Maritime superiority (anti-ship missile systems, naval air defence systems, naval cruise missile)
- ▶ Battlefield engagement (anti-tank missile)

GOVERNANCE

Chairman and CEO	Antoine Bouvier
Chief Financial Officer	Peter Bols
Executive Group	
Director Programmes	Stéphane Reb

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 19.10.2018)

Airbus	37,5%
BAE Systems	37,5%
Leonardo	25,0%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Eurosam	66,6%	France
Roxel	50%	France
MEADS International Inc.	42%	United States
Taurus Systems GmbH	66,6%	Germany
PARSYS GmbH	50%	Germany
L&T MBDA Missile Systems	49%	India
TLVS GmbH	N/A	Germany

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	2 394	2 875	2 955	3 107
Δ (%)	-15,38%	20,09%	2,78%	5,14%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	43%	50%	N/A
Operating profit/loss	148	218	213	231
Operating Margin (%)	6,18%	7,58%	7,21%	7,43%
Net profit/loss	N/A	N/A	N/A	N/A
Order book	12 600	15 100	15 900	16 800
Employees	~10 000	~10 000	10 338	10 500

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Saab AB	Diehl Defence	Innizze	Bharat Dynamics Ltd	Lockheed Martin	Safran	Dassault Aviation
Ground based air defence								
ASTER 15 and 30 surface-to-air missile	●							
CAMM ER common anti-air modular missile	●							
VL MICA and MICA NG vertical launch short range air defence system	●					●		
Medium Extended Air Defense System (MEADS) project					●			
Air dominance								
BANG multi-purpose insensitive bombs								
METEOR beyond visual range air-to-air missile		●	●					
STORM SHADOW/SCALP air-launched long range deep strike weapon								
TAURUS KEPD 350E modular stand-off weapon system for precision strikes		●						
Brimstone long range air to ground missile								
Self-protection equipment to counter threats for Rafale aircraft (SPECTRA)	●						●	
Maritime superiority								
Naval Cruise Missile (McCN - NCM)								
Exocet MM40 Block 3 anti-ship missile system								
Sea VeNom-ANL lightweight anti-surface guided weapon								
MARTE-ER anti-ship missile system								
Battlefield engagement								
MILAN-ER anti-tank medium range weapon system				●				
MMP anti-tank land combat missile system								
PARS 3 LR high precision fire-and-forget weapon system		●						
VDM route clearance / solutions for C-IED / countermining								

STRATEGIC HIGHLIGHTS

Business trends

- ▶ MBDA consolidated sales rose for a third consecutive year in 2017 (+5.1%), reaching €3.1bn. Growth was primarily driven by the delivery of missile systems to the Middle East (METEOR, STORM SHADOW), South Korea (TAURUS) and France (ASTER).
- ▶ The order book approached the €17bn mark, representing more than five years of cumulative net revenues. However, new orders fell to €4.2bn (compared to €5.2bn in 2016) due to increased competition from U.S. groups in Europe and the loss of several tenders (Romania, Sweden).
- ▶ MBDA is in the midst of an ambitious recruitment plan. Following 1,100 new hires in 2017, the group planned to add a further 1,200 staff in 2018, including 500 in France.

Home market (France, Germany, United Kingdom, Italy)

- ▶ MBDA UK won a £400m (approx. €450m) contract to extend the service life of Brimstone air-to-surface missiles beyond 2030. Typhoon fighter aircraft of the Royal Air Force will be armed with the missiles, followed by General Atomics' MQ-9B Protector RPAS and Boeing's Apache helicopters.
- ▶ TLVS GmbH, the joint venture created by MBDA Deutschland and Lockheed Martin in March 2018, is well positioned to win Germany's anti-missile air defence TVLS (Taktisches Luftverteidigungssystem) contract, which is set to be awarded in 2019. In this call for tender valued at €3.5bn, TLVS GmbH's MEADS (Medium Extended Air Defense System) is in competition with the Patriot defence system provided by Raytheon in partnership with Rheinmetall Defence.
- ▶ In July 2018, the French Ministry of the Armed Forces launched the next-generation MICA programme, which aims to replace the air-to-air missiles carried by the Mirage 2000 and the Rafale. MBDA partners with Safran and Thales to develop the new missile, which is scheduled for delivery between 2026 and 2031.

Export markets

- ▶ MBDA is accelerating its internationalisation strategy by introducing export development programmes and establishing a presence overseas. As part of the Make in India policy, the group created the L&T MBDA Missile Systems joint venture with Larsen & Toubro in February 2017.
- ▶ The Qatar Ministry of State for Defence Affairs selected MBDA to equip its NHIndustries' NH90 NFH helicopters with anti-ship MARTE-ER missiles. The deal's value was undisclosed.
- ▶ After having been selected by Estonia to provide short-range air defence systems, training missiles, and simulators, MBDA teamed up with Estonian firm Milrem Robotics to develop anti-tank unmanned ground vehicles (UGV). The project will feature MBDA's IMPACT system.

Technology and Innovation

- ▶ The OCEAN 2020 consortium, led by Leonardo and featuring MBDA alongside Safran, Indra Sistemas and Saab AB, received a €35m grant (as part as the preparatory action for defense research) to carry out tests on unmanned systems in a maritime environment. The first tests will be carried out in the Mediterranean Sea in 2019, followed by a further round in the Baltic Sea in 2020.
- ▶ In September 2018, MBDA UK unveiled a new UAV concept designed to provide close air support for forward-deployed land forces. The UAV, called Spectre, can be equipped with either two Enforcer missiles or a single anti-tank MMP missile.



BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Aircraft braking systems
- ▶ Control systems
- ▶ Polymers and composites
- ▶ Sensing systems
- ▶ Avionic systems
- ▶ Defence systems
- ▶ Auxiliary Power Unit (APU)

GOVERNANCE

Chairman	Sir Nigel Rudd
Chief Executive Officer	Tony Wood
Chief Financial Officer	Doug Webb

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	1 927	2 269	2 431	2 313
Δ (%)/[€]*	-5,11%	6,02%	20,96%	1,75%
Defence (%)	35%	35%	35%	34%
Export (%)	90%	91%	90%	90%
Operating profit/loss	293	326	285	347
Operating Margin (%)	15,20%	14,36%	11,73%	15,01%
Net profit/loss	220	251	209	399
Order book	2 067	2 222	2 325	2 347
Employees	10 823	11 926	11 210	11 226

* Variation based on revenue in local currency. See €/€ exchange rates p.7.

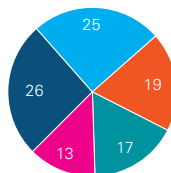
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	MGGT
Listed on	LSE
Market Cap (€m)	3 974

Major shareholders (as of 11.09.2018)

Capital Research & Management Co.	6,24%
FIL Investment Advisors Ltd.	5,56%
First Pacific Advisors LLC	5,04%
T. Rowe Price Associates, Inc.	5,00%

REVENUE BY BUSINESS LINE (%)*



■ Control Systems ■ Polymers & Composite
 ■ Sensing Systems ■ Equipment Group
 ■ Aircraft Braking Systems

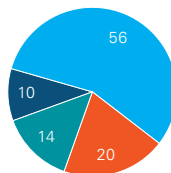
* As of January 1st, 2019, reorganisation of activities under 4 divisions: Airframe Systems, Engine Systems, Energy & Equipment, and Services & Support.

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Parkway-HS, LLC	70%	United States
Parkway-Hamilton Sundstrand Mexico S. de R.L. de C.V.*	N/A	Mexico

* Owned via Parkway-HS, LLC

REVENUE BY REGION (%)



■ United Kingdom ■ Europe (excl. UK)
 ■ United States ■ Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	BAE Systems	Airbus	Lockheed Martin	Boeing	Leonardo	General Dynamics	Dassault Aviation	Textron	Kaman Aerospace	Northrop Grumman	Raytheon
Aircraft braking systems											
Carbon brakes	●	●	●	●	●	●	●	●			
Steel brakes	●	●	●	●	●	●	●	●	●	●	
Control systems	●	●	●	●	●	●	●	●		●	
Security systems											
Fire detection control unit	●	●	●	●	●	●	●	●		●	
Polymers and composites											
Composites structures		●	●	●	●	●		●			
Fuel containment	●	●	●	●	●		●		●		
Power conversion											
Power converter systems		●		●							
Control systems											
Ice protection systems		●	●	●	●		●				
Pressure indicator and gauge		●	●	●	●		●		●	●	
Avionic systems											
Integrated Secondary Flight Display (iSFD)			●	●	●		●				
Threat Warning Indicator (TWI)			●	●	●		●				
Defence systems											
Aerial target systems (AGTS-36, GT-400) and countermeasures			●	●							●
Automatic ammunitions handling	●	●	●		●		●				

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Net revenues grew 1.8% in 2017, driven by higher civil aviation sales. However, performances in the defence and energy activities deteriorated.
- ▶ In early 2017, the group acquired U.S. company Elite Aerospace, a specialist in MRO for commercial and military aircraft. Meggitt has also divested several assets recently, including Thomson Aerospace & Defence to the Italian firm UmbraGroup.
- ▶ As part of its streamlining strategy, Meggitt will adopt a new organisational structure from January 1st, 2019. Its activities will fall under 4 divisions: Airframe Systems, Engine Systems, Energy & Equipment and Services & Support.

Home market

- ▶ The British market accounted for 10% of Meggitt's net revenues and 24% of the group's staff in 2017.
- ▶ In July 2018, Meggitt began construction of a "super site" at the Manufacturing Technology Center at Ansty Park in Coventry, UK. The company aims to consolidate various industrial and support functions with this move. Investment amounts to £130m (€148m). The site is scheduled to be operational by end-2019.
- ▶ In parallel, Meggitt plans to shut down some of its UK sites, including factories in Birmingham, Coventry and Maidenhead.
- ▶ The group's products are part of various UK defence programmes and joint programmes such as the Eurofighter Typhoon.

Export markets

- ▶ Most of the group's revenues are generated in the U.S. (56% of total revenues and 71% of military sales in 2017). As a partner of major players such as Boeing and Lockheed Martin, Meggitt participates in various defence programmes (F-35 fighter aircraft, P-8 Poseidon multi-mission maritime aircraft, Apache helicopters).
- ▶ Meggitt won a £52m (€59m) multi-year contract from the U.S. Air Force to provide fuel tanks for F/A-18 aircraft as well as a five-year \$21m (€18m) contract for fuel cells for UH-60 Black Hawk helicopters. In October 2018, its contract to provide wheels & brakes and replacement parts for various aircraft and helicopters was also extended for a 5 year-period (contract value \$323m, €280m).
- ▶ In January 2018, the group's U.S. subsidiary, Meggitt Defense Systems, signed a \$26m (€21m) contract with General Dynamics to provide the thermal management system of the Abrams M1A2 SEPV3 and M1A2 KSA tanks.
- ▶ Meggitt also increased its footprint in Asia, particularly through production capacity expansions in Vietnam and China. In 2018, it signed several contracts with South Korean group KAI to develop various equipment for the KF-X multi-role aircraft. Production is set to begin in mid-2020. Meggitt was also selected by the publicly-owned Taiwanese group AIDC to provide electronic braking systems.

Technology and Innovation

- ▶ R&D expenditure reached £153.7m (€175m) in 2017, representing 7.6% of net revenues. This is a fall of 2.6% compared to 2016.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Naval shipbuilding
- ▶ Energy
- ▶ Industry and transport
- ▶ Aerospace
- ▶ Power systems and special vehicles
- ▶ Air-conditioning systems and cooling systems

GOVERNANCE

Chairman	Hideaki Omiya
Chief Executive Officer	Shunichi Miyanaga
Chief Financial Officer	Masanori Koguchi

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014-15	2015-16	2016-17	2017-18
Revenue	28 791	30 523	32 952	31 675
Δ (%) [JPY]*	19,18%	1,37%	-3,28%	5,03%
Defence (%)	12%	12%	12%	N/A
Export (%)	53%	55%	53%	54%
Operating profit/loss	2 135	2 334	1 267	975
Operating Margin (%)	7,42%	7,65%	3,85%	3,08%
Net profit/loss	949	578	886	741
Order book	36 441	35 070	35 764	29 552
Employees	81 845	83 932	82 728	80 652

* Variation based on revenue in local currency. See €/JPY exchange rates p.7.

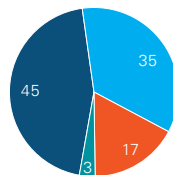
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	7011
Listed on	Tokyo Stock Exchange
Market Cap (JPY m)	1 450 000

Major shareholders (as of 26.10.2018)

Asset Management One Co., Ltd.	3,61%
BlackRock Fund Advisors	3,16%
Nomura Asset Management Co., Ltd.	2,86%
Meiji Yasuda Life Insurance Co.	2,37%

REVENUE BY BUSINESS LINE (%) *



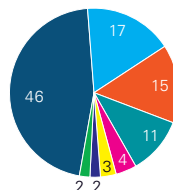
Legend: Industry & Infrastructure (dark blue), Aircraft, Defense & Space (orange), Power Systems (light blue), Others (teal)

* Revenue distribution based on total sales excluding eliminations.

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ATMEA	50%	France
L&TMHPS Boilers Pvt Ltd	49%	India
Shenyang Aerospace Xinguang MHI Engine Valve*	65%	China
MHIAEL	89%	Japan

REVENUE BY REGION (%)



* The parent company Mitsubishi Heavy Industries holds 65% of the joint venture via a direct interest of 32.5% and an indirect interest of 32.5% through its Mitsubishi Heavy Industries (Hong Kong) Ltd. (MHIIH) subsidiary.

Legend: Japan (dark blue), Asia (light blue), United States (orange), Europe (teal), Central America (pink), Middle East (yellow), Africa (purple), Other (green)

MITSUBISHI HEAVY INDUSTRIES (MHI)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	Boeing	KHI**	Raytheon	Mitsubishi Electric	IHI**	Japan Steel Works	Japan Aviation Electric	NEC	ATLA***	Mitsui
Fighter aircraft											
F-2 fighter aircraft	●		●	●	●		●	●			
F-15J fighter aircraft (built under licence)	●	●		●	●						
X2 demonstrator (formerly ATD)						●				●	
F-35 fighter aircraft (built under licence)	●										
Military helicopters											
UH/SH-60J twin-engine transport helicopter (10t) (built under licence)	●										
Missile systems and guided weapon systems											
PATRIOT (PAC-2 and -3) missile defence system	●			●							
Mk41 vertical launch system (built under licence)	●										
IR AAM (3, 4, X-5) air-to-air missiles					●			●	●		
RIM-161 Standard Missile 3 (SM-3)				●							
Special vehicles											
Type 10 main battle tank						●				●	
Type 16 manoeuvre combat vehicle (MCV)										●	
Engines											
TS1 (OH-1 Helicopter)			●			●					
Submarines											
Soryu-class attack submarines			●								
Surface ships											
Akizuki-class (19DD) and Asahi-class (25DD) destroyers											
30FFM frigates											●

* Kawasaki Heavy Industries ** Ishikawajima-Harima Heavy Industries *** Acquisition Technology and Logistics Agency (ex-TRDI)

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues recovered over 2017-2018 (+5%), reaching JPY 4,111bn (€31.7bn). All divisions contributed to growth. At the same time, net margin contracted 0.4 percentage point over the year.
- ▶ In February 2017, the Integrated Defense & Space Systems (IDSS) unit, which focuses on defence and aerospace activities, was integrated into the new Aircraft, Defense & Space (ADS) division.
- ▶ The Mitsubishi Regional Jet (MRJ) commercial aircraft programme continued to face challenges and delivery delays, impacting the group's operating performance. It is expected to be operational in 2020, 7 years behind schedule.

Home market

- ▶ MHI is the leading defence contractor of the Japanese Self-Defense Forces (JSDF). It won a number of contracts from the JSDF over 2017-2018, particularly for Type-10 and Type-16 tanks and Soryu-class submarines. The Japanese government announced an increase to its national defense budget in FY2018.
- ▶ The next-generation prototype combat aircraft (X-2 "Shinshin" programme) carried out its first test flights at the end of 2016. The aircraft will evolve to become a 5th generation stealth fighter, the F-3, which is due to replace the F-2 by 2030. Due to the programme's high development costs, an international partnership is under consideration. Japan is in discussions with foreign contractors, including Lockheed Martin - which has proposed a cross between the F-22 Raptor and the F-35 Lightning II - Boeing and BAE Systems.
- ▶ The first F-35A fighter aircraft assembled at the Nagoya site was delivered in June 2017. The facility will assemble 38 of the 42 F-35 ordered by the Japanese government.
- ▶ The first Asahi-class destroyer, built at MHI's naval shipyard in Nagasaki, was delivered to the Japanese Navy in March 2018. The delivery of the second destroyer, Shiranui, is scheduled for 2019. MHI was also selected to be lead contractor for the Japanese Navy's 30FFM next-generation frigate, in collaboration with Mitsui Engineering & Shipbuilding. The programme involves the construction of 8 ships from 2018.
- ▶ In June 2018 the Japanese Aerospace Exploration Agency (JAXA) launched the 7th IGS-Radar military observation satellite using MHI's H2A launcher. These satellites are able to monitor the military activities of neighbouring countries, particularly North Korea.

Export markets

- ▶ Supported by strong commercial activities, foreign sales accounted for 54% of group net revenues over 2017-2018. Main markets were Asia, the U.S. and Europe.
- ▶ In 2014, Japan amended its regulations to allow arms exports. As a consequence, MHI aims to tap new markets, particularly in the Asia-Pacific region. Discussions with India and New Zealand are underway.
- ▶ However, no major foreign military contract has been secured in recent years. An Australian tender for 12 submarines was won by France's Naval Group in 2016, ahead of a Japanese bid that included MHI.

Technology and Innovation

- ▶ R&D expenses reached JPY 176.8bn (€1.4bn) over 2017-2018, representing 4.3% of net revenues. This is a 10% increase compared to the previous year.



BUSINESS AREAS

Engine manufacturer, systems integrator/equipment supplier

- ▶ Engines (commercial and military aircraft)
- ▶ Industrial gas turbines
- ▶ Equipment and components
- ▶ MRO

GOVERNANCE

Chairman of the Supervisory Board	Klaus Eberhardt
Chief Executive Officer	Reiner Winkler
Chief Financial Officer	Peter Kameritsch

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	MTX
Listed on	XETRA
Market Cap (€m)	9 381

Major shareholders (as of 14.09.2018)

Capital Research & Management Co.	11,97%
Allianz Global Investors GmbH	3,00%
Harris Associates LP	2,97%

MAIN JOINT VENTURES AND ASSOCIATES

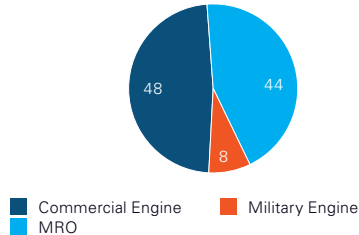
Name	%	Country
EUROJET Turbo GmbH	33%	Germany
EPI Europrop International GmbH	28%	Germany
MTU Turbomeca Rolls-Royce GmbH	33,33%	Germany
MTU Turbomeca Rolls-Royce ITP GmbH	25%	Germany
Turbo Union Ltd	39,98%	United Kingdom

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	3 914	4 435	4 733	5 036
Δ (%)	9,51%	13,32%	6,71%	6,41%
Defence (%)	14%	11%	11%	8%
Export (%)	88%	89%	89%	91%
Operating profit/loss	334	386	453	555
Operating Margin (%)	8,52%	8,69%	9,57%	11,03%
Net profit/loss	195	218	313	382
Order book*	11 177	12 494	14 172	13 225
Employees	8 333	8 334	8 368	8 846

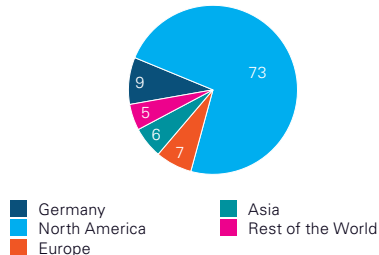
* Not consolidated.

REVENUE BY BUSINESS LINE (%)*



* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Rolls-Royce	Avio Aero*	ITP**	General Electric	Safran	Pratt & Whitney***	Japanese Aero Engines	GKN	Vertecor
Fighter aircraft engines									
EJ200 (Eurofighter / Typhoon)	●	●	●						
Larzac 04 (Alpha Jet)	●			●					
F110 (F-15, F-16)		●		●	●			●	
F414 (F/A-18E/F, EA-18G, JAS-39E)				●				●	
RB199 (Tornado)	●	●							
Military transport aircraft engines									
TP400-D6 (A400M)	●		●	●					
Tyne Mk 21/22 (C-160, Breguet Atlantic)	●			●					
IAE V2500 (KC-390)					●	●			
PW2000 (C-17)		●			●			●	
Helicopter engines									
T408 (ex-GE38) (CH-53K)				●					
MTR390-2C (Tiger)	●			●					
MTR390-E (Tiger)	●		●	●					
T64 (CH-53G, GS, GA)				●					
Gas turbines									
LM2500 series			●	●					
LM5000 and LM6000				●					
ASE series									●
TF series									●

* General Electric

** Rolls-Royce

*** UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues reached €5bn in 2017, a 6.4% annual increase. Growth was underpinned by the MRO (commercial engines maintenance) and Commercial Engine divisions. However, the Military Engine division reported a significant sales decline (-19.8%).
- ▶ In defence segment, EJ2000 (Eurofighter), RB199 (Tornado) and TP400-D6 (A400M) engines' sales remain the biggest contributors to revenue. New order value for military engines however stood at €297m as of end-2017, significantly below the 2016 performance (€498m).
- ▶ MTU Aero Engines continues to expand its industrial production capacities in Germany and Poland. The Polish Rzeszów site will benefit from a €80m investment between 2018 and 2022.

Home market

- ▶ Germany currently accounts for less than 10% of group net revenues, although it remains the group's leading defence market.
- ▶ In October 2017, MTU concluded a five-year deal with the German Air Force to provide MRO services for TP400-D6 engines of the A400M transport aircraft.
- ▶ In March 2018, the group established a partnership with Sikorsky (a Lockheed Martin subsidiary) aimed at providing assembly and maintenance services for CH-53K heavy-lift helicopters, should the helicopters be selected by the German Air Force. The CH-53K is in competition with Boeing's CH-47 Chinook. The German government's choice of helicopter is scheduled to be announced in mid-2020, although the decision could be postponed.

Export markets

- ▶ The group is heavily dependent on the U.S. market (69% of net revenues in 2017).
- ▶ Engine production for Sikorsky CH-53K heavy-lift helicopters ordered by the U.S. Marine Corps was launched in February 2018. MTU Aero Engines has an 18% share in this GE Aviation-led programme. The contract, which covers the delivery of 22 T408 engines and the provision of related services, is valued at \$143m (€127m). The first helicopters are expected to be operational in 2019.
- ▶ MTU Aero Engines' export outlook is positive thanks to its EJ200 (Eurofighter) and TP400-D6 (A400M) engines. At the end of 2017, Qatar ordered 24 Eurofighter Typhoon aircraft, to be delivered by end-2022 (contract value €6.8bn).

Technology and Innovation

- ▶ Group R&D expenditure stood at €199.7m in 2017, down 4.3% compared to 2016. R&D spending represented 4% of net revenues. More than 90% of R&D activity is focused on commercial engines.
- ▶ At ILA 2018 in Berlin, MTU Aero Engines presented an engine concept (Next European Fighter Engine) designed for the new fighter aircraft that is being developed by Airbus and Dassault as part of the Future Combat Air System (FCAS) programme. Development work on the new aircraft is expected to be completed by 2040.



BUSINESS AREAS

Provider of ammunition and rocket engines

- ▶ Ammunition (commercial, small, medium and large caliber)
- ▶ Weapon systems (man-portable fired systems, warheads and fuzes)
- ▶ Explosives and pyrotechnics (hand grenades, initiation systems)
- ▶ Rocket motors (missiles, boosters, hybrid)
- ▶ Demilitarisation services (conventional ammunition)

GOVERNANCE

Chairman

O. Isotalo

Chief Executive Officer

M. Brandtzæg

Chief Financial Officer

S. E. Ommundsen

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted Group
Market Cap	

Major shareholders (as of 31.12.2017)

Norwegian State	50%
Patria Oyj	50%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SN Technologies SA	50%	Switzerland
Komm-In AS	14%	Norway
Sintef Raufoss Manufacturing AS	14%	Norway
Raufoss Holdings AS	2,5%	Norway

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	445	423	445	478
Δ (%) /NOK)*	0,41%	1,76%	9,22%	8,00%
Defence (%)	85%	80%	80%	80%
Export (%) **	86%	91%	76%	82%
Operating profit/loss	34	32	41	39
Operating Margin (%)	7,69%	7,51%	9,29%	8,22%
Net profit/loss	23	24	30	19
Order book	426	534	525	472
Employees	2 160	2 088	2 102	2 217

* Variation based on revenue in local currency.

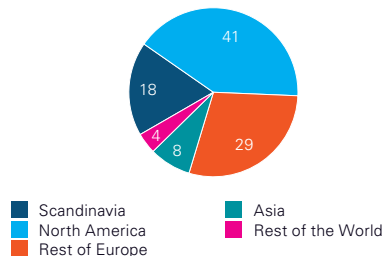
See E/NOK exchange rates p.7.

** As of 2016, domestic market = Scandinavia region.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	BAE Systems	Foysvarets FI	Raytheon	Saab AB	Cyalume Technologies	PGZ	Thales	Diehl Defence	Kongsberg	MBDA
Ammunition										
Small caliber (4.6mm - 12.7mm)										
Medium caliber (12.7mm - 57mm)	●			●	●					
Large caliber (120mm - 155mm)	●	●	●							
Mortar rounds (60mm, 81mm and 120mm)										
Weapon systems										
Warheads (M282) and fuzes (D652, Jupiter, Mercury, Venus)										
Man-portable fired systems (M72 LAW, BDM, SMAW and SMAW-T)			●							
Explosives and pyrotechnics										
Hand grenades										
Initiation systems										
Hystrix system										
Rocket motors										
Rocket motors for missiles (ESSM, IRIS-T SL, IDAS, Penguin, AMRAAM, Sidewinder, NSM)			●				●	●		
Auxiliary boost rocket motors (Exocet MM40, NSM)								●	●	
Booster separation motor and acceleration Booster (Ariane 5)										
Hybrid rocket motors				●		●				
Demilitarisation services										
Demilitarisation and thermal treatment										●

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues increased 8% to almost NOK 4.5bn (€478m) in 2017. Growth was mostly driven by higher sales in the U.S. (+31%). However, net profit fell 35% to NOK 181m (€19m).
- ▶ Nammo expects growth to continue thanks to its niche positioning, primarily in ammunition (all calibers) and rocket motors, as well as a favourable market environment (increase in defence budgets in the U.S. and, to a smaller extent, Europe).
- ▶ The group strengthened its commercial activities with the acquisition of 3 companies specialised in space technology in the United Kingdom and Ireland in 2017. The group also established an ammunition distribution centre in the U.S. for its retail operations.
- ▶ In 2017, Nammo announced technology and industrial investments of more than NOK 1bn (€107m) over the next 5 years. Projects include the construction of an automated production line for medium caliber ammunition (20 - 30mm) at its Raufoss site in Norway.

Home markets

- ▶ Scandinavia (Norway, Sweden, Finland and Denmark) remains a strategic market for Nammo.
- ▶ In 2017, the Finnish Army became the first client for 155mm IM HE-ER rounds. Nammo aims to increase exports of this long range (above 40km) artillery projectile, which was developed in 2012 in collaboration with the Norwegian Defence Material Agency (NDMA).
- ▶ Nammo completed the first tests of the GAU-22 gatling gun, developed by General Dynamics, that will equip the F-35 Lightning II. These trials were conducted as part of the group's agreement with NDMA to develop APEX 25mm ammunition for the F-35.
- ▶ The group introduced 155mm ammunitions capable of striking their target from more than 100km. Tests are slated for 2019-2020 and the new artillery system is set to be operational by 2023-2024.

Export markets

- ▶ Nammo has a broad international footprint, with operations in 14 countries. Sales outside Scandinavia accounted for 82% of net revenues in 2017. North America (41% of revenues) is the group's largest export market.
- ▶ Nammo strengthened its position in the U.S. with the takeover of MAC, a company specialised in the production of polymer cartridge cases.
- ▶ Nammo signed a 30-year public private partnership agreement with the U.S. Navy covering the supply of solid rocket motors, tactical warheads and demilitarisation services. As part of the deal, the Indian Head site (Maryland) will receive a \$40m (€35m) investment.
- ▶ In September 2018, Nammo won a \$135m (€113m) contract from the U.S. Army for the provision of rocket launchers. The group was also selected by the U.S. Navy and U.S. Army to provide 30mm ammunition.

Technology and Innovation

- ▶ The group's R&D efforts are mainly focused on extended range artillery rounds, medium caliber ammunition (30-40mm), ammunition for the F-35, and hybrid rocket motors.
- ▶ Nammo is part of a programme presented at SOFEX 2018 (Jordan) that aims to develop rocket launchers for combat vehicles. The programme is led by the American group Arnold Defense and also includes BAE Systems and General Dynamics.

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Surface ships
- ▶ Submarines (incl. nuclear)
- ▶ Underwater weapons
- ▶ Combat systems, navigation systems, naval integration of drones
- ▶ Maintenance, modernisation and associated services for naval bases
- ▶ Marine renewable energies

GOVERNANCE

Chairman and CEO	Hervé Guillou
General Secretary	Jean-Yves Battesti
Executive Vice President, Programmes	Pierre Legros

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted Group
Market Cap	

Major shareholders (as of 19.10.2018)

French State	62,25%
Thales	35,00%
FCPE Actions Naval Group	1,80%
Naval Group Actionnariat	0,95%

MAIN JOINT VENTURES AND ASSOCIATES

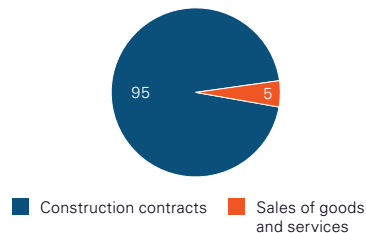
Name	%	Country
Kership S.A.S.	45%	France
Itaguaí Construções Navais SA (ICN)	41%	Brazil
Boustead DCNS Naval Corporation Sdn Bhd	40%	Malaysia
TechnicAtome*	20%	France

* formerly Areva TA

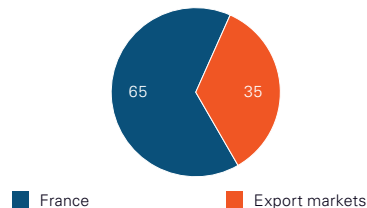
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	3 066	3 039	3 191	3 698
Δ (%)	-7,42%	-0,88%	5,02%	15,89%
Defence (%)	~95%	~95%	~95%	~95%
Export (%)	33%	49%	38%	35%
Operating profit/loss	-430	49	80	243
Operating Margin (%)	-14,02%	1,62%	2,51%	6,58%
Net profit/loss	-348	58	88	32
Order book	13 168	12 271	11 629	11 912
Employees	14 024	13 878	13 870	14 515

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



NAVAL GROUP (EX-DCNS)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	TechnicAtome*	Fincantieri	Chantiers de l'Atlantique**	Leonardo	Mazagon Dock Limited	Odebrecht	Alexandria Shipyards	Boustead Naval Shipyard	Atlas Elektronik***	Pirou	ASC Pty Ltd
Submarines												
Le Triomphant-class ballistic missile submarines	●	●										
Suffren-class nuclear-powered attack submarines		●										
Scorpene-class conventionally-powered attack submarines	●				●	●		●				
Shortfin Barracuda Block 1A-class conventionally-powered attack submarines												●
Surface ships												
Mistral-class LHDs				●								
FREMM-class frigates	●		●									
Multi-mission vessels and corvettes (GOWIND, B2M, MPV80)	●						●	●		●		
FTI / Belharra-class (export) 4000-ton frigates	●											
Flotlog Logistic support ship (LSS) programme			●	●								
Underwater weapons												
F21 heavyweight torpedo	●								●			
MU90 lightweight torpedo	●				●							
CANTO and CONTRALTO anti-torpedo countermeasure systems												
Systems and equipment												
SUBTICS, SETIS and POLARIS combat management systems	●					●	●	●	●		●	
Sylver vertical launching system			●									
MRO and services												
Charles de Gaulle aircraft carrier mid-life upgrade	●	●										
Horizon-class frigates modernisation												
Le Redoutable-class ballistic missile submarine deconstruction												

* formerly Areva TA
 ** formerly STX France
 *** ThyssenKrupp

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Following a good performance in 2016, Naval Group revenues grew a further 15.9% to a record €3,698m in 2017. Growth was mainly driven by new service contracts from the French Navy and an increase in foreign shipbuilding contracts.
- ▶ In February 2018, the French and Italian governments reached an agreement regarding the sale of STX France. The group, renamed Chantiers de l'Atlantique, will be acquired by a consortium consisting of Italian group Fincantieri, the French government and Naval Group. Naval Group's stake will amount to about 10%. The deal is yet to be approved by antitrust authorities.
- ▶ At Euronaval 2018, Naval Group and Fincantieri announced their intention to create a joint venture from 2019. This will allow them to undertake joint R&D programmes and make joint bids for binational programmes and foreign tenders.
- ▶ Less than 2 years after the creation of Naval Énergies, Naval Group tempered its marine renewable energy ambitions. This follows the closing of its tidal turbine plant in Cherbourg in July 2018 and the liquidation of its Irish subsidiary OpenHydro a month later. The group will focus on offshore wind energy and ocean thermal energy.

Home market

- ▶ Naval Group generates more than two-thirds of its revenues domestically. It leads most of the French Navy's major construction and modernisation programmes.
- ▶ As part of the SDAM programme launched in October 2016, the DGA awarded a contract to a consortium comprising Naval Group and Airbus Helicopters for the technological development of a rotary-wing drone demonstrator that is to be deployed on-board warships. Safran, Hélicoptères Guimbal, Thales and ONERA are subcontractors.
- ▶ In July 2018, Naval Group delivered its 5th FREMM-class frigate, named Bretagne, to the French Navy. The group also completed the FREMM-class Normandie, floated in early-2018, and is currently working on the FREDAS Alsace, the first multipurpose frigate with enhanced anti-air warfare capabilities.
- ▶ The group launched the programme to deliver 4 combat logistics ships (Flotlog, unit cost €430m), in cooperation with Italy. The ship, whose construction will be led by Naval Group in partnership with Chantiers de l'Atlantique, will be a variant of Fincantieri's Vulcano.

Export markets

- ▶ The international market accounted for 35% of the group's net revenues in 2017. This share has fallen significantly over the past two years (-14 percentage points), returning to 2014 levels.
- ▶ In early 2018, the group began assembly of Riachuelo, the first Scorpene-class conventionally-powered attack submarine for the Brazilian Navy (PROSUB programme). The vessel is set to be operational in 2020. Three additional submarines are to be built over the coming years.
- ▶ Delivered at the end of 2017, the first in a series of 4 Gowind 2500 corvettes ordered by Egypt was launched in May 2018. Christened El Fateh, the corvette was built at the Naval Group shipyard in Lorient and at the Alexandria Shipyard in Cairo.

Technology and Innovation

- ▶ Naval Group's self-financed R&D amounted to slightly more than €90m in 2017, falling 20% year-on-year. R&D spending represented 2.5% of group net revenues (-1.1 percentage point compared to 2016).



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Naval shipbuilding (patrol vessels, corvettes, frigates, landing helicopter dock, submarines)
- ▶ Commercial shipbuilding
- ▶ Systems and equipment
- ▶ Propulsion systems
- ▶ MRO and modernisation
- ▶ Marine energy

GOVERNANCE

Chairman and CEO S. de Sarriá Sopeña
 Chief Financial Officer L. J. Romero Sánchez

OWNERSHIP STRUCTURE

Symbol
 Listed on Unlisted Group
 Market Cap

Major shareholders (as of 31.12.2017)

SEPI (Spanish State) | 100%

MAIN JOINT VENTURES AND ASSOCIATES

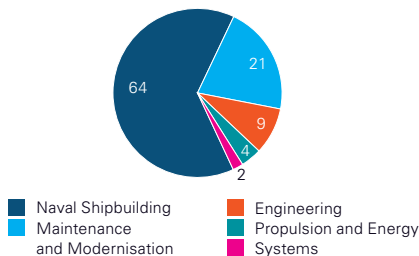
Name	%	Country
Sociber Ltda.	50%	Chile
Inmize Capital S.L	20%	Spain
SAES Capital	51%	Spain
Surveillance Maritime S.A.	10%	Spain

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue*	557	705	710	848
Δ (%)	-21,52%	26,57%	0,71%	19,44%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	61%	58%	40%	34%
Operating profit/loss	-21	-212	-276	-365
Operating Margin (%)	-3,85%	-30,03%	-38,90%	-43,00%
Net profit/loss	-26	-166	-229	-296
Order book*	1 611	1 876	2 163	1 680
Employees	5 432	5 348	5 296	5 172

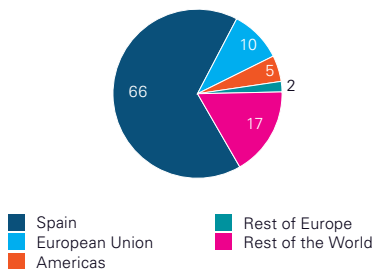
* Excluding « Subsidiaries » division.

REVENUE BY BUSINESS LINE (%)*



* Excluding « Subsidiaries » division.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	UTC	MTU*	Avio Aero**	Lockheed Martin	General Dynamics	Indra Sistemas	BAE Systems	Larsen & Toubro	SEDEF	UROVESA	ASC Pty Ltd	GE Aviation	Raytheon
Submarines													
S-80-class and Scorpène-class attack submarines	●	●	●	●	●	●							
Frigates and patrol vessels													
Future F110-class frigate						●							
F-100-class frigate (Álvaro de Bazán)				●	●								
F-310-class frigate (Fridtjof Nansen)				●									
Hobart-class Air Warfare Destroyer (AWD)				●	●					●		●	
Avante-class corvette		●											
Buque de Acción Marítima (BAM)-class patrol vessel						●							
LHD and logistics ships													
Juan Carlos I-class LHD						●	●	●	●				
Canberra-class LHD							●						
Cantabria-class logistic support vessel													
Systems and equipment													
Dorna fire control system (LCS-class frigates)				●									
SCOMBA naval combat management system (Juan Carlos I LHD, BAM patrol vessel, F-100-class frigate)				●									
Terrestrial Reconnaissance and Exploration Systems (SERT)										●			
Gas turbines													
MTU series 396, 956 and 1163 (built under licence)		●											
GE LM2500 MRO (built under licence)												●	

*Rolls-Royce
**GE Aviation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues increased for a third consecutive year (+19.4%), reaching €848m. Growth was underpinned by the performances of the Naval Shipbuilding, Engineering, Propulsion & Energy and Systems divisions (respectively +36.7%, +23.8%, +14.7% and +28.7%). However, net losses increased to €296m (net margin -34.9%).
- ▶ Facing heavy losses, Navantia announced a new business restructuring plan in July 2017. A year later, Sociedad Estatal de Participaciones Industriales (SEPI) appointed Susana de Sarriá Sopena CEO of the group.
- ▶ To reduce its dependence on military naval activities, the group is diversifying into commercial activities, particularly marine energy and naval construction in civil sector.
- ▶ At the end of 2017, Navantia and GE Aviation concluded a licence agreement authorising Navantia to carry out MRO operations on LM 2500 gas turbines.

Home market

- ▶ The group remains dependent on orders from the Spanish Navy, which accounted for two-thirds of group revenues in 2017.
- ▶ Delivery of the first 4 S-80-class submarines is set for 2022, instead of 2015. The seven-year delay is due to significant technical challenges encountered during construction. Cost overruns are estimated at €1.5bn-€1.8bn and are weighting on operating performances.
- ▶ In July 2017, Navantia delivered the 5th BAM-class patrol vessel, Furor, to the Spanish Navy. The sixth and final unit will be delivered by the end of 2018. Moving forward, the group is expecting an order for its F-110-class frigates.

Export markets

- ▶ The share of export sales in group revenues fell once again, to 34% of net revenues (compared to 40% in 2016 and 58% in 2015).
- ▶ In July 2017, Navantia won its second largest export contract. Valued at €1.8bn, it covers the supply of 5 Avante 2200-class corvettes to the Royal Saudi Navy. This 5-year deal will create more than a thousand jobs at the naval shipyard in Cádiz. An agreement for the creation of a joint venture was also concluded with state-owned Saudi Arabian Military Industries. The move aims to strengthen the group's presence in Saudi Arabia.
- ▶ In May 2018, the Royal Australian Navy's third Hobart-class destroyer, HMAS Sydney (a variant of Navantia's F100-class frigate), was floated at the ASC shipyard in Osborne. As part of this programme, Navantia collaborated with various members from the AWD Alliance, of which Raytheon and ASC. At the same time, Navantia began construction of the second of two replenishment ships (based on the Cantabria) ordered by the Australian Navy.
- ▶ In June 2018, the group suffered a setback in the Australian market following the loss of a tender to provide 9 frigates for the SEA 5000 programme (contract value AUD 35bn, or €24bn). BAE Systems from the UK won the bid.
- ▶ Navantia entered a partnership with General Dynamics to develop the future guided-missile frigates of the American Navy (FFG(X) programme).

Technology and Innovation

- ▶ Launched in 2016 in partnership with the University of A Coruña, the Shipyard 4.0 programme, which aims to improve the design and construction processes of the group's ships, is ongoing.



BUSINESS AREAS

Platform manufacturer, systems integrator / equipment supplier

- ▶ Military aircraft, autonomous systems
- ▶ Defence electronics
- ▶ Space systems and C4ISR
- ▶ Cybersecurity
- ▶ Modernisation and logistic services

GOVERNANCE

Chairman and CEO* Wesley G. Bush
 Chief Financial Officer K. L. Bedingfield

* Kathy Warden appointed CEO, effective 1 January 2019.
 Wesley Bush remains Chairman until July 2019.

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	NOC
Listed on	NYSE
Market Cap (\$m)	46 448

Major shareholders (as of 21.09.2018)

SSgA Funds Management Inc.	10,60%
The Vanguard Group, Inc.	7,55%
BlackRock Fund Advisors	5,23%
Fidelity Management & Research Co.	4,54%

MAIN JOINT VENTURES AND ASSOCIATES

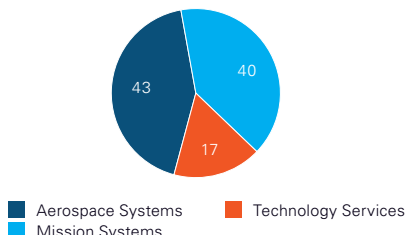
Name	%	Country
Longbow LLC	50%	United States
NSTec LLC	N/A	United States
Northrop Grumman Mission Systems Arabia Co. Ltd	N/A	Saudi Arabia
EuroHawk GmbH	50%	Germany

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	18 050	21 204	22 141	22 841
Δ (%)/(\$)*	-2,77%	-1,89%	4,17%	5,28%
Defence (%)	77%	75%	82%	86%
Export (%)	13%	14%	13%	13%
Operating profit/loss	2 406	2 772	2 885	2 920
Operating Margin (%)	13,33%	13,07%	13,03%	12,79%
Net profit/loss	1 557	1 794	1 988	1 784
Order book	31 463	32 996	43 012	35 753
Employees	64 300	65 000	67 000	70 000

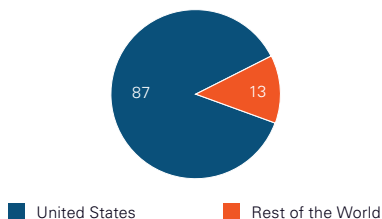
* Variation based on revenue in local currency.
 See €/\$ exchange rates p. 7.

REVENUE BY BUSINESS LINE (%)



* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	Boeing	General Electric	BAE Systems	Textron	Raytheon	Rolls-Royce	L3 Technologies*	Rockwell Collins**
Autonomous systems									
RQ-4 Global Hawk Block 10/20/30/40 HALE UAS	●					●	●	●	
MQ-4C Triton HALE UAS			●			●	●	●	
MQ-8C Fire Scout VTOL UAS		●		●					
UCAS X-47B	●	●							●
Military aircraft									
E-2C/D Hawkeye airborne early warning aircraft	●			●		●	●	●	●
A-10 Thunderbolt II ground attack aircraft	●	●	●	●		●			
B-2 Spirit stealth bomber	●	●	●			●			●
E-8C Joint Surveillance Target Attack (JSTARS)	●								
Long-Range Strike Bomber (B-21)				●					●
F-35 Lightning II	●			●					
F/A-18 E/F Super Hornet (fuselage)		●							
Space systems									
Advanced Extremely High Frequency (AEHF) payload	●								
C4ISR									
MESA surveillance radar (E-7A Wedgetail)		●		●					
Integrated Air and Missile Defense Battle Command System (IBCS)	●	●							
Battlefield Airborne Communications Node (BACN)						●		●	●

* formerly L3 Communications

** Takeover by UTC ongoing

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues grew 5.3% to \$25.8bn (€22.8bn) in 2017. Growth was underpinned by the performances of Aerospace Systems (+10.4%) and Mission Systems (+4.2%) divisions. However, net profit fell 8.4% to \$2bn (€1.8bn).
- ▶ The acquisition of Orbital ATK, announced in September 2017, was completed in June 2018. Orbital ATK became Northrop Grumman Innovation Systems. The deal, worth \$9.2bn (€8.1bn), will broaden Northrop Grumman offering, particularly in missiles and space systems.
- ▶ Northrop Grumman announced the appointment of Kathy Warden as Chief Executive Officer, effective January 1st, 2019. Wesley Bush remains Chairman until July 2019.
- ▶ The group is expanding its production sites. Composite materials production capacity was raised at the Beavercreek facility (Ohio) following a \$90m (approx. €75m) contract from the U.S. Air Force.

Home market

- ▶ The U.S. market is essential to the group. Orders from the U.S. Department of Defense accounted for 85% of net revenues in 2017.
- ▶ During 2017-2018, Northrop Grumman won several call for tenders launched by the U.S. Air Force. These include a contract to provide MRO services for a global network of ground radars, potentially worth \$866m (€740m) over seven years, and another to carry out servicing on 75 Special Electronic Mission Aircraft (SEMA), worth \$750m (€630m).
- ▶ At the end of 2017, the group delivered the first HALE MQ-4C Triton UAS to the U.S. Navy (68 units on order). The group also renewed contracts covering the modernisation of the E-8C JSTARS surveillance, battle management and control and command aircraft fleet, as well as training and education programmes for the U.S. Air Force.
- ▶ In September 2018, Northrop Grumman was selected by Lockheed Martin to provide rocket engines for insensitive munitions (IM) weapons systems as part of the Guided Multiple Launch Rocket System (GMLRS) programme.

Export markets

- ▶ The export markets accounts for only 13% of group net revenues, a share that has remained stable in recent years.
- ▶ Northrop Grumman strengthened its presence in Australia with the signing of contracts covering the provision of MRO services for C-27J Spartan transport aircraft as well as the delivery of military satellites. In 2018, the Royal Australian Air Force also announced its intention to purchase Triton UAS.
- ▶ Northrop Grumman won a \$75m (€63m) contract from Saudi Arabia for the provision of its Joint Threat Emitter (JTE) simulation system. The group is also participating in the AH-1F/S Cobra modernisation programme in Jordan, focusing primarily on the helicopter's avionics systems.
- ▶ Poland became the first country after the U.S. to purchase the Integrated Air and Missile Defense Battle Command System (IBCS) developed by Northrop Grumman.

Technology and Innovation

- ▶ Group R&D expenses reached \$639m (€566m) in 2017, representing 2.5% of net revenues. This is a 9.4% decline compared to 2016.
- ▶ In 2017, Northrop Grumman opened new facilities dedicated to R&D activities, training and MRO services at its Grand Forks site (North Dakota).

**BUSINESS AREAS**

Platform manufacturer and systems integrator

- ▶ Space systems (satellites, payloads)
- ▶ Structures, components, propulsion systems
- ▶ Industrial products

GOVERNANCE

Chairman of the Supervisory Board	Robert Wethmar
Chief Executive Officer	Marco R. Fuchs
Chief Financial Officer	Kurt Melching

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	OHB
Listed on	XETRA
Market Cap (€m)	562

Major shareholders (as of 01.10.2018)

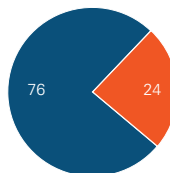
Familie Fuchs	69,72%
MainFirst Bank AG	0,83%
Didner & Gerge Fonder AB	0,79%
KBC Asset Management NV	0,76%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Arianespace Participation	8,3%	France
RST Radar Systemtechnik GmbH	22,7%	Germany
Antares Scarl	24%	Italy
COSMOS International Satellitenstart GmbH	49,9%	Germany
MT Aerospace Holding GmbH	70%	Germany

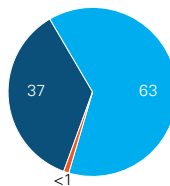
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	773	730	728	860
Δ (%)	10,41%	-5,51%	-0,27%	18,03%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	67%	62%	66%	63%
Operating profit/loss	40	40	43	44
Operating Margin (%)	5,23%	5,51%	5,86%	5,14%
Net profit/loss	26	21	22	23
Order book	2 106	1 684	1 560	2 439
Employees	2 086	2 056	2 298	2 420

REVENUE BY BUSINESS LINE (%)

■ Space Systems ■ Aerospace & Industrial Products

* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)

■ Germany ■ Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Alenia Space	Airbus	Boeing	Saab AB	Arianespace*	Tesat Spacecom	Stemme	Avio	Telespazio	IAI
Satellites											
SAR-Lupe satellite-based reconnaissance system	●	●		●		●					
SARah satellite-based reconnaissance system		●									
E-SGA / FSLGS Europeanization of satellite-aided reconnaissance programme											
Galileo European global navigation satellite system	●	●			●						
EGNOS European global navigation satellite system	●										
ATHENE missile early-warning system											
EDRS-C European data relay system		●			●	●		●			
OPSAT3000 high-resolution optical reconnaissance satellite					●				●	●	
Heinrich Hertz (H2Sat) communications satellite						●					
Aerial systems											
OMCoSS multimission communication & surveillance system							●				
ARDS aerial reconnaissance data system		●									
Structures, components, propulsion systems											
Ariane 5 and Ariane 6 structures parts and components		●			●				●		
Antennas and mechatronics (ALMA)											
Propulsion systems (electrical, cold-gas, monopropellant and bipropellant systems)			●					●			
Missile components											

* ArianeGroup subsidiary

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Following two years of deteriorating performances, net revenue rebounded 18% to €860m in 2017. Growth was mainly driven by Space Systems (+18.2%) and Aerospace & Industrial Products (+20.4%) divisions.
- ▶ To raise its satellite production capacity, the group announced approx. €20m worth of investments by 2020 at its Bremen site (Germany). In 2018, it also opened new Ariane 6 facilities in Augsburg (Bavaria).
- ▶ OHB increased its service offering through the creation of 2 companies over 2017-2018: Blue Horizon in Luxembourg (co-owned by OHB Venture Capital and LuxSpace, an OHB subsidiary), which aims to create the necessary conditions to enable sustainable life in space; and OHB Satellitenbetrieb GmbH (operation of satellite systems).

Home market

- ▶ OHB generated almost 37% of its net revenues in Germany in 2017, an annual increase of 3 percentage points.
- ▶ The group won a 3-year, €13m contract to continue operating SAR-Lupe reconnaissance satellites for the Bundeswehr. The SARah system will take over then.
- ▶ The German Aerospace Center (DLR) selected OHB to develop the Heinrich Hertz commercial and military communications satellite. The satellite is set to be launched by the Ariane 5 launcher at the end of 2021, with a projected service life of 15 years.
- ▶ Building on the SAR-Lupe and SARah programmes, OHB signed a €400m contract with the German government at the end of 2017 to develop an electro-optical reconnaissance system by 2022.

Export markets

- ▶ Export sales represented 63% of net revenues in 2017. The European Space Agency (ESA) is OHB's biggest client.
- ▶ In 2017, OHB Italia, in partnership with Telespazio (programme leader) and Israel Aerospace Industries (IAI), successfully launched the OPSAT3000 high-resolution optical reconnaissance satellite for the Italian Ministry of Defence.
- ▶ The group has a 10% work share in the Ariane 6 programme (successor to the Ariane 5). Ariane 6's inaugural flight is scheduled for July 2020. The group won a €170m contract from ArianeGroup to provide tank and metal components, which it started delivering in 2018.
- ▶ In 2017, a consortium including OHB and Surrey Satellite Technology Ltd (SSTL, an Airbus subsidiary) received two orders for the third batch of Galileo satellites (12 units in total, for a total amount of €482m). The first satellite is set to be launched in 2020 by the Ariane 6 launcher. In October 2018, OHB concluded an agreement with British company SSTL and the European Space Agency to limit the effects of Brexit on the Galileo programme.

Technology and Innovation

- ▶ R&D expenditure reached €32.3m in 2017, representing 3.8% of net revenues. This is a decrease of 27.6% compared to 2016 (€44.6m). The Space Systems division accounted for the majority of spending.



BUSINESS AREAS

Engine manufacturer, systems integrator/equipment supplier

- ▶ Space systems (launch vehicles, spacecraft buses) and aerospace structures
- ▶ Weapon systems (cannon, remote controlled weapon station)
- ▶ Defence electronics
- ▶ Missile systems and ammunition
- ▶ Propulsion systems

GOVERNANCE

President, Northrop Grumman Innovation Systems*

Blake Larson

* New company name of Orbital ATK following its purchase by Northrop Grumman in June 2018

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group*

Market Cap

Majors shareholders (as of 14.07.2017)

Northrop Grumman

100%

* Delisted following the purchase by Northrop Grumman in June 2018

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
COI Ceramics Inc.	65%	United States
Alliant Techsystems Operations Saudi Arabia Ltd	N/A	Saudi Arabia
Orbital ATK Middle East LLC	N/A	United Arab Emirates

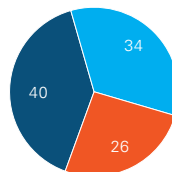
KEY FIGURES (Fiscal year ended: december 31st)*

€ millions	2014	2015	2016	2017
Revenue	2 176	3 056	4 025	4 217
Δ (%) [€] **		-9,83%	-	6,94%
Defence (%)	72%	60%	57%	N/A
Export (%)	12%	23%	17%	18%
Operating profit/loss	-44	300	427	469
Operating Margin (%)	-2,04%	9,82%	10,60%	11,11%
Net profit/loss	88	168	264	274
Order book	N/A	11 941	13 661	13 341
Employees	N/A	12 300	12 700	12 000

* In 2015, the end of the fiscal year changed from March 31 to December 31. The duration of the transitional fiscal period was 9 months.

** Variation based on revenue in local currency. See €/€ exchange rates p.7

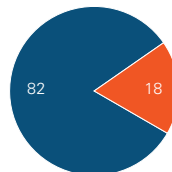
REVENUE BY BUSINESS LINE (%)



■ Defense Systems ■ Space Systems
■ Flight Systems

* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



■ United States ■ Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Boeing	Lockheed Martin	Raytheon	Yuzhnoye / Yuzhmash	BAE Systems	Elbit Systems	MBDA	Aerojet Rocketdyne
Aerospace platforms and structures									
Aircraft structures (F-35, F-22, B-2, C-17, A400M)	●	●	●						
Launch vehicle structures (Ariane 5, Delta IV, Atlas V)	●	●	●						
Missile structures (GMD, Arrow II, Stunner, Trident II D5)		●	●	●					
Launch vehicles									
Antares				●					
Minotaures Family (1, 4, 5, 6, C)									
Omega								●	
Propulsion systems									
Rocket boosters (Delta II and IV, ALV, SLS)		●	●						
Missile propulsion systems (Minuteman III, Trident II D5, Brimstone, Hellfire, AMRAAM, JAGM, SM-3 Block IA)		●	●	●				●	
Scramjet (X-43A, HyFire, HyShot, HyBolt, Hy-V)		●	●						
Precision weapons and armament systems									
M1156 Precision Guidance Kit (PGK)									
Bushmaster cannons (M242, Mk44, M230)					●				
Guided Advanced Tactical Rocket (GATR) 70mm						●			
Defence electronic systems									
Advanced Anti-Radiation Guided Missile (AARGM) (AGM-88E)								●	
Guided Multiple Launch Rocket System (GMLRS)		●							

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues grew almost 7% in 2017 thanks to strong performances in Flight Systems and Defense Systems divisions.
- ▶ The \$9.2bn (€8.1bn) acquisition of Orbital ATK by Northrop Grumman, which was announced in September 2017, was completed in June 2018. Orbital ATK was delisted and became Northrop Grumman Innovation Systems.
- ▶ As part of its integration into Northrop Grumman, Orbital ATK recruited approx. 1,000 staff and expanded its industrial capacity. In 2018, the group invested in its Mesa (Arizona) facility to double the production of Bushmaster cannons. The Allegany Ballistics Laboratory in Rocket Center (West Virginia) and the Lake City ammunition plant also receive significant investment.

Home market

- ▶ The group is heavily dependent on its domestic market, with orders from the U.S. Department of Defense accounting for three-quarters of total revenues.
- ▶ Orbital ATK is a major supplier of ammunition to the U.S. Army. Over the recent years, the group received several orders for small caliber ammunition, including a \$115m (€93m) contract. It has also secured a \$53m (€47m) contract for large caliber training ammunition.
- ▶ The group was selected by the U.S. Navy for the production of the AGM-88E AARGM missile (contract value \$171m, or €148m). Orbital ATK was also selected to develop a modernised version of this missile by 2022-2023. The AARGM-ER (Advanced Anti-Radiation Guided Missile-Extended Range) is compatible with F/A-18E/F, EA-18G and F-35 aircraft.
- ▶ Orbital ATK is part of Lockheed Martin's F-35 Joint Strike Fighter programme and Northrop Grumman's B-2 Spirit Stealth Bomber programme. New orders for components were placed within both programmes, with contracts respectively worth \$24m (€21m) over 3 years and \$90m (€80m) over 5 years.
- ▶ In May 2018, the group announced a partnership with IMI Systems (formerly Israel Military Industries) to produce a variant of the MPR500 missile for the U.S. market.

Export markets

- ▶ International sales accounted for 18% of net revenues in 2017.
- ▶ Orbital ATK provides logistics and aircraft MRO services in Iraq. In 2017, it won a new contract covering 12 Cessna, 172 Skyhawk and 5 Cessna Caravan trainer aircraft.
- ▶ In 2017, the Bushmaster cannon was chosen by the Lithuanian Armed Forces to equip its new Vilkas 8x8 infantry fighting vehicles. The contract covers the supply of 90 cannons.

Technology and Innovation

- ▶ R&D spending reached \$360m (€319m) in 2017, representing 7.6% of net revenues. In early 2018, Orbital ATK signed an R&D agreement with the Space and Missile Systems Center (SMC) of the U.S. Air Force to develop a next-generation launcher.
- ▶ The group invested in the Evolved Expendable Launch Vehicle (EELV) programme of the U.S. Air Force. In 2018, Orbital ATK unveiled its OmegA launcher, which will be deployed in commercial and military operations. The launch date for OmegA, in its intermediate configuration, is set for 2021.



BUSINESS AREAS

Platform manufacturer and systems integrator

Defence subsidiary of Oshkosh Corporation

- ▶ Wheeled armoured vehicles
- ▶ Tactical and logistics vehicles
- ▶ Propulsion systems for armoured vehicles
- ▶ Maintenance and modernisation

GOVERNANCE

Chief Executive Officer

John J. Bryant

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted subsidiary

Market Cap

Major shareholders (as of 07.11.2018)

Oshkosh Corporation

100%

MAIN JOINT VENTURES AND ASSOCIATES

Name

%

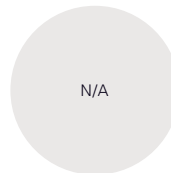
Country

KEY FIGURES (Fiscal year ended: September 30th)

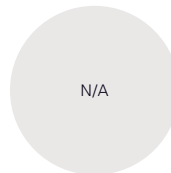
€ millions	2013-14	2014-15	2015-16	2016-17
Revenue	1 271	818	1 216	1 647
Δ (%) / \$) *	-43,45%	-45,50%	43,76%	34,71%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	56	8	110	188
Operating Margin (%)	4,43%	0,98%	9,07%	11,42%
Net profit/loss	N/A	N/A	N/A	N/A
Order book	620	1 262	2 088	1 770
Employees	N/A	N/A	N/A	N/A

* Variation based on revenue in local currency.
See €/€ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Plasan	DEW	General Dynamics	LSC*	Orbital ATK**	Leonardo	Al Jaber Group	Rockwell Collins	MTU***	DGIM	EOS
Light tactical vehicles											
Light combat tactical All-Terrain Vehicle (L-ATV)	●										
Joint Light Tactical Vehicle (JLTV)											
HMMWV modernisation											
Special purpose All-Terrain Vehicle (S-ATV)											
SandCat	●									●	
Medium tactical vehicles											
FMTV family											
MSVS SMP		●	●	●							
6x6 MTRV family											
MRAP vehicles											
M-ATV All-Terrain Vehicle family	●				●						●
Heavy tactical vehicles											
8x8 HEMTT A4 Heavy Expanded Mobility Tactical Truck								●			
8x8 HET Heavy Equipment Transporter											
8x8 LVSR Logistics Vehicle System Replacement					●	●					
10x10 PLS Palletised Load System											
Wheeled tanker											
Vehicle systems and equipment											
TAK-4 independent suspension system											
TerraMax unmanned ground vehicle technology							●				
Core1080 crew protection system											

* Link Suspensions of Canada ** Takeover by Northrop Grummann completed in June 2018 *** Rolls-Royce

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Oshkosh Corporation is a U.S.-based manufacturer of trucks and truck bodies that specialises in defence, industrial and fire protection applications. Its defence activities accounted for 27% of net revenues in 2017 and are consolidated under its Oshkosh Defense subsidiary.
- ▶ Oshkosh Defense net revenues grew for a second consecutive year (+34.7%) over 2016-2017, reaching \$1.8bn (€1.6bn). Growth was underpinned by the Joint Light Tactical Vehicle (JLTV) and M-ATV programmes, among others. However, revenues remained far from their 2012-2013 level (\$3.0bn, or €2.3bn).
- ▶ Oshkosh Defense aims to achieve net revenues of \$2bn (€1.8bn) by 2019, with 50% generated by the JLTV programme. To do so, it plans to tap foreign growth opportunities in particular.

Home market

- ▶ Oshkosh Defense's biggest client is the U.S. Department of Defense (accounting for more than 80% of net sales, excluding Foreign Military Sales revenues). It is generally awarded multi-year contracts (production of land vehicles and associated equipment/systems, MRO).
- ▶ Following a \$6.7bn (€5.8bn) mega contract signed in 2015 for the supply of 18,000 JLTV light tactical vehicles over a period of 8 years, deliveries gained pace, with 750 vehicles delivered in 2017, 2,000 in 2018 and 3,000 planned for 2019. Should all of the contract's options be exercised, Oshkosh Defence could earn \$30bn in revenues over 20 years for the provision of 55,000 vehicles and associated services.
- ▶ The success of the FMTV (Family of Medium Tactical Vehicles) programme with the U.S. Army was confirmed during the year. Following an order for 1,065 vehicles in September 2017, Oshkosh Defense received 2 new orders: one in early 2018 for the purchase of a FMTV AV (upgraded variant) fleet for \$476m (€400m), and another worth \$160m (€134m) in June 2018 for 771 vehicles.
- ▶ In May 2018, Oshkosh Defense won a contract to upgrade 410 heavy tactical vehicles and provide 680 trailers for the Palletised Load System (PLS). The contract, estimated at \$235m (€197m), was the 4th major contract signed by Oshkosh Defense in the heavy vehicle segment in just 12 months.

Export markets

- ▶ Oshkosh Defense generates less than 20% of its revenues in overseas markets. It aims to increase this share by 10 percentage points over the medium term. Its export contracts are mainly acquired through the FMS programme, which facilitates U.S. military sales to foreign governments.
- ▶ Through the FMS programme, the U.S. Department of Defense approved the sale of 2,747 JLTV vehicles to the United Kingdom. The contract is valued at \$1bn (€923m).
- ▶ In November 2017, the Lithuanian Ministry of National Defence approached the U.S. Department of Defense to acquire 200 Oshkosh Defense L-ATV tactical vehicles as part of its army modernisation programme. First deliveries are set for 2021.

Technology and Innovation

- ▶ Oshkosh Defense's innovation efforts are focused on protection, remote operation and HUMS solutions. It is also developing autonomous military vehicles, particularly for high-risk operations.



BUSINESS AREAS

Platform producer and systems integrator

- ▶ Wheeled armoured vehicles
- ▶ Weapon systems (turrets, mortar systems)
- ▶ C4I/STAR (ELINT systems, IT systems, antennas)
- ▶ Aerostructures
- ▶ MRO and support services

GOVERNANCE

Chairman	Christer Granskog
Chief Executive Officer	Olli Isotalo
Chief Financial Officer	Ville Jaakonsalo

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 31.12.2017)

Finnish State	50,1%
Kongsberg Defence & Aerospace AS	49,9%

MAIN JOINT VENTURES AND ASSOCIATES

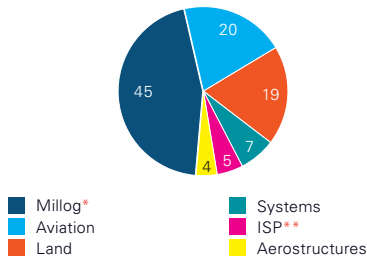
Name	%	Country
Millog Oy	61,8%	Finland
Nammo AS	50%	Norway
Svensk Försvarslogistik AB	50%	Sweden
Patria Special Programmes Oy	50%	Finland
Silverskin Information Security Oy	25%	Finland
Milrem LCM OÜ	60%	Estonia

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	462	428	490	468
Δ (%)	-21,63%	-7,42%	14,54%	-4,53%
Defence (%)	95%	93%	95%	94%
Export (%)	50%	31%	41%	33%
Operating profit/loss	56	47	75	34
Operating Margin (%)	12,12%	10,94%	15,23%	7,25%
Net profit/loss	48	38	63	26
Order book	1 202	1 056	858	691
Employees*	2 546	2 806	2 765	2 792

* Average annual workforce.

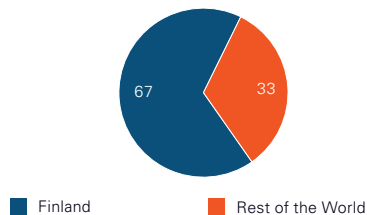
REVENUE BY BUSINESS LINE (%)



* 61,8% Patria-owned.

** International Support Partnerships.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	BAE Systems	Airbus	Duro Dakovic	Diehl Defence	PGZ	Kongsberg	Gorenje	Rotis	Konstruktia Defence	Saab AB	Oy Western Defence	Bell Helicopter	Leonardo	NHI
Wheeled armoured vehicles														
8x8 AMV armoured modular vehicle family	●	●	●	●	●	●	●	●						
Patria 6x6 wheeled armoured vehicle														
Weapon systems														
NEMO container mortar system														
NEMO Navy mortar system														
Advanced Mortar System (AMOS)	●													
NEMO training simulator														
C4ISTAR														
Advanced Real-time Intelligence System (ARIS and ARIS-E)														
Compact Airborne Networking Data Link (CANDL)														
Multistatic Coherent Location (MUSCL) radar system														
Aerostructures														
Composite parts (A400M, NH90)		●												
MRO, services, logistics support														
Pilot training														
MRO for aircraft (F/A-18 C/D, Hawk Mk51/51A, Fokker F27, C-295M) and helicopters (NH90)	●	●									●	●	●	
Hamina-class fast attack craft MRO									●	●				

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Following a strong performance in 2016, net revenues declined by 4.5% in 2017, to €468m. Defence activities accounted for 94% of annual sales, a share that has remained stable in recent years.
- ▶ In December 2017, Patria acquired the 60% capital stake in Milrem LCM OÜ (an Estonian defence contractor specialised in MRO operations) held by Estonia's Mootor Grupp. Six months later, the group acquired Patricomp Oy, which operates in the design and assembly of aeronautical metal parts, through its Patria Aerostructures Oy subsidiary.
- ▶ In January 2018, Patria and Kongsberg Defence & Aerospace signed an agreement to strengthen their cooperation in missile systems. The deal includes the establishment of a research centre in Finland.

Home market

- ▶ The Finnish market accounted for 67% of group revenues in 2017 (compared to 59% in 2016), with the bulk of revenues attributable to MRO activities.
- ▶ In January 2018, the Finnish Navy awarded Patria a €170m contract to upgrade and provide MRO services for Hamina-class fast attack ship. Saab AB and Oy Western Shipyard Ltd were selected as sub-contractors to provide the ships' combat systems, torpedoes and sensors. The vessels will bridge the period between the end of service of Rauma-class ships and the start of operations of Squadron corvettes from 2020.
- ▶ In April 2018, Patria was selected by the Finnish Army to provide bridge-laying systems for 4 Leopard 2A4 tanks as well as other vehicles that were delivered between 2004 and 2008 (€28.6m contract).
- ▶ In anticipation of the replacement of the Finnish F/A-18 Hornet fleet (which are expected to be withdrawn from service in 2025), Patria is preparing to provide MRO services for the Finnish Air Force's new fighter aircraft (HX programme).

Export markets

- ▶ Overseas, the group operates in Europe (Sweden, Norway, Estonia and Poland), the United Arab Emirates, the U.S. and South Africa.
- ▶ In 2017, Patria won two new contracts from the Norwegian Defence Logistics Organisation (NDLO) covering the provision of MRO services for the NH90 (2-year contract, estimated value NOK 100m, or approx. €10.7m) and Bell 412 (3-year contract, estimated value €7.1m) helicopter fleets.
- ▶ At the end of 2017, Patria was selected to provide the chassis for an 8x8 armoured fighting vehicle that is being developed under a Slovak-Finnish defence programme. Konstrukta Defence, Patria Land Systems Oy and EVPU are also partners. Slovakia intends to acquire 81 vehicles by 2024.
- ▶ In 2018, the Estonian Land Forces renewed the MRO contract for the XA-180 and XA-188 armoured personnel carriers. Milrem, a Patria subsidiary, is the lead contractor. A few months later, Milrem teamed up with BAE Systems to win the MRO contract for a fleet of 44 CV9035 tanks delivered to Estonia in 2016.
- ▶ In October 2018, the Swedish Air Force exercised the option to extend the MRO contract for Hkp 16 (Black Hawk) helicopters awarded to Patria Helicopters AB, a unit of the IPS division. The deal now runs until 2020.

Technology and Innovation

- ▶ R&D expenditure stood at €9.4m, representing 2% of group net revenues.

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Tracked and wheeled armoured vehicles
- ▶ Weapon systems and artillery systems
- ▶ Missile systems
- ▶ Aircraft systems (military helicopters, UAS, MRO, modernisation)
- ▶ Defence electronics
- ▶ Naval (maintenance)
- ▶ Energy and offshore (platform modules and metallic structures)

GOVERNANCE

Chairman of the Supervisory Board
President and CEO

Wojciech Dabrowski
Witold Slowik

OWNERSHIP STRUCTURE

Symbol
Listed on
Market Cap

Unlisted group

Major shareholders (as of 30.06.2017)

Polish Department of the Treasury	36,75%
Polski Holding Obronny sp. z.o.o. (formerly Bumar)	33,50%
Agencja Rozwoju Przemyslu S.A.	29,75%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Cenzin sp. z.o.o.	~70%	Poland
Nano Carbon sp. z.o.o.	51%	Poland
Huta Stalowa Wola S.A.	85,1%	Poland
Zaklady Mechaniczne Bumar - Labedy S.A.	94,3%	Poland

KEY FIGURES (Fiscal year ended: December 31st)

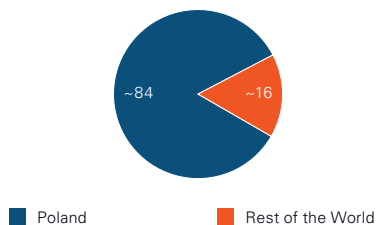
€ millions	2014	2015	2016	2017
Revenue	1 217	N/A	N/A	~1 175
Δ (%//PLN)*	N/A	N/A	N/A	N/A
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	~16%
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	54	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	17 500	N/A	N/A	~17 500

* Variation based on revenue in local currency.
See €/PLN exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Patria	Saab AB	Rheinmetall Defence	Hanwha Land Systems*	Pratt & Whitney**	Lockheed Martin	WB Electronics	Leonardo	OBRUM	Raytheon
Armoured vehicles										
KTO Rosomak 8x8 armoured vehicle	●									
KTO Rosomak 6x6 armoured vehicle		●						●		
RAK 120mm self-propelled mortar system						●				
8x8 Jelcz P882.53 logistic vehicle										
Armoured vehicles modernisation (Leopard 2A4/2A5, BWP-1 PUMA, TUMAK-4, KTO Rosomak)		●								
Weapon systems, artillery systems, missiles										
KRAB 155mm self-propelled tracked howitzer			●							
Mod.96 Beryl assault rifle family										
SPZR Poprad anti-aircraft missile system										
Medium range air defence system (WISLA programme)									●	
Mk-82 bomb		●								
Aircraft systems										
Helicopters and turbines MRO and modernisation (Mil, TW3-117, SO-3)										
Aircraft and engines MRO and modernisation (Su-22, MiG-29, F-16, F100)		●		●	●					
AW249 attack helicopter project							●			
Defence electronics										
TRS-15 mobile medium-range 3D surveillance										
ARS-800 airborne radar system										
Naval shipbuilding										
Ratownik-class submarine rescue ship										
Kormoran II-class minehunter		●								

* Hanwha Techwin ** UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Polska Grupa Zbrojeniowa (PGZ) is a conglomerate of more than 70 Polish companies engaged in the defence, naval construction, offshore and new technology sectors.
- ▶ Group net revenues have remained stable over the past few years and stood at approx. PLN 5bn (€1.2bn) in 2017. The group's objective, as set out in its 2015-2030 strategy, is to reach PLN 12bn (€2.9bn) in net revenues by 2030. It aims to achieve this objective by exploiting opportunities in civilian and export markets.
- ▶ In September 2018, PGZ signed a letter of intent to purchase Wytwórnia Sprzetu Komunikacyjnego (WSK PZL), the Polish subsidiary of Pratt & Whitney. The company supplies engines and parts for several Polish military planes, including the W-3 Sokol and the M28 Skytruck/Bryza.
- ▶ The group saw significant management changes. Wojciech Dabrowski replaced Piotr Sulewski as Chairman of the Supervisory Board, while Witold Slowik replaced Blazej Wojnicz as group CEO.

Home market

- ▶ The group remains heavily dependent on its domestic market (84% of net revenues in 2017). It is the primary beneficiary of the Polish Armed Forces' extensive modernisation plans (14 programmes totalling an estimated PNL 60bn, approx. €14.1bn, by 2022). It is an essential partner for foreign players seeking to penetrate the Polish defence market.
- ▶ In late 2017, PGZ won two contracts from the Polish Navy; one to provide Ratownik-class submarine rescue and salvage ships (with an option for one additional unit); and another for two Kormoran-class minehunters. Total order value is approx. PNL 2bn (€470m).
- ▶ Following several months of price negotiations, Poland placed an order for the Patriot missile system developed by U.S. defence contractor Raytheon (WISLA programme). PGZ will partner with the U.S. group on this project. Some parts of the system (launchers, transport vehicles, communication systems) will be directly produced in Poland, probably by Huta Stalowa Wola (HSW, 85% PGZ-owned).

Export markets

- ▶ PGZ generates only 16% of its net revenues in the export markets. Export revenues however grew by 43% in 2017, to PLN 798m (€187m), compared to PLN 560m (€128m) in 2016. The group aims to achieve international sales of PLN 2bn (€470m) by 2022, and PLN 5bn (€1.2bn) by 2030.
- ▶ Polish Nauta Shiprepair Yard, a PGZ subsidiary based in Gdynia, was selected by Saab AB to develop the ship platform for the future special purpose Signal Intelligence (SIGINT) ship of the Swedish Navy. Delivery is scheduled for 2020.
- ▶ In July 2018, Leonardo and PGZ signed a letter of intent to jointly develop a new attack helicopter, AW249. This helicopter will replace the Italian Air Force's AW129, which is set to be withdrawn from service by 2026. 32 units may also be acquired by Poland as part of the Kruk programme.

Technology and Innovation

- ▶ PGZ joined the OCEAN 2020 consortium, led by Italian group Leonardo. As part of this research programme of the European Defence Agency, focused on the integration of autonomous systems into naval surveillance missions, the group will collaborate with 40 other European players.



BUSINESS AREAS

Missiles producer, systems integrator/equipment supplier

- ▶ Missile systems and air defence systems
- ▶ Autonomous systems
- ▶ C4ISR
- ▶ Weapon systems and artillery systems (land and naval)
- ▶ Defence electronics
- ▶ Space (microsatellites, propulsion systems and components)

GOVERNANCE

Chairman	Uzi Landau
Chief Executive Officer	Yoav Har-Even
Chief Financial Officer	David Vaish

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 01.10.2018)

Israeli State	100%
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MAIN JOINT VENTURES AND ASSOCIATES

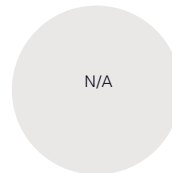
Name	%	Country
Shilat Optronics Ltd	50%	Israel
Opgal Optronic Industries Ltd	49,9%	Israel
GESPI Defense Systems	40%	Brazil
EuroSpike GmbH	20%	Germany
Controp Precision Technologies Ltd	50%	Israel
Kalyani Rafael Advanced Systems Pvt Ltd (KRAS)	49%	India
Varley Rafael Australia (VRA)	N/A	Australia

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	1 475	1 819	1 834	1 999
Δ (%) / (\$)*	-3,92%	2,96%	0,59%	11,23%
Defence (%)	100%	100%	100%	100%
Export (%)	55%	61%	45%	46%
Operating profit/loss	99	112	103	N/A
Operating Margin (%)	6,69%	6,13%	5,59%	N/A
Net profit/loss	68	106	111	110
Order book	4 118	4 555	5 366	5 753
Employees	6 434	6 926	7 151	~7 500

* Variation based on revenue in local currency.
See €/\$ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



RAFAEL ADVANCED DEFENSE SYSTEMS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	IAI	Lockheed Martin	BAE Systems	Northrop Grumman	Raytheon	Diehl Defence	Rheinmetall Defence	Elbit Systems	DRDO (Indel) *	General Dynamics
Missile systems and air defence systems										
David's Sling missile defence system and Stunner interceptor					●					
Iron Dome C-Ram & very short air defence system	●									
Tamir interceptor (Iron Dome, C-Dome)					●					
SPYDER SR and MR-ADS short and medium range air defence systems	●									
Barak-1 and Barak-8 surface-to-air missiles	●							●		
C-Dome and MIC4AD defence systems										
Typhoon weapon station			●							
Spike ER/LR anti-armor missiles					●	●			●	
SPICE guidance kit		●			●					
Trophy-HV active protection system	●								●	
Drone Dome anti-UAV system										
Defence electronics										
Missile's guidance systems							●			
LITENING advanced targeting pod			●							
Autonomous system										
Protector USV		●	●							
Weapon systems and artillery systems										
Mk I and Mk II remote-controlled weapon station									●	
THOR high energy laser IED neutralisation system									●	

* Defence Research and Development Organization

STRATEGIC HIGHLIGHTS

Business trends

- ▶ The group posted strong revenue growth in 2017, achieving record sales of \$2.3bn (€2bn) and new orders of \$3bn (€2.7bn).
- ▶ Rafael Advanced Defense Systems is a major player in the Israeli defence sector. Its main rival, Elbit Systems, has strengthened its position with the purchase of Israeli group IMI Systems in August 2018 for ILS 1.8bn (€438m).
- ▶ Rafael, together with businessman Avichai Stolero, made a ILS 430m (€102m) offer to purchase Israeli UAS specialist Aeronautics. Aeronautics dismissed the bid in August 2018, deeming it inadequate.
- ▶ The group has sound prospects following an increase in the Israeli defence budget as well as the decision, announced in late 2017, to ease regulations on the export of some solutions. Among these are electro-optics, a segment in which Rafael operates.

Home market

- ▶ The domestic market accounted for 54% of sales in 2017. The group collaborates with Raytheon and Lockheed Martin on several national programmes.
- ▶ The ship-based variant of the Iron Dome air defence system, C-Dome, was declared operational by the Israeli Navy at the end of 2017 following 18 months of tests.
- ▶ In early 2018, Rafael was selected by the Israeli Defense Forces to provide new shoulder-mounted rocket launchers. The updated model has been under development for two years to reduce its weight by 40%.

Export markets

- ▶ Rafael aims to increase exports, which accounted for 46% of net sales in 2017 and were mostly destined to Asia, Europe and the Americas. The group is banking on the Spike programme (anti-tank missiles), in particular the modernised LR2 and ER2 variants; the Iron Dome system (air defense); Drone Dome (anti-UAV system) and Trophy (active protection system).
- ▶ In August 2018, the Australian Army selected Spike LR2 missiles to equip its new Boxer armoured fighting vehicles. To increase its footprint in Australia, Rafael has created a joint venture with Australian group Varley, Varley Rafael Australia (VRA), and opened an office in Melbourne.
- ▶ Over 2017-2018, Rafael won contracts from the United Kingdom for the provision of 6 Drone Dome anti-UAV systems, for approx. \$20m (€18m), and the Iron Dome air defence system, for \$105m (€93m).
- ▶ Following a \$193m (€171m) contract in 2017, the U.S. placed an additional order of \$500m (€433m) for the new Trophy active protection systems in 2018. Discussions are also underway for the sale of the Iron Dome air defence system to the United States, in collaboration with Raytheon. In September 2018, Rafael however denied providing the system to Saudi Arabia.
- ▶ A deal with India for Spike missiles, put on hold in early 2018, has not been closed yet. Following a reduction in the number of missiles (from 8,000 to 4,500), the contract is now valued at \$500m (€443m). Production will be partly carried out in India. Rafael aims to strengthen its position in this strategic market, particularly through Kalyani Rafael Advanced Systems (KRAS), a joint venture with the Indian group Kalyani, the majority shareholder with a 51% stake.

Technology and Innovation

- ▶ R&D expenditure represented 8% of group net revenues in 2017. This share has remained stable over the last few years. Rafael has R&D centres in Israel and is developing partnerships with academic institutions.



BUSINESS AREAS

Missiles producer, systems integrator/equipment supplier

- ▶ Missile systems
- ▶ Integrated defence systems (radar systems, electronic suites, air defence)
- ▶ C5ISR systems
- ▶ Cybersecurity
- ▶ Space and airborne systems
- ▶ Training and support services

GOVERNANCE

Chairman and CEO
Chief Financial Officer
VP, Missile Systems

Thomas A. Kennedy
Anthony F. O'Brien
Taylor W. Lawrence

STRUCTURE DU CAPITAL (as of 21.11.2018)

Symbol	RTN
Listed on	NYSE
Market Cap (\$m)	50 187

Major shareholders (as of 02.11.2018)

The Vanguard Group, Inc.	7,86%
BlackRock Fund Advisors	5,48%
SSgA Funds Management, Inc.	4,14%

MAIN JOINT VENTURES AND ASSOCIATES

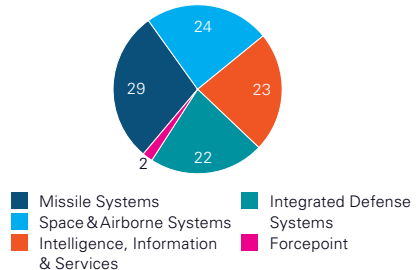
Name	%	Country
Diehl Raytheon Missile Systeme GmbH	50%	Germany
NetFires LLC	50%	United States
Forcepoint LLC	80,5%	United States
Raytheon-Lockheed Martin Javelin JV	50%	United States
TRS AMDC2	50%	France

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	17 182	21 019	21 794	22 438
Δ (%)/[\$]*	-3,71%	2,17%	3,44%	5,07%
Defence (%)	95%	95%	95%	96%
Export (%)	29%	31%	32%	32%
Operating profit/loss	2 393	2 764	2 977	2 937
Operating Margin (%)	13,93%	13,15%	13,66%	13,09%
Net profit/loss	1 700	1 899	1 999	1 771
Order book	27 651	31 082	34 825	31 860
Employees	61 000	61 000	63 000	64 000

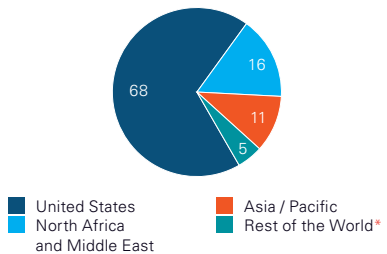
* Variation based on revenue in local currency. See €/€ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



* Mainly Europe.

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Noramo	Lockheed Martin	L3 Technologies*	Northrop Grumman	Huntington Ingalls Industries	BAE Systems	General Dynamics	MHI	Rafael	Orbital ATK**	IMI***	Thales
Integrated defence systems												
AMDR AESA radar (AEGIS)												
AN/TPY-2 ground-based surveillance radar (THAAD)												
PATRIOT missile defence system		●						●				
Iron Dome air defence system and Stunner interceptor (David's Sling)									●			
DDG-1000 Zumwalt-class (prime mission systems equipment integrator for all electronic and combat systems)	●		●	●	●	●						
Weapon systems												
JAVELIN anti-tank missile		●									●	
AIM-120 AMRAAM air-to-air missile	●		●			●					●	
AIM-9 Sidewinder air-to-air missile	●							●				
SM-2, SM-3, SM-6 interceptors								●				
TOMAHAWK cruise missile												
EXCALIBUR artillery projectile	●				●							
Paveway laser guided bomb		●										
PERM munitions (GPS guidance)											●	
Phalanx Close-In Weapons System (CIWS)								●				
TOW anti-tank missile												●
Aerospace systems												
Enhanced Integrator Sensor Suite (EISS) of the Global Hawk HALE UAS			●	●								
Next-generation jammers (EA-18G Growler)												
Space Tracking and Surveillance System Demonstrator (STSS-D)				●								

* formerly L3 Communications ** Takeover by Northrop Grumman completed in June 2018 *** Takeover by Elbit Systems in August 2018

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Annual net revenues further increased in 2017 (+5.1%), reaching \$25.3bn (€22.4bn). The Missile Systems division posted the strongest growth (+9.7%).
- ▶ The group plans to increase staff and production capacities at its Arizona site (2,000 additional employees by 2022), which is involved in Patriot missile production; in New Mexico (range monitoring and telemetry systems); and Massachusetts (radar systems).
- ▶ In 2017, Raytheon invested in U.S. company Unisys with the aim of integrating the latter's ClearPath Forward technology into its Patriot missile system. Through its Forcepoint division, the group also acquired cybersecurity specialists RedOwl Analytics and Skyfence CASB.
- ▶ In late 2017, the group concluded a partnership with Saab AB to upgrade infantry weapons (Carl-Gustaf and AT4). In June 2018, it also teamed up with Lockheed Martin to develop a next-generation Distributed Aperture System (DAS) that will equip the upcoming F-35s.

Home market

- ▶ The U.S. Army awarded a 3-year, \$600m (€531m) contract to Raytheon for the modernisation of missile defence and other strategic systems. In June 2018, the group was also selected to provide training services (\$2.4bn, or €2.1bn, over 5 years).
- ▶ In early 2018, the Missile Defense Agency (MDA) selected Raytheon to conduct Ballistic Missile Defence System (BMDS) tests. The contract is valued at \$642m (€578m). The MDA also ordered 44 SM-3 interceptors for \$467m (€400m).
- ▶ The group won a \$327m (€296m) contract to start production for the first three AN/SPY-6(V) AMDR radars. Delivery is set to begin in 2019. The U.S. Navy also ordered SM-6 missile systems to equip its Aegis-class vessel fleet, a contract valued at \$235m (€221m).
- ▶ The Naval Strike Missile (NSM), put forward by Raytheon and Kongsberg for the U.S. Navy's LCS frigates, was selected in an initial contract worth \$14.8m (€13m), and valued up to \$847.6m (€750m) if all options were to be exercised.

Export markets

- ▶ Export sales grew 3 percentage points compared to 2015, primarily driven by strong demand for the Patriot missile system, which was ordered by Poland (contract value \$1.5bn, or €1.3bn; partnership with PGZ for 4 firing units) and Romania (contract value \$396m, or €335m).
- ▶ As part of Australia's planned new air defence system, a programme potentially worth \$1.5bn (€1.3bn), Raytheon was selected to design a short-range, ground-based air defence system based on the NASAMS system, which it developed in partnership with Kongsberg.
- ▶ To strengthen its air defence capabilities, Qatar ordered an Early Warning Radar (EWR) system for \$1.1bn (€1bn) in early 2017.
- ▶ In early 2018, Raytheon was selected by the Royal Canadian Navy to provide MRO services for naval weapon systems (contract value \$570m, €467m) and to modernise the Phalanx CIWS (contract value \$262m, €223m).

Technology and Innovation

- ▶ Raytheon R&D expenses stood at \$734m (€650m) in 2017, falling 2.8% from the previous year. This represents 2.9% of net revenues.
- ▶ The group is developing a high energy laser tactical vehicle demonstrator (HEL TVD). In April 2018, it also completed trials of the Small Diameter Bomb II, which will equip the F-35.



BUSINESS AREAS

Platform manufacturer and systems integrator

German's Rheinmetall AG defense branch

- ▶ Wheeled armoured vehicles
- ▶ Defence electronics and C4ISR
- ▶ Weapon systems and ammunition
- ▶ Air defence systems
- ▶ Simulation and training solutions

GOVERNANCE

Chairman and CEO
Chief Financial Officer

Armin Papperger
Helmut P. Merch

OWNERSHIP STRUCTURE

Symbol
Listed on
Market Cap

Unlisted branch

Major shareholders (as of 10.10.2018)

Rheinmetall AG | 100%

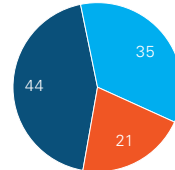
MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ARTEC GmbH	64%	Germany

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	2 240	2 591	2 946	3 036
Δ (%)	3,94%	15,67%	13,70%	3,05%
Defence (%)	100%	100%	100%	100%
Export (%)	71%	68%	73%	71%
Operating profit/loss	-9	90	147	174
Operating Margin (%)	-0,40%	3,47%	4,99%	5,73%
Net profit/loss	N/A	32	74	100
Order book	6 516	6 422	6 656	6 416
Employees	9 184	9 581	10 002	10 251

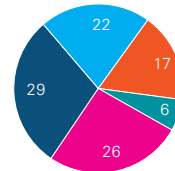
REVENUE BY BUSINESS LINE (%)*



■ Vehicle Systems ■ Electronic Solutions
■ Weapon & Ammunition

* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



■ Germany ■ North America
■ Asia ■ Rest of the World
■ Rest of Europe

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	KMW*	Kongsberg	Eurofighter GmbH	Thales	General Dynamics	Supacat**	Lockheed Martin	Avior
Armoured vehicles								
8x8 Boxer armoured transport vehicle	●					●		
Puma infantry fighting vehicle	●							
Lynx infantry fighting vehicle								
Leopard 2 combat tank	●							
Fuchs/Fox armoured personnel carrier								
Weapon systems								
L44 and L55 120mm tank guns (Leopard 2, M1 Abrams)				●				
MK 30-2/ABM 30mm tank gun (Puma)								
Chassis, fire control system, ammunition (PzH 2000 155mm self-propelled howitzer)	●							
Turret systems and weapon stations								
PROTECTOR remote weapon station		●						
LANCE and LANCE RC turret systems						●		
Air defence systems								
Oerlikon MOOTW Skyshield / C-RAM systems								
Radars								
X-TAR3D surveillance radar								
Simulation and training solutions								
Simulators (Tiger, Eurofighter, NH90, MiG-29K, Tornado)			●	●				●

* KNDS

** SC Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Rheinmetall AG (net revenues of €5.9bn in 2017) is a German industrial conglomerate specialised in weapons and automobile equipment via its two branches: Rheinmetall Defence and Rheinmetall Automotive.
- ▶ Rheinmetall Defence net revenues exceeded €3bn in 2017, a 3.1% year-on-year increase. Growth was mostly supported by the Vehicle Systems (+6.3%) and Weapon & Ammunition (+5.7%) divisions.

Home market

- ▶ Germany is an important market for Rheinmetall Defence, accounting for 52% of new orders and 39% of the order book in 2017 (compared to 22% and 21%, respectively, in 2016). The upcoming increase in the German defence budget (€42.4bn in 2021) provides new opportunities for Rheinmetall Defence.
- ▶ In September 2017, Rheinmetall Defence announced the creation of a joint venture with Rohde & Schwarz (74.9% Rheinmetall-owned) in order to bid for 2 major digital programmes of the Bundeswehr.
- ▶ Rheinmetall Defence won numerous contracts from the German Army over 2017-2018, including the delivery of 2,300 military logistic vehicles (contract value €760m), the upgrading of Puma infantry fighting vehicles (€97m) and 104 Leopard 2 tanks to A7V specifications (€118m), as well as ammunitions supply.
- ▶ In early 2018, Rheinmetall Defence established a partnership with Sikorsky, a Lockheed Martin subsidiary, to put forward the CH-53K helicopter for the German Air Force heavy-lift helicopter renewal programme. The contract has a potential value of €4bn. The Rheinmetall AG branch is also participating in a tender for the future ground-based air defence system of the German government in partnership with Raytheon (proposal of an improved version of the Patriot system). Their offer is in competition with the MEADS system jointly put forward by Lockheed Martin, MBDA and Leonardo.

Export markets

- ▶ Rheinmetall Defence has a strong presence in international markets (71% of sales in 2017). It plans to expand its overseas footprint, particularly in Eastern Europe, the Middle East / North Africa, Asia and Australia.
- ▶ Rheinmetall Defence was selected by the Australian Army for several contracts over 2017-2018: Land 121 (supply of 2,600 military trucks for more than €1.6bn), Land 400 (211 Boxer armoured vehicles of the ARTEC consortium to be delivered between 2019 and 2026 for €2.1bn) and Land 17 (artillery rounds for €65m). In October 2018, the Australian subsidiary of Rheinmetall announced the creation of an ammunition factory in Queensland with its local partner NIOA.
- ▶ In October 2018, Rheinmetall Defence established a partnership with Raytheon in the U.S. in order to participate in the Next-Generation Combat Vehicle programme, which aims to develop an Optionally Manned Fighting Vehicle (NGCV) to replace the Bradley combat vehicle from 2026. The Rheinmetall AG branch is putting forward its Lynx infantry fighting vehicle with various equipment provided by Raytheon. It also won two contracts to supply ammunition to the U.S. Marine Corps (€2.5m) and the U.S. Navy (€3.2m) in 2018.
- ▶ In September 2018, the United Kingdom confirmed its interest in the Boxer to serve as its next infantry fighting vehicle. To carry out local production, ARTEC (co-owned by Rheinmetall Defence and KMW) will collaborate with different partners, including BAE Systems and Thales UK. The contract is set to be signed in 2019 and covers 500 vehicles that are to be delivered from 2023, for a total value of £2bn-£3bn (approx. €2.3bn-€3.4bn).

Technology and Innovation

- ▶ Rheinmetall Defence R&D spending remained stable in 2017 (€73m compared to €74m in 2016).



BUSINESS AREAS

Engine manufacturer, systems integrator

- ▶ Aircraft engines
- ▶ Helicopter engines
- ▶ Gas turbine, submarine nuclear propulsion
- ▶ Distributed generation system
- ▶ Services and MRO

GOVERNANCE

Chairman	Ian Davis
Chief Executive Officer	Warren East
Executive President	Tom Bell

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	RR
Listed on	LSE
Market Cap (£m)	15 163

Major shareholders (as of 05.11.2018)

ValueAct Capital Management LP	10,74%
Capital Research & Management Co. (Global Investors)	3,94%
Credit Suisse Securities Europe Ltd. (Market-Maker)	3,82%
Baillie Gifford & Co.	3,38%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
AirTanker Holdings Ltd	20%	United Kingdom
EUROJET Turbo GmbH	46%	Germany
EPI Europop International GmbH	44%	Germany
LHTEC	50%	United States
MTU Turbomeca Rolls-Royce GmbH	33,3%	Germany
TAEC Aircraft Engine Industry Corporation	49%	Turkey

KEY FIGURES (Fiscal year ended: December 31st)

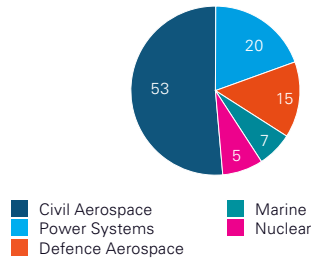
€ millions	2014	2015	2016	2017
Revenue*	17 198	18 398	16 819	17 213
Δ (%) / [€]**	-10,58%	-3,68%	3,21%	9,48%
Defence (%)	24%	23%	25%	24%
Export (%)	88%	87%	88%	88%
Operating profit/loss*	2 085	2 056	1 117	1 340
Operating Margin (%)*	12,12%	11,17%	6,64%	7,79%
Net profit/loss*	1 528	1 489	674	848
Order book	94 587	104 093	94 501	88 451
Employees	54 100	50 500	49 900	50 000

* Data excluding shareholdings and equity interests.

** Variation based on revenue in local currency.

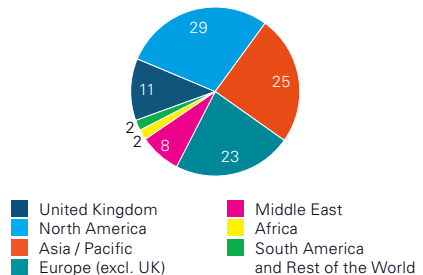
See €/£ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)*



* Sale of civil marine business to Norwegian group Kongsberg in July 2018 and reorganisation under 3 divisions: Civil Aerospace, Power Systems, and Defence.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Safran	MTU Aero	Avio Aero	ITP***	Pratt & Whitney****	Honeywell	Standard Aero	Naval Group****	Jiangsu A-Star	Embraer	BAE Systems	GRSE
Aircraft engines												
RB199 (Tornado)		●	●									
EJ200 (Eurofighter)		●	●	●								
LiftSystem (F-35B)					●							
Adour (BAE Hawk AJT)	●											
TP400-D6 (A400M)	●	●		●								
T56 and AE2100 (C-130)						●						
AE3007 (EMB145 AEW&C)						●			●			
Trent 700 (A330 MRTT)												
Tempest fighter aircraft programme											●	
Helicopter engines												
MTR390-E (Tiger)	●	●		●								
CTS800 (Dhruv, A129, UH-1Y, AW159 Wildcat)						●						
AE1107 (V-22 Osprey)						●						
M250 (OH-58D, AH-6, RQ-8A)						●		●				
UAS propulsion												
AE3007 (RQ-4 Global Hawk, MQ-25 Stingray and MQ-4C Triton)												
Gas turbine, nuclear propulsion												
MT30 gas turbine (Queen Elizabeth-class aircraft carriers, T26-class frigates, Hunter-class frigates)												
WR-21 gas turbine (T45-class destroyers)							●					
PWR-2 (Vanguard, Astute) and PWR-3 (Successor programme) nuclear reactors												
MTU 12V/16V 4000 M90 diesel engine												●
MTU 16V 8000 M91L diesel engine (FTI frigates)												●

* General Electric ** Takeover by Rolls-Royce in December 2017 *** UTC **** formerly DCNS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Excluding associates and equity interests, 2017 net revenues recovered to 2013 levels, reaching slightly above the £15bn mark (€17.2bn). After returning to growth in 2016, business accelerated in 2017 (+9.5% compared to +3.2% the previous year).
- ▶ Faced with various challenges in recent years, the group is moving forward with the restructuring plan launched in 2015. In early 2018, Rolls-Royce introduced a 2-year workforce reduction plan. Approximately 4,600 jobs are potentially affected, mostly in the United Kingdom.
- ▶ In July 2018, Rolls-Royce announced the sale of its civil marine business unit (net revenues of £1,077m, or €1,228m, and 4,600 employees in 2017) to Norwegian group Kongsberg for €565m, effective Q1 2019. At the same time, the group reorganised its activities into 3 main divisions: Civil Aerospace, Power Systems and Defence.

Home market

- ▶ The group generated 11% of its net revenues in the British market in 2017. This share has overall remained stable in recent years.
- ▶ Rolls-Royce is the undisputed leader in the United Kingdom in the naval engines and military gas turbines market. This position has recently been reinforced with the launch of the Royal Navy's T26 frigate programme, led by BAE Systems, and for which Rolls-Royce will provide MT30 turbines.
- ▶ In July 2018, BAE Systems, Leonardo (advanced sensors, electronics, avionics), Rolls-Royce (engines) and MBDA (weapons systems) teamed up to develop a new fighter aircraft that is intended to replace the Eurofighter Typhoon of the Royal Air Force in due course. By 2025, the UK Ministry of Defence (MoD) plans to invest approx. £2bn (€2.25bn) in this programme, named Tempest, which is distinct from the Franco-German initiative (NGWS).

Export markets

- ▶ Accounting for almost 30% of group net revenues, the U.S. remain Rolls-Royce's main market. The group benefits from major multi-year contracts with the U.S. Air Force, covering logistics support for the C-130J aircraft fleet until 2022 (contract value \$845m, €750m), as well as MRO and repair services for the Global Hawk and Triton UAS for a six-year period (contract value \$420m, €373m), among others.
- ▶ In March 2018, German engine manufacturer MTU, a Rolls-Royce subsidiary, was selected by Naval Group to equip the 5 upcoming intermediate-size frigates (FTI) of the French Navy. Each ship will be powered by 4 MTU 16V 8000 M91L diesel engines, with a total of 20 engines to be delivered between 2020 and 2027.
- ▶ As part of the SEA 5000 programme, a tender won by BAE Systems in June 2018, Rolls-Royce will provide MT30 turbines for the upcoming Australian Hunter-class frigates. Rolls-Royce will partner with Australian group Marand to build, assemble and install the turbines.

Technology and Innovation

- ▶ Overall group R&D expenditure fell 14.5% to £737m (€840m) in 2017, compared with £862m (€1,052m) in 2016. The R&D ratio was 4.9%, a 1.4 percentage point decline on the previous year.
- ▶ In September 2017, Rolls-Royce unveiled a concept for an autonomous naval vessel that is designed to conduct patrol & surveillance missions, fleet protection and mine detection.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aviation (fuselage sections, equipment)
- ▶ Defence (land and aircraft systems, simulation systems, C4I systems)
- ▶ Ammotec (small-caliber ammunition)
- ▶ Space (structures, equipment)

GOVERNANCE

Chairman and CEO
Chief Financial Officer
CEO, RUAG Defence

Urs Breitmeier
Urs Kiener
Andreas Berger

OWNERSHIP STRUCTURE

Symbol

Listed on

Market Cap

Unlisted group

Major shareholders (as of 10.10.2018)

Federal Authorities
of the Swiss Confederation

100%

MAIN JOINT VENTURES AND ASSOCIATES

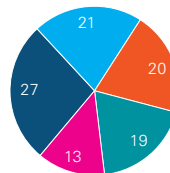
Name	%	Country
RUAG Aviation Malaysia SDN BHD	65%	Malaysia
Nitrochemie AG	49%	Switzerland
RUAG Simulation Company LLC	49%	United Arab Emirates
Arianespace Participation	3,5%	France

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	1 466	1 633	1 704	1 759
Δ (%) (CHF)*	1,66%	-2,08%	6,54%	5,22%
Defence (%)	43%	45%	43%	44%
Export (%)	63%	62%	63%	62%
Operating profit/loss	93	128	139	107
Operating Margin (%)	6,34%	7,86%	8,13%	6,09%
Net profit/loss	69	110	106	80
Order book	1 139	1 272	1 449	1 373
Employees	8 114	8 163	8 734	9 189

* Variation based on revenue in local currency.
See €/CHF exchange rates p.7.

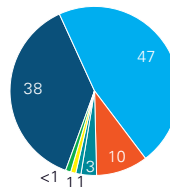
REVENUE BY BUSINESS LINE (%)*



- Aviation
- Ammotec
- Defence
- Space
- Aerostructures

* Unbundling of defence activities is ongoing.

REVENUE BY REGION (%)



- Switzerland
- Europe
- North America
- Asia / Pacific
- Middle East
- Africa
- South America

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	HAL	General Dynamics	United Launch Alliance	Rheinmetall Defence	Seab AB	KMW*	Dassault Aviation	BAE Systems	Arianespace**	Safran	Thales
Aviation											
Dornier 228NG aircraft	●										
Aerostructures (F/A-18, F-5 Tiger, Gripen, PC-21)				●							
nEUROn UCAV demonstrator (weapons interface unit)						●					
OPATS laser-based automatic landing system for UAS											
ISSYS-Pod integrated self-protection system				●							
Flight simulators (F/A-18 SHOTS and SAMT, PC-7, MISIM ADS 95 Ranger UAV)											
Land systems											
COBRA 120mm mortar system											
IFV 2000 / CV90 infantry fighting vehicle							●				
Leopard 2 MBT upgrade package (Pz 87 Leo)			●		●						
M109 artillery system upgrade							●				
AEV3 KODIAK armoured engineer vehicle			●								
SidePRO and RoofPRO passive side protection											
VERO Unmanned Ground Vehicle (UGV)	●								●		
CERBERE programme											●
C4ISR											
ARENEA tactical communications system											
Space systems											
Launcher fairings		●						●			
Missile guidance systems (S19 and GCS families)											

* KNDS

** ArianeGroup

STRATEGIC HIGHLIGHTS

Business trends

- ▶ RUAG net revenues posted further growth in 2017 (+5.2%), reaching almost CHF 2bn (€1.8bn). However, annual net profit declined (-23%) during the year.
- ▶ The Cyber Security business unit, formerly part of the Defence division, directly reports to RUAG's CEO since early 2018. Cybersecurity is one of the group's main growth areas. The group's capabilities in this field were strengthened by the acquisition of British specialist Clearswift in late 2017.
- ▶ Hit by a cyberattack in December 2015, RUAG in June 2018 presented a project to separate the group's military activities from those of other clients, as requested by Swiss authorities. Two independent legal entities are to be created: "MRO Switzerland" (focused on activities for the Swiss Armed Forces and overseen by the Swiss government) and "RUAG International" (focused on all other activities, with the possibility of being at least partially privatised). The transformation plan is scheduled to begin on January 1st, 2020.

Home market

- ▶ Switzerland's Federal Department of Defence, Civil Protection and Sport (DDPS) is RUAG's biggest client (31% of net revenues in 2017). RUAG provides maintenance and upgrading services for the fleet and systems of the Swiss Air Force through five-year service contracts (MRO programmes for the F/A-18, F-5, Cougar transport helicopters, PC-6, and 35mm anti-aircraft guns).
- ▶ As part of its programme to renew its military aircraft fleet and acquire a new surface-to-air defence system (valued at CHF 8bn, or €6.8bn), the DDPS announced that all suppliers must include RUAG in their bids. RUAG is also a partner of Thales for the FLORAKO programme, which is focused on upgrading the Master radar system (designed by Thales) of the Swiss Air Force.
- ▶ In 2018, RUAG won a multi-million Swiss franc contract to update the Swiss Armed Forces' Broadband Transmission System (BTS).

Export markets

- ▶ RUAG generated 62% of its net revenues in the export market in 2017. This share has remained stable in recent years. The group opened two production sites in 2017, one in Hungary (RUAG Aerostructures) and one in the U.S. (RUAG Space). RUAG Ammotec also obtained a licence to build an ammunition factory in Brazil.
- ▶ In France, RUAG was selected to provide 500 laser-based target systems for infantry troop training. In partnership with Thales, the group is also developing combat simulation systems as part of the CERBERE programme.
- ▶ In late 2017, RUAG received an order from the Bangladesh Navy for 2 Dornier 228 maritime patrol aircraft. An MRO contract for these planes was also renewed in the Netherlands.
- ▶ In February 2018, BAE Systems and its Finnish partner Patria teamed up with RUAG as part of a joint-bid to provide AMV35 tanks to the Australian Army (phase 2 of the Land 400 programme, which was eventually won by Rheinmetall in March 2018). Had the bid been accepted, RUAG would have provided the ballistic armour for the combat vehicle.

Technology and Innovation

- ▶ Group R&D spending reached CHF 181m (€163m) in 2017, a 5.8% annual increase. This represents 9.3% of net revenues.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aerospace
- ▶ Naval platform and systems
- ▶ Missile systems and weapon systems
- ▶ Defence electronics
- ▶ C4I and early warning system
- ▶ Security and integrated solutions
- ▶ Simulation

GOVERNANCE

Chairman Marcus Wallenberg
 Chief Executive Officer Håkan Buskhe
 Chief Financial Officer Magnus Örnberg

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol SAAB B
 Listed on Nasdaq OMX Stockholm
 Market Cap (SEK m) 38 790

Major shareholders (as of 30.10.2018)

Investor AB	28,80%
Knut and Alice Wallenberg Foundation	8,94%
Swedbank Robur funds	5,77%
AFA Försäkring	2,41%

MAIN JOINT VENTURES AND ASSOCIATES

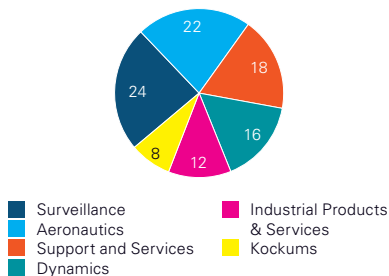
Name	%	Country
Taurus Systems GmbH	33%	Germany
Akaer Participações S.A.	25%	Brazil
Gripen International KB	50%	Sweden
Saab Grintek Technologies Ltd	70%	South Africa
Fortis Marine Solutions Pte Ltd	49%	Singapore

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	2 586	2 907	3 024	3 258
Δ (%) / [SEK]*	-0,94%	15,55%	5,32%	9,65%
Defence (%)	79%	82%	83%	84%
Export (%)	55%	58%	57%	58%
Operating profit/loss	182	203	190	224
Operating Margin (%)	7,05%	6,99%	6,28%	6,86%
Net profit/loss	128	150	124	149
Order book	6 401	12 387	11 265	10 854
Employees	14 716	14 685	15 465	16 427

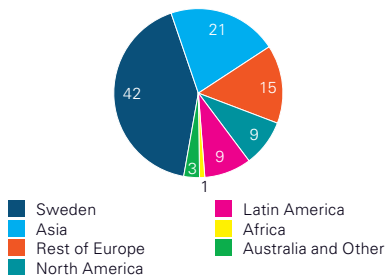
* Variation based on revenue in local currency. See € / SEK exchange rates p.7.

REVENUE BY BUSINESS LINE (%)*



* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	RUAG	Thales	Leonardo	BAE Systems	Dassault Aviation	MBDA	Embraer	Bombardier	Diehl Defence	UMS Aero AG	Denel	Boeing
Military aircraft												
Gripen fighter (E, E/F, C/D, NG)		●	●	●			●				●	
Saab 2000 ERIEYE / GlobaEye AEW&C and Swordfish MPA						●	●					
Skeldar VTOL UAS									●			
nEUROn UCAV demonstrator (main fuselage, landing gear doors, avionics, fuel system)				●								
Future T-X trainer aircraft												●
Missile systems, weapon and artillery systems												
Carl-Gustaf M4 and AT4 man-portable anti-armour weapons												
NLAW anti-tank system												
RBS-70NG VHSORAD system												
RBS-15 Mk3 anti-ship missile system								●				
IRIS-T air-to-air missile								●				
METEOR beyond visual range air-to-air missile					●							
TAURUS KEPD 350 modular stand-off weapon system for precision strikes					●							
Defence and security solutions												
Giraffe (AMB, 4A, 8A, 1X) radar												
Type A26-class submarines												
SIGINT reconnaissance ship												
Defence electronics												
BOL advanced countermeasure dispenser			●									
IDAS Integrated Defensive Aids System	●											

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues grew further in 2017 (+9.7%), reaching SEK 31.4bn (€3.3bn). All divisions contributed to overall growth, particularly the Support & Services (+22%), Kockums (+17%) and Industrial Products & Services (+12%) divisions.
- ▶ In late 2017, Saab AB acquired 3 companies: Applied Composites AB (from GKN Aerospace, specialised in land combat systems and radomes), N. Sundin Dockstavarvet AB (a Swedish naval military equipment manufacturer) and Muskövarvet AB (a Swedish naval shipyard).

Home market

- ▶ The domestic market remains significant for the group (42% of net revenues in 2017), particularly for fighter aircraft and naval ships.
- ▶ Saab won 2 MRO contracts for the Gripen C/D fleet of the Swedish Air Force, respectively worth SEK 1.9bn (€197m) and SEK 1.35bn (€140m). The contract signed in 2013 for 60 Gripen E was amended in late 2017 to include new equipment, for approximately SEK 400m (approx. €42m).
- ▶ The development and production of next-generation anti-ship missiles for the upcoming Gripen E aircraft and Visby corvettes of the Swedish Navy was assigned to Saab for SEK 3.2bn (€332m).
- ▶ Through its Kockums division, Saab signed a SEK 1.25bn (€130m) contract for the modernisation of the Swedish Navy's Gävle-class corvettes, and another for SEK 730m (€76m) to develop a SIGINT reconnaissance ship.

Export markets

- ▶ The group strengthened its international footprint by opening two production sites, one in Brazil (aerostructures for the Brazilian Air Force' Gripens) and one in the United Arab Emirates (sensor systems for the UAE and international markets). Saab also inaugurated a new R&D centre in Finland.
- ▶ The group usually works through partnerships in new markets. In the U.S., Saab and Boeing won a tender for the future trainer aircraft of the U.S. Air Force (T-X programme). The Swedish group is also a partner of Raytheon for the design of weapons systems for U.S. Army. In India, it teamed up with the Adani Group conglomerate to potentially develop an Indian variant of the Gripen. It is in competition with a rival American F-16 bid.
- ▶ In June 2017, Switzerland ordered next-generation NLAWS anti-tank missiles for SEK 1,035m (€107m), to be delivered between 2018 and 2021.
- ▶ The 9LV combat system was selected by the Royal Australian Navy to be integrated into its 9 next-generation Hunter-class frigates (SEA 5000 programme, won by BAE systems). Patria also selected Saab as its main supplier for the upgrading of the Finnish Navy's Hamina-class fast attack craft.
- ▶ Deliveries of the Gripen E (next-generation Gripen fighter aircraft) to the Swedish, Brazilian and Swiss Air Forces are set to start in 2019. Saab is also in discussions with Bulgaria for a new potential order.

Technology and Innovation

- ▶ R&D spending reached SEK 7.3bn (€763m) in 2017, representing 23.4% of net revenues. This is a 1% decline compared to 2016. R&D projects are mainly related to the GlobalEye and T-X programmes.

BUSINESS AREAS

Engine manufacturer, systems integrator/equipment supplier

- ▶ Engines (aircraft, satellite, missile)
- ▶ Aerospace equipment and systems
- ▶ Optronics, avionics, navigation systems, defence electronics and critical software
- ▶ UAS
- ▶ Security systems

GOVERNANCE

Chairman	Ross McInnes
Chief Executive Officer	Philippe Petitcolin
Chief Financial Officer	Bernard Delpit
Chief Executive Officer, Safran Electronics & Defense	Martin Sion

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	SAF
Listed on	NYSE Euronext Paris
Market Cap (€m)	44 852

Major shareholders (as of 31.10.2018)

French State	10,81%
Employees	6,80%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ArianeGroup	50%	France
Roxel	50%	France
Sofradir	50%	France
CFM International SA	50%	France
EuroProp International GmbH	32,2%	Germany
Optrolead	50%	France

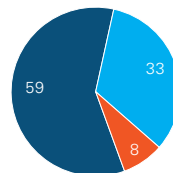
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015*	2016	2017
Revenue	15 355	15 536	15 781	16 521
Δ (%)	6,91%	1,18%	1,58%	4,69%
Defence (%)	~20%	~20%	~20%	~20%
Export (%)	79%	76%	79%	81%
Operating profit/loss	1 982	1 601	2 386	2 380
Operating Margin (%)	12,91%	10,31%	15,12%	14,41%
Net profit/loss	1 313	1 532	1 861	2 687
Order book	63 754	58 718	62 320	68 583
Employees**	68 945	61 420	57 542	58 324

* 2015 figures restated.

** Starting from 2015, workforce data excludes the Security division (sold in 2017)

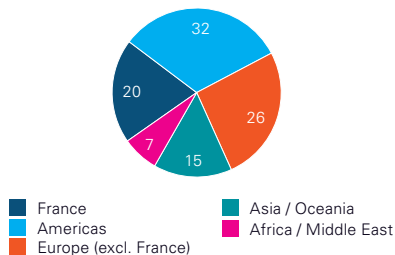
REVENUE BY BUSINESS LINE (%)*



- Aerospace Propulsion
- Aircraft Equipment
- Defence

* Following the purchase of Zodiac Aerospace in February 2018, two new divisions were created : Aerosystems and Aircraft Interiors.

REVENUE BY REGION (%)



- France
- Americas
- Europe (excl. France)
- Asia / Oceania
- Africa / Middle East

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	ITP	MTU Aero Engines	Rolls-Royce	MBDA	HAL	Ecaerys	Thales	AVIC
Aircraft engines								
M88-4E afterburning turbofan engine (Rafale)								
TP400-D6 turboprop engine (A400M)	●	●	●					
RTM322 engine family (NH-90, EH 101 / AW 101, AH Mk.1)								
Ardiden turboshaft family (Druhv, LCH, LUH, Ka-62, AC352)					●			●
MTR390, MTR390-2C and MTR390-E turboshaft engines (Tiger)	●	●	●					
Space propulsion								
Plasma propulsion (PPS 1350-G, PPS 1350-E, PPS 5000, TMA)								
Missile propulsion								
TR60-30 (Apache, STORM SHADOW / SCALP EG)				●				
TR 50 (MdCN / SCALP Naval)				●				
Navigation systems and optronics								
Front sector optronics							●	
STRIX optronic sight (Tiger)								
GeonyxTM, ArgonyxTM and Black-OnyxTM inertial navigation systems								
Euroflir 410 ultra-long-range electro-optical system							●	
Missile systems and weapon systems								
Missile seekers (MICA, ANL, Mistral, MMP)			●					
Air-to-ground modular weapon (AASM) "Hammer"								
UAS								
Patroller tactical UAS						●		
Warfighter modernisation								
Warfighter modernisation programme FELIN								

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Consolidated net revenues reached a record €16.5bn in 2017. Annual growth stood at 4.7%, underpinned by sound performances across all group divisions.
- ▶ The Defence division grew 8.6% in 2017, driven by new French and international contracts as well as strong sales for certain solutions (navigation systems, UAS, target acquisition systems).
- ▶ As part of its efforts to refocus on aviation, space and defence activities, Safran completed the sale of its Security division in the first half of 2017. As part of the divestment, the detection systems business was sold to Smiths Group, while security and identity operations were purchased by Advent International.
- ▶ Safran completed the takeover of Zodiac Aerospace in Q1 2018. The group is now ranked 3rd worldwide in aerospace (excluding airframers) and 2nd in aircraft equipment. Following this operation, Safran created 2 new divisions: Aerosystems and Aircraft Interiors.

Home market

- ▶ In June 2017, Safran signed a contract with the Organization for Joint Armament Co-operation (OCCAR) covering the supply of 18 new STRIX optronic sights for the French Air Force's Tiger helicopters.
- ▶ In 2017, the French Ministry of the Armed Forces placed an order for armoured vehicles (319 Griffons and 20 Jaguars). Safran will provide optronic sights and navigation systems. This order is part of the Scorpion programme, which aims to modernise the combat capabilities of the French Army.
- ▶ At the end of 2017, Safran won the DGA's Science & Technology project, FURIOUS. Assisted by a dozen of SMEs and French research laboratories, the group will develop land robots for the French Army.
- ▶ Airbus Defence & Space selected Safran Engineering Services to provide a software component for EGNOS (European Geostationary Navigation Overlay Service), the European system for improving the performance of satellite geolocation.

Export markets

- ▶ In 2017, Safran generated 81% of its net revenues in the export markets, a 5 percentage points increase compared to 2015. The group aims to strengthen its position in international markets, particularly in emerging countries, by establishing joint ventures and opening new production sites, among others.
- ▶ In August 2017, the U.S. Marine Corps ordered more than 300 I-CUGR rangefinders from Safran Optics 1. These small, lightweight, weapon-mounted laser rangefinders allow users to quickly range targets without taking their hands off their weapons.
- ▶ In June 2018, Safran Electronics & Defense, Safran Optics 1 and U.S. defence contractor Raytheon teamed up to design next-generation infrared sighting systems for U.S. and NATO combat vehicles.
- ▶ In July 2018, the Netherlands Defense Material Organisation (DMO) selected Safran Vectronix to provide more than a thousand of the latest Moskito TI monoculars as part of the Thermal Handheld Imaging System (THIS) programme.
- ▶ Safran and Qatari group Barzan Holdings signed a partnership agreement covering optronics and navigation systems. The two companies aim to develop joint R&D and production operations that will serve the needs of the Qatar Armed Forces and the wider region.

Technology and Innovation

- ▶ At €1.1bn, Safran's annual R&D spending fell for a third consecutive year in 2017.
- ▶ In 2018, Safran introduced Geonyx™, an inertial navigation and pointing system for land vehicles, as well as a new family of naval inertial navigation systems.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aerospace (ST Engineering Aerospace)
- ▶ Defence electronics and space (ST Engineering Electronics)
- ▶ Land (ST Engineering Land Systems)
- ▶ Naval (ST Engineering Marine)

GOVERNANCE

Chairman	C. Seng Kwa
Chief Executive Officer	V. Sy Feng Chong
Chief Financial Officer	C. Chee Keng Foo

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	S63
Listed on	SGX
Market Cap (SGD m)	11 085

Major shareholders (as of 26.02.2018)

Temasek Holdings Pte Ltd (Singapore's state investment fund)	49,90%
Citibank Nominees Singapore Pte Ltd	10,97%
DBS Nominees Pte Ltd	9,60%
DBSN Services Pte Ltd	0,05%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
EFW	55%	Germany
Timoney Holdings Ltd	27,68%	Ireland
Turbine Overhaul Services	49%	Singapore
ST Electronics (Satellite Systems)	51%	Singapore
First Response Marine	50%	Singapore

KEY FIGURES (Fiscal year ended: December 31st)

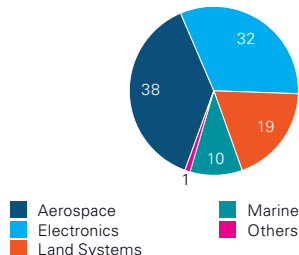
€ millions	2014	2015	2016	2017
Revenue	3 887	4 153	4 376	4 247
Δ (%) / [SGD]*	-1,41%	-3,13%	5,50%	-0,96%
Defence (%)	39%	36%	35%	35%
Export (%)**	42%	38%	41%	39%
Operating profit/loss	330	335	308	355
Operating Margin (%)	8,49%	8,06%	7,05%	8,36%
Net profit/loss	316	347	317	328
Order book	7 784	7 589	7 615	8 238
Employees	22 671	22 388	21 974	21 541

* Variation based on revenue in local currency.

See €/SGD exchange rates p.7.

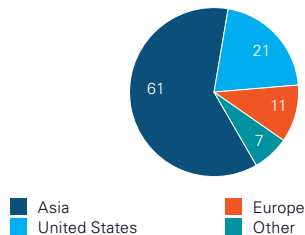
** Home market = Asia.

REVENUE BY BUSINESS LINE (%)*



* As of June 1st, 2018, ST Engineering renamed its 4 divisions to highlight the group's brand.

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	DSO	Saab Kockums	SAIC	Otokar	General Dynamics	Thales	SaisFry	Paramount Group
Aerospace									
F-16 fighter aircraft MRO and modernisation	●								
C-130/L100 Hercules transport aircraft MRO and modernisation	●								
Skyblade IV tactical UAS		●							
Skyblade III and 360 tactical UAS		●							
Electronics, cyber and space									
VSAT terminals (Agilis family, Agilis HALE UAV)								●	
TeLEOS-1 earth observation satellite		●							
DigiSAFE cybersecurity solution									
Land systems									
8x8 Terrex AV-81, Terrex 2 and Terrex 3 armoured vehicles			●	●					
Bronco/Warthog all-terrain tracked carrier							●		
Pegasus 155mm 39 calibre lightweight howitzer									
40mm ammunitions					●	●			
Next Generation Armoured Fighting Vehicle (NGAFV)									
Belrex protected combat support vehicle									●
Super Rapid Advanced Mortar System (SRAMS)									
Naval systems									
LMV-class offshore patrol vessels			●				●		
Ambassador IV-class fast missile craft	●								

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues declined 1% to SGD 6.6bn (€4.2bn) in 2017. Results were hit by lower sales in the Land Systems (-11%) and Marine (-24%) divisions.
- ▶ Defence activities accounted for 35% of net revenues in 2017. This share has remained stable over the past few years. ST Engineering aims to benefit from higher military budgets in Asia to strengthen its market position.
- ▶ From June 1st, 2018, ST Engineering's 4 divisions will be renamed to emphasise the group's brand. The group is also moving forward with its streamlining strategy by merging various units and subsidiaries.
- ▶ To increase its innovation capabilities, ST Engineering created ST Engineering Ventures in mid-2017, providing it with \$150m in funds to invest in start-ups and innovative new companies. ST Engineering Ventures invested \$5.8m (€5.1m), for example, to acquire a minority share in U.S. cybersecurity company Janus Technologies.
- ▶ In July 2017, ST Engineering acquired Aethon, a U.S.-based manufacturer of autonomous mobile robots. In both civilian and military activities, cybersecurity and autonomous systems are the group's main areas of focus.
- ▶ In June 2018, the group sold its 25% share in the Airbus Helicopters South East Asia (AHSA) joint venture to its partner Airbus Helicopters for €9.1m.

Home market

- ▶ Asia is the group's most significant geographical market (61% of net revenues in 2017). ST Engineering is the leading supplier of the Singapore Armed Forces.
- ▶ The group won a contract from the Singapore Ministry of Defence to build the Next Generation Armoured Fighting Vehicle (NGAFV), which will replace the M113 Ultra. The first vehicles are scheduled to be delivered in 2019.
- ▶ ST Engineering is engaged in construction of Littoral Mission Vessel (LMV)-class frigates for the Republic of Singapore Navy. The group delivered the 5th vessel (out of 8) in August 2018 and is moving forward with the production of the final 3 units.
- ▶ In space systems, the group began construction of the TeLEOS-2 earth observation satellite. Launch date is set for 2022. The programme is carried out in partnership with the Defence Science & Technology Agency (DSTA).

Export markets

- ▶ Exports accounted for 39% of net revenues in 2017. The group's main export markets are the U.S. and Europe. Overseas sales are considered a key growth driver.
- ▶ In mid-2018, ST Engineering established a partnership with South Africa's Paramount for the export of Belrex protected combat support vehicles (10 variants). The group also teamed up with Austrian group Hirtenberger Defence Systems to market a 120mm mortar based on its Super Rapid Advanced Mortar System (SRAMS) in the European market.
- ▶ In partnership with SAIC and Belgium's CMI Defence, ST Engineering is preparing a bid for the U.S. Army's Mobile Protected Firepower programme. The combat vehicle put forward is based on the NGAFV.

Technology and Innovation

- ▶ Group R&D spending reached SGD 117.5m (€75m) in 2017, representing 1.8% of net revenues. This is a 7.7% increase compared to 2016. In mid-2017, ST Engineering launched Innosparks, an "open laboratory" designed to foster innovation.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military and commercial helicopters (Bell Helicopter)
- ▶ Military aircraft and business jets (Textron Aviation)
- ▶ Defence and security systems (Textron Systems and TRU Simulation + Training)
- ▶ Industrial products (Kautex, EZ-GO, Greenlee, Jacobsen)
- ▶ Finance

GOVERNANCE

Chairman and CEO Scott C. Donnelly
 President and CEO, Textron Aviation Ron Draper
 President and CEO, Textron Systems Lisa Atherton

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	TXT
Listed on	NYSE
Market Cap (\$m)	13 283

Major shareholders (as of 06.11.2018)

T. Rowe Price Associates, Inc.	13,84%
The Vanguard Group, Inc.	9,74%
Capital Research & Management Co. (Global Investors)	7,84%
BlackRock Fund Advisors	5,74%
SSgA Funds Management, Inc.	4,04%

MAIN JOINT VENTURES AND ASSOCIATES

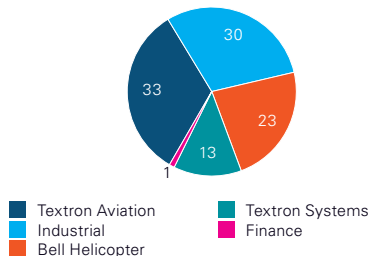
Name	%	Country
CESSNA-AVIC Aircraft (Zhuhai) Co., Ltd	N/A	China
CESSNA-AVIC Aircraft (Shijiazhuang) Co., Ltd	N/A	China
Textron Airland LLC	50%	United States
TFS/Tri-Star Co., Ltd	80%	Taiwan
Bell Boeing	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

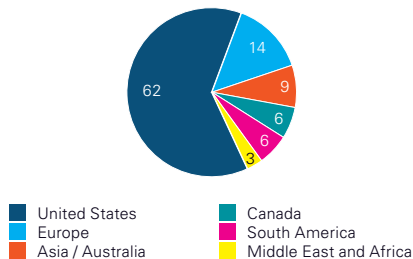
€ millions	2014	2015	2016	2017
Revenue	10 446	12 098	12 456	12 568
Δ (%) /\$)*	14,66%	-3,28%	2,72%	2,97%
Defence (%)	34%	31%	32%	29%
Export (%)	37%	38%	38%	38%
Operating profit/loss	642	875	791	860
Operating Margin (%)	6,15%	7,23%	6,35%	6,84%
Net profit/loss	452	628	869	272
Order book	8 037	7 715	7 819	5 990
Employees	~34 000	~35 000	~36 000	~37 000

* Variation based on revenue in local currency. See €/£ exchange rates p.7.

REVENUE BY BUSINESS LINE (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	FHI	AirLand	Pilatus	AIDC	Lockheed Martin	Rheinmetall	L3 Technologies*	Rolls-Royce	Alcoa	Thales	QinetiQ
Bell Helicopter (helicopters)												
V-22 Osprey tiltrotor aircraft	●											
V-280 Valor tiltrotor aircraft demonstrator					●							
UH-1 Huey helicopter		●		●								
AH-1Z Viper combat helicopter		●										
Textron Aviation (CESSNA, Beechcraft)												
T-6 Texan II military trainer			●									
AT-6 Wolverine light-attack aircraft			●		●							
King Air 350 ISR surveillance aircraft												
Textron Systems (manned and unmanned aircraft)												
Shadow M2 and Night Warden tactical UAS												
Aerosonde small UAS												
Scorpion ISR/strike aircraft			●							●	●	
Textron Systems (land and naval systems)												
Tactical Armoured Patrol Vehicle (TAPV)						●						
Motor Lifeboat (MLB)												
Common Unmanned Surface Vehicle (CUSV)												
Ship-to-Shore Connector (SSC)							●	●	●			
Textron Systems (defence systems and ammunitions)												
Battlehawk squad-level loitering munition												
FURY and G-Claw precision guided weapons											●	

* formerly L3 Communications

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Textron net revenues grew almost 3% to \$14.2bn (€12.6bn) in 2017. However, growth was mostly driven by the purchase of U.S.-based Arctic Cat (now Textron Off Road), a world-leading manufacturer of all-terrain vehicles, in early 2017.
- ▶ While the Industrial division posted strong growth during the year (+13%), mostly due to external growth, the group's main business, Textron Aviation (military aircraft and business jets), saw revenues decline by 4.8%.
- ▶ Textron's commercial activities have seen faster growth than its military operations for a number of years. The share of defence activities in overall group revenues shrank from 34% to 29% between 2014 and 2017.

Home market

- ▶ Textron generated 62% of its net revenues in the U.S., a share that has remained relatively stable in recent years. Excluding Foreign Military Sales (FMS), an official procedure that facilitates U.S. military deals with foreign governments, this share approaches almost 80% for defence activities. The U.S. Department of Defense is, by far, the company's biggest client (22% of net revenues in 2017).
- ▶ The U.S. Armed Forces placed a \$4.2bn (€3.6bn) order with Bell Boeing, a joint venture between Textron and Boeing, for 54 V-22 Osprey tiltrotor aircraft (39 CMV-22B for the U.S. Navy, 14 MV-22B for the Marine Corps and 1 CV-22B for the U.S. Air Force). The units are to be delivered by 2024.
- ▶ In August 2018, Bell Helicopter won a \$510m (€450m) contract for the supply of 29 AH-1Z attack helicopters to the U.S. Marine Corps. Production will be carried out at the Forth Worth site in Texas. The first units are set to be completed in 2021.
- ▶ Textron Aviation is among the contractors retained for the second phase of the bidding procedure for the U.S. Air Force's OA-X programme. The AT-6 Wolverine light-attack aircraft is in competition with the Super Tucano A-29 (jointly developed by Embraer and Sierra Nevada Corp.).

Export markets

- ▶ The group generated 38% of its revenues in export markets. For military sales, most of its contracts were acquired through the FMS process, particularly for the V-22 Osprey, one of the group's most successful export products.
- ▶ The latest Tactical Armoured Patrol Vehicles (TAPV) were delivered to Canada. An option for 100 more vehicles (in addition to the 500 already delivered) was added to the initial contract concluded with Textron in 2012. Canada has three years to exercise it.
- ▶ As part of a deal concluded with the Defense Security Cooperation Agency (DSCA), the Czech Republic ordered several UH-1Y utility helicopters for an estimated \$575m (€505m).

Technology and Innovation

- ▶ Textron invested \$634m (€561m) in self-financed R&D in 2017, compared with \$677m (€612m) in 2016 and \$778m (€701m) in 2015. R&D represented 4.5% of group net revenues in 2017, compared to 5.8% two years earlier.
- ▶ At the Paris Air Show in June 2017, Textron unveiled the Night Warden tactical UAS, a variant of its Shadow M2. Later in the year, the V-280 tiltrotor aircraft, developed in partnership with Lockheed Martin, conducted its first test flights.



BUSINESS AREAS

Systems integrator, equipment supplier

- ▶ Aerospace equipment and systems
- ▶ Sensors, systems and communications
- ▶ Weapon systems and ammunition
- ▶ Training and simulation
- ▶ Space (see also Thales Alenia Space)

GOVERNANCE

Chairman and CEO	Patrice Caine
Group Secretary	Isabelle Simon
Executive Vice President, Defence Mission Systems	Philippe Duhamel

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	12 974	14 063	14 885	15 795
Δ (%)	2,17%	8,39%	5,85%	6,11%
Defence (%)	50%	50%	50%	51%
Export (%)	74%	76%	76%	76%
Operating profit/loss	985	1 216	1 354	1 543
Operating Margin (%)	7,59%	8,65%	9,10%	9,77%
Net profit/loss	763	813	1 015	887
Order book	27 285	32 292	33 530	31 914
Employees	61 709	62 194	64 071	65 118

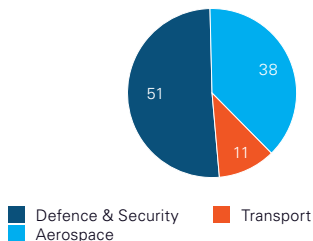
OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	HO
Listed on	NYSE Euronext
Market Cap (€m)	23 383

Major shareholders (as of 19.10.2018)

French State	25,71%
Dassault Aviation	24,65%
Employees	2,51%
Thales	0,26%

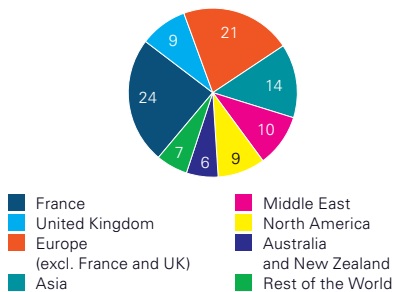
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Naval Group*	35%	France
Thales Alenia Space	67%	France
Telespazio S.p.A	33%	Italy
Electronica S.p.A.	33%	Italy
Sofradir	50%	France
Thales Raytheon Systems SAS	50%	France
AirTanker Holdings Ltd	13%	United Kingdom

REVENUE BY REGION (%)



* formerly DCNS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Elbit Systems	MBDA	Dassault Aviation	Naval Group*	BAE Systems	Boeing	Plasan	Raytheon	PAC Group
Combat systems and electronics									
TACTICOS combat management system									
SPECTRA electronic warfare suite		●	●						
RBE-2 AESA radar			●						
Damocles laser designation pod									
TopOwl and Scorpion helmet mounted display									
Man Machine Teaming advanced study programme			●						
Mission and surveillance systems									
CONTACT and SYNAPS software defined radio									
Watchkeeper Wk450 tactical UAS	●								
Intelligence payloads (CUGE programme)			●						
Radar and sonar systems									
Ground Master (200 and 400) and Ground Fire radars								●	
Sea Fire radar			●						
2076 and S-CUBE submarine sonar suite			●	●					
Missile, weapon systems, ammunition									
LLR 81mm and RT 120 mm mortars									
Future surface-to-air family of missiles (FSAF)		●							
Missile guidance systems (Aster 15 and 30)		●							
Military vehicles									
4X4 BUSHMASTER ACSV and BUSHMASTER anti-IED									
4X4 HAWKEI						●	●		●
Cybersecurity									
Military information security (TEOREM, TEOPAD, ECHINOPS, DATACRYPTOR, TEOS, etc.)									
nShield Connect HSM									

* formerly DCNS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Thales net revenues grew for a 4th consecutive year in 2017 (+6.1%), reaching €15.79bn. The organic growth was strong (+7.2%), reflecting strong fundamentals.
- ▶ The Defence & Security division, Thales' main business, accounted for more than 50% of group revenues and reported annual growth of 8% in 2017 (9.4% at constant scope and exchange rates). This was largely driven by strong performances in land and air systems and mission systems activities.
- ▶ Thales pursued its acquisition strategy by launching a friendly takeover bid for Gemalto. The offer covers the entire shareholding of the global leader in digital security, at a price of €51 per share (€4.8bn in total). Pending approval by antitrust authorities, Gemalto will become a business unit of Thales, adding an additional €3bn in net revenues to the group.
- ▶ In June 2018, group Chairman and CEO Patrice Caine announced the group's strategic priorities for 2018-2021. The targets of the 'Ambition 10' plan were further raised, including an increase of group revenues by 3-5% annually (net of acquisitions) and the achievement of an operating margin of 11-11.5%.

Home market

- ▶ The share of revenues generated in France remained unchanged in 2017, accounting for 24% of group revenues. Thales is a key partner of Dassault Aviation and Naval Group in the major defence programmes of the Ministry of the Armed Forces.
- ▶ Dassault Aviation and Thales presented some of the concepts on which the Man Machine Teaming advanced study programme will be based. The study, financed by the Ministry of the Armed Forces, with Thales acting as a co-contractor, involves numerous start-ups and SMEs. It aims to develop artificial intelligence technologies for upcoming fighter aircraft.

Export markets

- ▶ Thales generated more than three-quarters of its net revenues in the export market. This share has increased since 2016 (+3.2 percentage points), supported by a strong presence in Europe and Australia as well as a successful expansion strategy in high-potential markets in the Middle East and Asia.
- ▶ Qatar exercised its option to acquire 12 additional Rafales. This followed an order for 24 units in 2015. Thales will provide various instruments and electronic systems for the fighter aircraft, including the RBE2 AESA radar, the Spectra electronic warfare system, and optronics, among others.
- ▶ The K130 FuWES consortium, led by Atlas Elektronik in partnership with Thales Deutschland, will provide the combat systems for the 5 upcoming K130 Braunschweig-class corvettes of the German Navy. The combat systems of the programme's first five corvettes, commissioned between 2008 and 2013, will also be upgraded by the two groups.
- ▶ Thales Australia signed a contract to upgrade the sonar systems of six Collins-class submarines of the Royal Australian Navy. Valued at AUD 230m (€145m), the contract is part of a larger AUD 542m (€340m) programme approved by the Australian government to upgrade the sensor capabilities of the Collins-class vessels.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to €797m in 2017, a 7.2% increase over 2016. R&D as a percentage of net revenues remained at about 5%, in line with the objectives of the Ambition 10 plan.
- ▶ Thales and Microsoft teamed up to create a fully secure cloud system for armed forces. Real-time data analysis will be provided by Guavus Reflex, a Thales subsidiary acquired in April 2017.



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Manned space systems
- ▶ Space transport
- ▶ BUS/Satellite platform
- ▶ Ground control segment
- ▶ Electronics, propulsion systems, recovery systems
- ▶ Payloads

GOVERNANCE

Chairman and CEO Jean-Loïc Galle
 Chief Financial Officer Evrard Decourcelle

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	~2 100	~2 100	~2 400	~2 600
Δ (%)	~5%	=	~14%	~8%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	~2 200	N/A	N/A	N/A
Employees	~7 500	~7 500	7 980	7 980

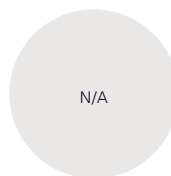
OWNERSHIP STRUCTURE

Symbol Unlisted group
 Listed on
 Market Cap

Major shareholders (as of 25.10.2018)

Thales	66,66%
Leonardo	33,33%

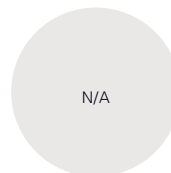
REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Pyxalis	15,53%	France
AirStar Aerospace	8,61%	France
Altec SpA	63,75%	Italy
RASCOMSTAR QAF	12,36%	Mauritius
Universum Space Technologies	40%	Russia
LeoStella LLC	50%	United States

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	OHB Group	Visiona TE	Indra Sistemas	Leonardo	Thales	Safran	Orbital ATK*	AirStar Aerospace	Groupes CNIM	ATR**	Cenit
BUS/Satellite platform												
Spacebus NEO (Syracuse 4)	●					●	●					
Proteus (Göktürk 1) and ELTeBus (Iridium-NEXT)					●			●				
Stratobus project								●	●			
Payloads												
Sensor electronics units (SAR-Lupe)												
Communications satellite												
SGDC geostationary defence and strategic communications satellite		●										●
Manned space systems and space transport												
Cygnus pressurized cargo module (PCM)							●					
Earth observation												
Cosmo-SkyMed 2G dual radar observation system					●	●						
CSO satellite (optical instrument)	●											
Meteosat3G meteorological satellite		●				●						
Satellite navigation systems												
GALILEO		●										
EGNOS		●		●	●	●						
EDG ² E project						●					●	
Propulsion system												
XPS subsystem (plasma propulsion system)							●					

* Takeover by Northrop Grumman completed in June 2018

** Airbus and Leonardo joint venture

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Thales Alenia Space is a European and global leader in satellites, space infrastructure and other navigation systems. In defence, the group provides highly secure telecommunications systems, observation systems, optical payloads and high-resolution radars.
- ▶ Following a stable period, group revenues have risen for the past two years. In 2017, net revenues reached €2.6bn, an increase of approx. €200m compared to 2016.
- ▶ In March 2018, Thales Alenia Space, Telespazio (a joint venture of Leonardo and Thales specialised in the provision of services and satellite applications) and U.S. group Spaceflight Industries (a manufacturer of mini-satellites) established a partnership focused on space observation. Firstly, Space Alliance (formed by Thales Alenia Space and Telespazio) will acquire a minority share in Spaceflight through a \$150m (approx. €130m) investment round. Secondly, Thales Alenia Space and Spaceflight will also establish a joint company, LeoStella LLC, equally owned by the two groups.

Home market

- ▶ Thales Alenia Space is a key partner of the French Defence Procurement Agency (DGA). The group participates in the main space programmes of the Ministry of the Armed Forces.
- ▶ In early 2018, Thales Alenia Space started production of the Spacebus Neo platform, which will equip the Syracuse 4 military satellites ordered by the DGA in 2015. These new satellites are to be deployed between 2021 and 2023 to replace the Syracuse 3.
- ▶ As part of the Multinational Space-based Imaging System (MUSIS) programme led by the DGA, which plans the launch of a third CSO satellite (CSO-3) by Arianespace, the National Centre for Space Studies (CNES) selected Airbus Defense & Space and Thales Alenia Space to develop optical instruments.
- ▶ In October 2018, Thales Alenia Space signed a €324m contract with the European Space Agency (ESA) to develop and deploy the next version of the ground-based Galileo Mission Segment (GMS) and the Galileo Security Facility (GSF), together known as W2PX. This contract will involve some 15 groups, including Leonardo and Thales.

Export markets

- ▶ Thales Alenia Space's main export deals primarily involve the civilian market.
- ▶ Military export contracts remain fairly rare. In April 2016, Egypt ordered a dual-use communications satellite developed in partnership with Airbus Defense & Space. In December 2016, a communications satellite was delivered to Brazilian group Visiona Tecnologia Espacial as part of the SGDC contract (launched into orbit in May 2017 by ArianeGroup).

Technology and Innovation

- ▶ A new fabrication laboratory, or FabLab, was inaugurated in Rome in July 2018, the second such facility following the opening of one in Toulouse a year earlier. The group is considering opening another FabLab in Cannes in 2019. These laboratories aim to familiarise Thales Alenia Space engineers with new technologies.
- ▶ Thales Alenia Space and Southwest Research Institute (SwRI) signed a Memorandum of Understanding to cooperate in the development of Stratobus, an airship that is midway between a drone and a satellite, which is part of the HAPS (High Altitude Platform System) family. A joint working committee was established to manage the partnership's activities.



BUSINESS AREAS

Platform manufacturer and systems integrator
 German conglomerate Thyssenkrupp AG's division

- ▶ Surface ships
- ▶ Submarines
- ▶ Equipment and maintenance

GOVERNANCE

Chief Executive Officer
 Chief Financial Officer

Dr. Rolf Wirtz
 Dr. S. C. Schulte

KEY FIGURES (Fiscal year ended: September 30th)

€ millions	2013-14	2014-15	2015-16	2016-17
Revenue	1 743	~1 700	~1 600	~1 700
Δ (%)	30,66%	-2,47%	-5,88%	6,25%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	1 479	N/A	N/A	N/A
Employees	3 300	~3 200	~3 200	~3 500

OWNERSHIP STRUCTURE

Symbol
 Listed on
 Market Cap

Unlisted division

Major shareholders (as of 30.10.2018)

ThyssenKrupp AG	100%
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REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Kta Naval Systems	N/A	Norway
ThyssenKrupp Tata Steel B.V	50%	Netherlands
ThyssenKrupp Marin Sistem Gemi Sanayi ve Ticaret A.S.	60%	Turkey
MTG Marinetechnik GmbH	49%	Germany
Lisnave-Estaleiros Navais S.A.	20%	Portugal

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Diehl Defence	Rohlsen	Lürssen Defence	Fincantieri	DSME	ST Engineering	Kongsberg	Hyundai Heavy Industries	Golçuk Shipyards	SMW Gdynia*	GNYS**	Namco
Conventionally-powered attack submarines												
Type 209/1400mod					●			●				
Type 212A			●									
Type 214				●			●	●				
Type 218SG					●							
Dolphin-class AIP												
Type 212NG						●						
Surface ships												
Bohm+Voss-class F125 frigates		●										
Bohm+Voss-class MEKO (frigates, corvettes and offshore patrol vessels)								●				
Blohm+Voss-class 130 corvettes		●								●		
Type 702 Berlin-class combat support ships		●										
Equipment												
IDAS missile system	●	●				●						●
HABETaS rescue system												
HDW fuell cell AIP system												
Torpedo Countermeasures (TCM)												
Services												
VISTiS training based on simulation												
In-Service Support (ISS) programme												

* Takeover by PGZ in December 2017

** German Naval Yards Kiel

STRATEGIC HIGHLIGHTS

Business trends

- ▶ German steelmaker ThyssenKrupp AG reported net revenues of approx. €41.5bn over 2016-2017. Its naval activities fall under the ThyssenKrupp Marine Systems (TKMS) division. TKMS net revenues were approx. €1.7bn in 2016-2017, an annual increase of 6.3%.
- ▶ Faced with strong shareholder pressure to restructure its business, ThyssenKrupp AG in September 2018 announced its split into 2 publicly listed companies: ThyssenKrupp Industrials (industrial activities and capital goods) and ThyssenKrupp Materials (steel-related activities). The Marine Systems division (TKMS) will be part of ThyssenKrupp Materials.
- ▶ ThyssenKrupp AG acquired Airbus's 49% stake in Atlas Elektronik (a specialist in systems and equipment for naval ships and submarines), thereby becoming the company's sole shareholder. In April 2017, Atlas Elektronik was integrated into ThyssenKrupp Marine Systems (TKMS).
- ▶ In 2017, TKMS, Atlas Elektronik and Kongsberg created a joint venture, Kta Naval Systems. The new entity will be the exclusive provider of combat systems for TKMS submarines. At the same time, a strategic partnership for the acquisition of submarines of the same type was established between Norway and Germany.

Home market

- ▶ The TKMS division remains dependent on orders from the German Navy, particularly the F125 frigate programme (€2bn). The fourth and final unit is to be delivered in 2020. However, the sea trials of the first F125 frigate, Baden-Württemberg, uncovered several problems, leading the German Navy to refuse to commission the vessel at the end of 2017.
- ▶ In June 2017, Germany ordered 5 new K130 corvettes from the ARGE K130 consortium (comprising TKMS, Lürssen and German Naval Yards Kiel) for €1.5bn.
- ▶ Sideline from the bidding procedure in March 2018, TKMS in August 2018 was selected by German Naval Yards Kiel (a Privinvest subsidiary) as a partner for a joint offer for the future MKS 180 multi-mission combat ship that will replace the Type 143 fast attack craft and the F123 frigate. German Naval Yards Kiel is in competition with Damen Group from the Netherlands.

Export markets

- ▶ The division is engaged in projects in several foreign countries, including India (P75I programme covering the acquisition of 6 submarines equipped with AIP systems) and Indonesia (partnership with Turkish group STM signed in May 2017). In Brazil, TKMS is part of Aguas Azuis, a consortium with Embraer, that is putting forward the MEKO 200 corvette for a Brazilian navy tender for 4 ships.
- ▶ Export submarine sales remained strong in 2017. TKMS received an order from Singapore for two 218 SG submarines and delivered the second of four 209/1400-class submarines to Egypt. Israel also announced plans to acquire 3 Dolphin-class submarines for \$2.3bn (€2bn).
- ▶ In the surface ship segment, the second MEKO A-200-class frigate was delivered to the Algerian Navy in May 2017. In February 2018, TKMS began construction on 4 MEKO A-100-class corvettes ordered by Israel.
- ▶ However, Egypt's order of 4 MEKO A-200 corvettes (3 would be built in Germany and 1 in Egypt), finalised in September 2018 for approx. €2bn, is expected to be put on hold due to a breakdown in diplomatic relations between Germany and the Middle East.

Technology and Innovation

- ▶ At Euronaval 2018, TKMS presented its new lithium-ion battery for submarines, developed in partnership with French group Saft (a Total subsidiary specialised in battery production).



BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft and helicopters
- ▶ Aerostructures
- ▶ UAS (MALE, VTOL, target drone)
- ▶ Observation satellites

GOVERNANCE

Chairman

Chief Executive Officer

Chief Financial Officer

Pr Dr Oguz Borat

Pr Dr Temel Kotil

Saadet Korkem

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue *	753	933	1 138	1 258
Δ (%) / \$) **	9,67%	3,36%	21,80%	12,81%
Defence (%) *	85%	86%	86%	77%
Export (%)	~70%	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating Margin (%)	N/A	N/A	N/A	N/A
Net profit/loss	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	4 633	N/A	5 254	~6 000

* Defense News Top 100 figures.

** Variation based on revenue in local currency.

See €/€ exchange rates p.7.

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 15.10.2018)

Turkish Armed Forces Foundation (TSKGV)	54,49%
Turkish Undersecretariat for Defence Industries	45,45%
Turkish Aeronautical Association (THK)	0,06%

REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
TEI	50,52%	Turkey
Airbus Military	5,6%	Spain
ESDAS	1%	Turkey
TCI Cabin Interior	50%	Turkey
STM	34%	Turkey

REVENUE BY REGION (%)



TURKISH AEROSPACE INDUSTRIES (TAI)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Lockheed Martin	Boeing	Microtecnica	Aselsan	Thales	TÜBITAK	Leonardo	TEI	BAE Systems
Aerostructures										
Fuselage sections and spoilers (A400M)	●									
Center fuselage (F-35 Lightning II)		●								
Stabilator, tail cone and tail rotor pylon (UH-60 / MH-60)		●								
Military aircraft										
F-16 fighter aircraft*	●									
Hürkus basic trainer and light attack aircraft			●	●						
C-130 transport aircraft modernisation (ERCIYES programme)	●									
B737 AEW&C SDCA system modernisation (Peace Eagle programme)			●							
C-235 transport aircraft and systems integration (MELTEM II programme)*	●				●					
ATR-72 maritime patrol aircraft (MELTEM III programme)*	●						●			
TF-X fighter aircraft				●						●
Helicopters										
T-70 (10t) utility helicopter*	●			●					●	
T-129 attack helicopter				●			●			
T625 light utility helicopter				●						
UAS										
ANKA MALE UAS				●						
Observation satellites										
GÖKTÜRK-1					●		●			
GÖKTÜRK-2						●				
GÖKTÜRK-3 and Türksat 6A				●		●				

* Built under licence

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues posted further growth in 2017 (+12.8%), exceeding \$1.4bn (approx. €1.3bn).
- ▶ Building on a longstanding expertise in defence activities, Turkish Aerospace Industries (TAI) aims to develop its civilian business through partnerships with aircraft manufacturers such as Boeing and Airbus. In May 2018, TAI concluded a deal with Boeing covering the production of components for the 737 MAX.
- ▶ The group also has significant ambitions in space systems, as demonstrated by the development of the Göktürk-3 and Türksat 6A satellites (in collaboration with TUBITAK and Aselsan), respectively scheduled for release end-2019 and end-2020.
- ▶ To increase its innovation capabilities, TAI opened a new R&D centre in Teknopark Istanbul in 2017.

Home market

- ▶ TAI is a major player in the Turkish defence industry (together with Aselsan) and a partner of numerous foreign players. In early 2017, TAI signed a 10-year, \$270m (€244m) contract with Sikorsky, a Lockheed Martin subsidiary, covering the production of various military helicopter components.
- ▶ The TFX future fighter aircraft programme, intended to replace the F-16, is considered a strategic priority by the Turkish government. In early 2018, a 15-year, TRY 5.7bn (€1.2bn) support plan was launched. Lead contractor TAI collaborates with BAE Systems (through a partnership renewed in early 2017) and Aselsan. In July 2018, TAI selected Dassault Systèmes' 3DEXPERIENCE platform to oversee production processes. It aims to have a prototype ready by 2023, and to launch the aircraft by 2030.
- ▶ In early 2018, TAI conducted the first test flight of its Hürkus-B trainer. 15 units are to be delivered to the Turkish Air Force in the first half of 2019. An upcoming variant of the aircraft, Hürkus-C, will come equipped with weapons systems and night vision capabilities.
- ▶ The T625 (6t) twin-engine, light utility helicopter, entirely conceived and developed by TAI, also completed its first flight in 2018. The group aims to begin series production from 2021.
- ▶ The first satellite-controlled ANKA-S UAS was delivered to the Turkish Armed Forces in April 2018. In October, the group received an order for 22 ANKA UAS (16 ANKA-S and 6 ANKA-B).

Export markets

- ▶ As Turkey's biggest defence exporter, TAI has significant ambitions in the Asian market (Thailand, Malaysia, Indonesia, Philippines, Singapore, etc.), particularly for the ANKA UAS and the T129 ATAK and T625 helicopters.
- ▶ A deal for the sale of 30 T129 ATAK helicopters to Pakistan was completed in July 2018 for an estimated \$1.5bn (approx. €1.3bn). Deliveries will take place over a period of five years.
- ▶ In September 2018, TAI concluded a collaborative agreement with its longtime partner Airbus covering research and development in secondary structures for Airbus aircraft programmes.

Technology and Innovation

- ▶ The group has several projects under development, including the Hürjet (a trainer/combat aircraft that will replace the T-38 by 2022-2023) and ATAK 2 (a combat helicopter incorporating various elements of the T129 ATAK and the T625) programmes.
- ▶ In 2018, TAI established cooperation agreements with Turkish universities and the Azerbaijan National Academy of Sciences to promote research in aviation and defence, particularly in the field of artificial intelligence.



UNITED AIRCRAFT CORPORATION (UAC)

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Fighter aircraft (MiG, Sukhoi)
- ▶ Trainer aircraft (Yakovlev)
- ▶ Strategic bomber (Tupolev)
- ▶ Transport and special purpose aircraft (Antonov, Beriev, Ilyushin)
- ▶ Unmanned aircraft system

GOVERNANCE

Chairman	Denis Manturov
Chief Executive Officer	Yury B. Slyusar
Chief Financial Officer	Alexey Demidov

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	5 781	5 085	5 623	6 852
Δ (%) [RUB]*	33,84%	17,51%	20,46%	8,36%
Defence (%) **	78%	79%	73%	71%
Export (%) **	19%	25%	30%	30%
Operating profit/loss	83	-1 020	151	328
Operating Margin (%)	1,43%	-20,05%	2,69%	4,78%
Net profit/loss	-268	-1 615	-60	N/A
Order book	19 020	22 261	N/A	N/A
Employees	98 800	96 545	96 787	-102 000

* Variation based on revenue in local currency. See €/RUB exchange rates p.7

** Based on the number of delivered units.

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	UNAC
Listed on	CJSC MICEX
Market Cap (RUB m)	352 273

Major shareholders (as of 31.12.2017)

Federal Agency for State Property Management	92,31%
Vnesheconombank	4,47%
Private shareholders	3,22%

REVENUE BY BUSINESS LINE (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Multirole Transport Aircraft (MTA)	48%	India
Indo-Russian Aviation Ltd	31%	India
PJSC Company Sukhoi	81,25%	Russia
PJSC « Irkut »	86,95%	Russia
ATSC	25%	Malaysia

REVENUE BY REGION (%)



UNITED AIRCRAFT CORPORATION (UAC)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	NADI (Malaysia)	UEC Saturn * / **	HAL	Khimov **	Aviastar	TAPC	Kapo	Kuznetsov **	SOKOL	Omsk Engine	TsAGI
Transport and special purpose aircraft											
Ilyushin Il-76 airlifter/tanker				●	●						
Il-276/MTA medium tactical transport aircraft				●							
Il-112V light transport aircraft			●								
Strategic bomber											
Tupolev Tu-160						●	●				
Tupolev Tu-95							●				
Tupolev Tu-22M3											
PAK DA strategic bomber programme											
Trainer aircraft											
Yak-130								●	●		
Fighter aircraft											
MiG-29	●			●							●
MiG-35 / 35D				●							
Sukhoi Su-27SK		●									
Sukhoi Su-30MK		●	●								
Su-30SM											
Sukhoi Su-35		●									
Sukhoi Su-57 (T-50 PAK-FA/FGFA)		●	●								

* formerly NPO Saturn

** United Engine Corporation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ UAC (OAK in Russian) net revenues reached RUB 451.8bn in 2017 (approx. €6.9bn), a 8.4% increase over the year. Growth was underpinned by strong sales of components for commercial aircraft.
- ▶ The integration of UAC into Rostec, a Russian state-owned defence group, was confirmed by Rostec in August 2018 after having been reported for several months. According to a Russian presidential decree issued in October 2018, the merger will be effective in 18 months. Through its various subsidiaries, Rostec is an important supplier of aircraft components to UAC.
- ▶ UAC aims to develop its civilian operations to reach 40% of net revenues in 2025 and 45% in 2035 (compared to less than 20% in 2017). The company also aims to produce 100 to 120 commercial aircraft annually (36 in 2017), in particular the CR929, MC-21 and Superjet 100.
- ▶ To increase production capacities and improve factory specialisation, UAC devoted RUB 30.5bn (€463m) to upgrading its industrial capabilities in 2017. The group is also planning a RUB 403bn (approx. €5.4bn) investment plan over the 2018-2020 period, approx. 75% of which will be dedicated to military, transport and special purpose aircraft.

Home market

- ▶ The group is heavily dependent on its domestic market. Orders from the Russian Ministry of Defence represented 43% of 2017 net revenues.
- ▶ Over 2017-2018, UAC tested a Tu-95MC bomber equipped with Kuznetsov engines. The company also presented a prototype of the Tu-22M3M bomber (an upgrade of the Tu-22M3) and pursued the development of its next-generation aircraft (Su-30SM, Su-35, Su-57, MiG-29M and MiG-35).
- ▶ The Russian Armed Forces ordered 36 Su-30SM and 12 Su-57 fifth-generation aircraft, which are set to be operational in 2019. The purchase of 35 Il-112V light military transport aircraft was also agreed. The first prototype was unveiled in late 2018.

Export markets

- ▶ The group aims to increase its exports, particularly to countries in the Middle East, South-East Asia and Latin America.
- ▶ India is a key partner. At Aero India 2017, UAC, which has several joint-venture and partnership programmes with state-owned Indian group HAL, announced plans to strengthen its partnership with its Indian partners. Nevertheless, the Fifth Generation Fighter Aircraft (FGFA, Indian Su-57 variant) programme, agreed in 2007, remains on hold due to some divergences between India and Russia, particularly in relation to the project's financing. The Russo-Indian MTA tactical transport aircraft programme was also halted, before being resumed by UAC under a new name, Il-276 (formerly Il-214).
- ▶ In May 2018, UAC was selected by Kazakhstan to provide 30 Su-30SM aircraft by 2020. Myanmar also placed an order for 6 units.
- ▶ In early 2018, UAC signed a \$1.1bn (approx. €1bn) contract with Indonesia to provide 11 Su-35. Indonesia thereby became the second biggest client for the aircraft, behind China. Delivery is set to begin at the end of 2018, and is scheduled to be completed by 2020.

Technology and Innovation

- ▶ R&D spending reached RUB 71bn (€1.1bn) in 2017, representing 15.7% of net revenues. This is 7.8% decline compared to 2016. UAC aims to commit RUB 275bn (approx. €3.7bn) to R&D over 2018-2020.
- ▶ The group is working on a long-range strategic bomber, PAK DA, intended to replace the Tu-95 and the Tu-160. A first test flight is scheduled for 2025-2026.



BUSINESS AREAS

Conglomerate. Systems integrator/equipment supplier

- ▶ Engines (commercial and military aircraft and helicopters), auxiliary power units
- ▶ ISR systems and communication systems
- ▶ Aerostructures and aircraft equipment (actuation systems, electric systems, landing gear, wheels & brakes, engine components and propeller systems)

GOVERNANCE

Chairman and CEO

Gregory J. Hayes

Chief Financial Officer

Akhil Johri

President, Pratt & Whitney

Robert F. Leduc

OWNERSHIP STRUCTURE (as of 21.11.2018)

Symbol	UTX
Listed on	NYSE
Market Cap (\$m)	100 690

Major shareholders (as of 24.10.2018)

SSgA Funds Management, Inc.	11,00%
The Vanguard Group, Inc.	7,13%
BlackRock Fund Advisors	4,14%
Fidelity Management & Research Co.	2,85%

MAIN JOINT VENTURES AND ASSOCIATES

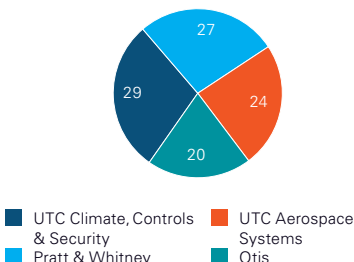
Name	%	Country
Advanced Turbine Engine Company LLC	50%	United States
Engine Alliance LLC	50%	United States
International Aero Engines AG	61%	Switzerland

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2014	2015	2016	2017
Revenue	43 583	50 562	51 716	52 967
Δ /% / \$)*	2,30%	-3,11 %	2,04%	4,53%
Defence (%)	13%	12%	12%	13%
Export (%)	65%	62%	62%	62%
Operating profit/loss	7 221	6 571	7 383	7 676
Operating Margin (%)	16,57%	13,00%	14,28%	14,49%
Net profit/loss	4 869	3 926	4 911	4 355
Order book	65 892	76 973	87 847	82 381
Employees	211 500	197 200	201 600	204 700

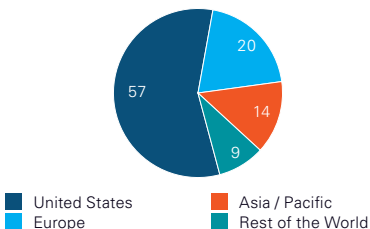
* Variation based on revenue in local currency. See €/€ exchange rates p. 7.

REVENUE BY BUSINESS LINE (%)*



* Revenue distribution based on total sales excluding eliminations.

REVENUE BY REGION (%)*



* The United States region includes foreign sales (re-exports).

UNITED TECHNOLOGY CORPORATION (UTC)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	GKN	Honeywell	Magellan	Rolls-Royce	MTU Aero Engines	Woodward	Avio Aero*	Cobham	Standard Aero	IHI
Military aircraft engines										
F135 (F-35)	●	●	●		●		●			●
F100 (F-16, F-15, X-47B)	●							●		●
F119-PW-100 (F-22)	●				●		●			
F117-PW-100 (C-17 Globemaster III)	●	●		●		●				●
PW4062 (KC-46A, KC-767)										
PT6A (EMB-314, AT-6, PC-9, PC-21, HeronTP)		●	●		●			●		
PW100/150 (ATR-42/72, C-29)										
Commercial and military helicopter engines										
T900 (AH-64, UH-60)		●								
PW200 (EC135, AW109, Bell 427, S-76D)										
Auxiliary power units										
APU (V-22, CH-53K, UH-60, CH-47, F-16, A400M, KC-390)										
Equipment and systems										
SYERS-2, SYERS-3, DB-110, MS-177 multispectral imagery sensors										
TERPROM digital terrain system										
Landing gear (F-15, C-17 Globemaster III, AH-64E Apache)										
Wheels & brakes (F-15, C-130)										
Propeller systems** (A400M)										

* General Electric

** Made by Ratier-Figeac subsidiary

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Group net revenues grew 4.5% to \$59.8bn (€53bn) in 2017. The Pratt & Whitney division posted the strongest increase (+8.5%), thanks to higher sales of military engines. Its other division involved in defence activities, UTC Aerospace Systems (an equipment supplier), also reported revenue growth (+1.6%).
- ▶ U.S. authorities in October 2018 approved UTC's \$30bn (€25.2bn) purchase of U.S.-based systems integrator/equipment supplier Rockwell Collins. The deal, first announced by UTC in September 2017, is conditional on the disposal of certain activities.
- ▶ The group increased its production capacities through the extension of its international network of MRO services centres for Pratt & Whitney civilian and military engines.

Home market

- ▶ UTC generated 57% of its net revenues in the U.S. in 2017 (38% excluding re-exports). Sales to the U.S. government, the group's main client, increased 3.1% to \$5.8bn (€5.1bn) in 2017.
- ▶ UTC Aerospace is equipping 12 C-130H aircraft of the Air National Guard and 24 C/KC-130T aircraft of the U.S. Navy with next-generation NP2000 propellers for \$140m (€123m). The UTC subsidiary was also selected by the USAF to provide the DB-110 aerial reconnaissance system as well as wheels and brakes for the F-15 Eagle.
- ▶ In 2018, Pratt & Whitney won a \$437m (€362m) contract from the USAF to provide adaptive cycle engines. The U.S. Department of Defense also awarded it a new \$2bn (€1.7bn) contract for 135 F135 engines (for the F-35 LRIP 11 production batch that is part of the Pentagon's 2017 budget).
- ▶ Pratt & Whitney currently participates in a project led by General Atomics as part of a bid for the U.S. Navy's tender for the future MQ-25 Stingray naval UAS. It provides the PW815 engine.

Export markets

- ▶ International sales (including U.S. re-exports) reached \$37bn (€32.8bn) in 2017, a 3.7% annual increase. These exports mainly concern civilian activities. In military activities, UTC benefits from opportunities in overseas markets thanks to demand for the F135 engines that equip the F-35.
- ▶ Pratt & Whitney won a \$2.7bn (€2.4bn) contract to provide MRO services for the F117 engine until 2022. The contract was secured through the FMS (Foreign Military Sales) programme and involves several countries (United Kingdom, United Arab Emirates, Qatar, Canada, India, Australia and Kuwait).
- ▶ In early 2018, UTC Aerospace was selected by South Korean group KAI to provide control systems for the KF-X fighter aircraft. UTC has teamed up with South Korean KAES to design and develop the aircraft's main electric power generation system.
- ▶ In July 2018, UTC Aerospace announced MRO capacity expansions for the F-35 Lightning II in the United Kingdom. The U.K. has ordered 138 aircraft.

Technology and Innovation

- ▶ R&D spending reached \$2.4bn (€2.1bn) in 2017, representing 4% of net revenues. This is a 2.1% increase compared to 2016.
- ▶ The group is upgrading the F135 engine. Launched in June 2018, the Growth Option 2.0 programme aims to improve the engine's power and thermal management system (PTMS).

PROJECT TEAM (Xerfi MCI)

Marine Cassou (MCI Projects Manager)

Eline Maurel (Research Director)

Jérémy Robiolle (Head of Xerfi MCI)

STEERING COMMITTEE DGA/DS/SZIE

Michel Midon, Valérie Latrémouille and Lorenzo Levera

LAYOUT & GRAPHICS

Xerfi MCI

DGA institutional website www.defense.gouv.fr/dga

State public procurement portal www.achats.defense.gouv.fr

The armaments portal www.ixarm.com

French Defence Procurement Agency (DGA)

Strategy Directorate

60, bd du général Martial Valin - CS 21 623 - 75 509 Paris Cedex 15

xerfi|MCI

