



MINISTÈRE
DES ARMÉES

*Liberté
Égalité
Fraternité*

NOTEBOOK

2024 Edition



INTERNATIONAL DEFENCE COMPANIES

Crafting France's
defense technologies



NOTEBOOK

2024 Edition

INTERNATIONAL DEFENCE COMPANIES



FOREWORD

Paris, January 1, 2024

The Chief executive of the Direction générale de l'armement (DGA, French Defence Procurement Agency) of the French Ministry of Armed Forces, decided to create a Defence Industry Directorate, as part of his overall project to transform the DGA.

This new Directorate is tasked with designing industrial policy and ensure that the defence technological and industrial base (DTIB), from prime contractors to subcontractors and supply chain players, is able to meet defence requirements in all circumstances, so as to preserve our country's sovereignty.

Maintaining our competitiveness and technological lead is, more than ever, a major challenge for France.

This new 2024 edition of the «International Defence Companies» notebook is published in light of these issues.

This publication provides key data from publicly available sources, for a selection of international companies chosen each year according to their main activities in the defence sector.

In this regard, Austal, Baykar Technology, Damen, Eurenco, Exail Technologies, Hanwha Ocean, ITP Aero, John Cockerill and Otokar have been included for the first time in this 2024 edition while China Shipbuilding Group, Embraer, Huntington Ingalls Industries, Kawasaki Heavy Industries, NVL group, ST Engineering and Turkish Aerospace have been re-introduced.

The notebook should in no way be considered as reflecting the opinions or positions of the DGA, nor of Xerfi Spécific, which contributed to its preparation.

A digital version of the notebook, both in French and English, is available on the DGA's website at www.defense.gouv.fr/DGA.

I wish you a pleasant reading.

Major General Alexandre Lahousse

Director, Department for Industrial Affairs and Economic Intelligence, DGA
Ministry of Armed Forces

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METHODOLOGICAL NOTE

SCOPE

The 2024 edition of the Notebook on International Defence Companies covers a panel of 61 companies. A specific section, "Key Data", presents the following consolidated financial indicators for each company, provided such information is available ("N/A" meaning that data is not available):

- Revenue (in euros)
- Revenue variation (as a percentage change; calculated from data in local currency)
- Defence revenue (as a % of total revenue)
- Export revenue (as a % of total revenue)
- Operating profit/loss (in euros)
- Operating margin (as a %)
- Net income (in euros) or net income attributable to shareholders
- Order book at the end of the fiscal year (in euros)
- Headcount

To ensure consistency, consolidated financial statements were the preferred source of information. Emphasis was placed on the most recent, restated financial indicators. Furthermore, some data contained in the previous edition have been revised, corrected or modified for this edition in order to take into account more recent currency exchange rates (see below).

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 presented 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 of monetary indicators, variations (as a percentage change) were calculated in the original currency used in each company's financial statement.

SOURCES

The defence industry ranking is based on data from the Defense News magazine 2022 top 100 list.

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

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

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

- Press releases, company presentations
- Data bases: Factiva, Diane
- Business press and specialist publications

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

- ArianeGroup
- Arquus
- Baykar Technology
- China Shipbuilding Group
- Damen
- Eurenco
- General Atomics
- ITP Aero
- Iveco Defence Vehicles
- John Cockerill
- KNDS
- MBDA
- NVL Group
- Polska Grupa Zbrojeniowa (PGZ)
- Rafael Advanced Defense Systems
- TechnicAtome
- Thales Alenia Space (TAS)
- thyssenkrupp Marine Systems (tkMS)
- Turkish Aerospace

OWNERSHIP

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

- Company publications (websites, reference documents, investor presentations)
- Brokerage firms and major trading platforms (Bolsa de Madrid, Borsa Italiana, Deutsche Börse, Euronext, LSE, NASDAQ, NYSE, Tokyo Stock Exchange, etc).

CHARTS

Charts represent the sales breakdown by business segment (i.e. branches or divisions as presented by the company) and geographical region.

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

The "Main programmes, cooperations and export partnerships" section presents the main programmes highlighted by companies in their public media releases (excluding upstream study programmes). Partnerships for each programme are also listed, without further details. These partnerships can take several 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 =			
		2019	2020	2021	2022
Australia	Australian dollar	1,611	1,655	1,575	1,517
Israel	Israeli shekel	3,990	3,926	3,821	3,535
Japan	Japanese yen	122,010	121,850	129,880	138,030
Norway	Norwegian krone	9,851	10,723	10,163	10,103
Poland	Polish zloty	4,298	4,443	4,565	4,686
Singapour	Singapore dollar	1,527	1,574	1,589	1,451
South Korea	South Korean won	1 305,320	1 345,580	1 354,060	1358,070
Sweden	Swedish krona	10,589	10,848	10,147	10,630
Turkey	Turkish lira	6,358	8,055	10,512	17,409
United Kingdom	Pound sterling	0,878	0,890	0,860	0,853
United States	U.S. dollar	1,120	1,142	1,183	1,053

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



AIRBUS

Leading European aerospace and defence group, ranked 3rd worldwide in the military helicopter segment and 12th worldwide in the defence sector

BUSINESS AREAS

Platform manufacturer and systems integrator

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

GOVERNANCE

Chairman	R. Obermann
Chief Executive Officer	G. Faury
CEO Airbus Defence & Space	M. Schoellhorn

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019*	2020	2021	2022
Revenue	70 478	49 912	52 149	58 763
Δ (%)	10,63%	-29,18%	4,48%	12,68%
Defence (%)	14%	21%	18%	20%
Export (%)**	68%	59%	63%	59%
Operating profit/loss	1 339	-510	5 342	5 325
Operating margin	1,90%	-1,02%	10,24%	9,06%
Net income***	-1 362	-1 133	4 213	4 247
Order book	471 488	373 127	398 439	449 241
Employees	134 931	131 349	126 495	134 267

*Figures restated
 **Revenue excluding Europe
 ***Net income attributable to shareholders

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	AIR
Listed on	Euronext Paris
Market Cap (€m)	103 905

Major shareholders (as of 14.11.2023)

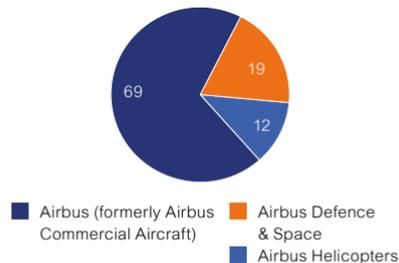
SOGEPA (French State)*	10,86%
GZBV (German State)*	10,84%
Capital Research & Management Co. (World Investors)	5,31%
SEPI (Spanish State)*	4,09%

*Shareholder agreement

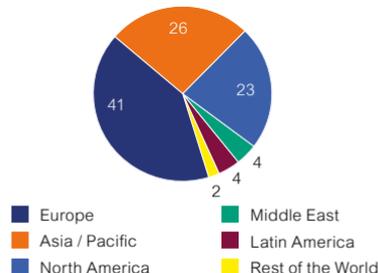
MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
NHIndustries	62,5%	France
ArianeGroup	50%	France
ATR	50%	France
AirTanker Holdings	46%	United Kingdom
Eurofighter Jagdflugzeug	46%	Germany
MBDA	37,5%	France

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	BAE Systems	Leonardo	Safran	GE Aerospace*	Raytheon Technologies**	Dassault Aviation	Turkish Aerospace	Naval Group	Rolls-Royce
Military aircraft and Unmanned aircraft systems										
NGWS (Next Generation Weapon System), including the future NGF fighter aircraft and its Remote Carrier	●		●			●				
Eurofighter Typhoon fighter aircraft		●	●			●				●
A400M Atlas strategic and tactical military transport aircraft	●		●		●		●			
C295 and AC295 tactical transport aircraft	●				●					
A330 Multi Role Tanker Transport (MRTT) aircraft	●			●						●
European MALE RPAS future UAV (Eurodrone programme)			●	●		●				
VSR700 future shipborne UAS	●		●					●		
Military helicopters										
H125M single-engine transport helicopter (2 t)	●		●							
H135M and H145M twin-engine transport helicopters (3 t)	●		●							
AS565 Mbe (4t) and H160M (6t) twin-engine multirole helicopters	●		●							
H215M (9t) and H225M (11t) twin-engine multirole helicopters	●		●							
NH90 twin-engine multirole helicopter (11 t)	●	●	●							
Tiger HAP / HAD twin-engine attack helicopter (6 t)	●		●							
Space										
CSO Earth observation satellite programme	●									
CERES space-born military intelligence system	●									
Syracuse 4 military communications satellite	●	●								
Cybersecurity										
Stormshield Data Security	●									

*Formerly GE Aviation **Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Airbus revenues went up by 12.3% in 2022 to reach €58.8 bn, mainly due to a recovery in commercial aircraft deliveries (661 in 2022, compared to 611 in 2021). The sales of the group's two defence segments also grew (+10.6% for Airbus Defence & Space and +7.6% for Airbus Helicopters).
- ▶ In January 2023, Airbus completed the acquisition of German company ZF Luftfahrttechnik, specialised in dynamic components for light and medium helicopters (including associated services). The new entity will be rebranded as Airbus Helicopters Technik.

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

- ▶ In December 2022, the DGA awarded Dassault Aviation, Airbus and Indra a contract worth €3.2bn over three and a half years for phase 1B of the FCAS programme (work on the FCAS demonstrator and its components). The first flight of a demonstrator is scheduled for 2030.
- ▶ The DGA also awarded Airbus a €10.9m contract in December 2022 to study the architecture of the future maritime patrol system (Patmar), based on its A320neo, to replace the French Navy's 22 ATL2s by 2030. The group is in competition with Dassault Aviation on this programme.
- ▶ Airbus delivered the second and third H160 helicopters (out of the 6 planned) to the French Navy in the first half of 2023.
- ▶ In July 2023, Germany's Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw) extended its contract with Airbus to support its fleet of A400M Atlas transport aircraft (40 aircraft in service and another 13 on order) for a further 7.5 years.
- ▶ Following the delivery of the 12th A330 MRTT, Airbus signed two contracts in October 2023, worth a total of €1.2bn, to modernise and support the French fleet for 10 years (with an additional two years of options).

Export markets

- ▶ In January 2023, Airbus signed a contract with Poland to supply a geospatial intelligence system (development, production and placement in orbit of two optical Earth observation satellites).
- ▶ NATO ordered an A330 MRTT tanker aircraft from Airbus in March 2023, bringing the multinational A330 MRTT fleet to 10 aircraft total. These allow for strategic airlift, air-to-air refuelling and medical evacuation capabilities to 6 countries (Belgium, Czech Republic, Germany, Luxembourg, Netherlands and Norway).
- ▶ The first of the 56 C295 transport aircraft ordered by the Indian Army in 2021 at a cost of €2.7bn made its maiden flight in Seville in May 2023. 16 aircraft will be assembled by the group in Spain, while the remaining 40 will be assembled in India by local player Tata.
- ▶ In July 2023, the Canadian government awarded Airbus a contract worth around CAD 3bn (€2.1bn) for the production of 4 new A330 MRTT tanker aircraft and the conversion of 5 A330-200 passenger transport aircraft into tanker aircraft (Strategic Tanker Transport Capability programme). Deliveries of these aircraft are scheduled to start in 2027.
- ▶ The group handed over the first two of the 16 H225M multirole helicopters, which were ordered in 2018, to the Hungarian Army in July 2023.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €3.1bn in 2022, representing 5.2% of revenues.
- ▶ Airbus is coordinating two projects: the European Defence Operational Collaborative Cloud (EDOCC), to create a virtual platform to increase the interoperability, effectiveness and resilience of military operations, and EU Next Generation Rotorcraft Technologies (ENGRT) to analyse rotorcraft requirements of European Armies after 2030. Both projects are financed by the European Defence Fund.

ARIANEGROUP

Leading European company in the space industry and among the world leaders, specialised in space and ballistic launchers and in space launch services (via Arianespace)

BUSINESS AREAS

Platform manufacturer and systems integrator

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

GOVERNANCE

Chief Executive Officer	Martin Sion
Defence Programmes Director	Philippe Clar
Executive VP and CEO of Arianespace	Stéphane Israël

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	3 069	2 718	3 129	2 357
Δ (%)	-14,44%	-11,44%	15,12%	-24,67%
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*	54	-20	-24	89
Order book	N/A	N/A	N/A	N/A
Employees	9 000	9 000	7 600	8 000

*Total comprehensive income

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Airbus	50%
Safran	50%

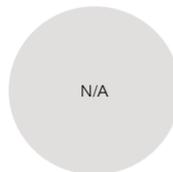
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Nucléétudes	98,9%	France
Pyroalliance	90%	France
Sodern	90%	France
Arianespace	74%	France
Europropulsion	50%	France
Euro Cryospace	45%	France
Regulus	40%	France

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Safran	Thales	Naval Group	Avio	Beyond Gravity*	MT Aerospace**	SABCA***	Air Liquide
Commercial launch services									
Ariane 6 future launcher	●	●	●			●	●	●	●
Launch services (Ariane 6, Vega / Vega C)****					●				
Ballistic missile									
M51 submarine-launched ballistic missile	●	●	●	●					
Propulsion systems									
Vulcain 2.1 rocket engine (Ariane 6)		●							
Vinci rocket engine (Ariane 6)		●							
P120C rocket engine(Ariane 6, Vega C)					●				
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, RIT µX)									
M10 hold down and release mechanisms (ME0032, ME0038)									
Pyrotechnics (for launchers and satellites)									
Vulcain Turbine Pump Starter		●							
Vinci engine ignition system		●							
Vega's Zefiro-9 third-stage engine ignition system					●				
Equipment									
Vision future daylight stellar finder system		●							

*Formerly RUAG Space **OHB group ***Orizio group

****The launch of Soyuz rockets has been suspended since the end of February 2022. The marketing of Vega C flights will eventually be taken over by Avio.

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Down for the third time in four years, ArianeGroup's revenues fell by 24.7% in 2022, to €2.4bn. The group's launch services subsidiaries, Arianespace and Starsem, were hit hard by the suspension of Soyuz rocket launches by the Russian Space Agency in February 2022. As a result, Arianespace only carried out 5 launches throughout 2022 (3 on Ariane 5 and 2 on Vega C, the last of which failed), 10 fewer than in 2021.
- ▶ Arianespace had a backlog of 42 launches at the end of 2022, including 29 for Ariane 6 (18 of which to launch over 600 satellites in the Kuiper constellation between 2024 and 2026) and 13 for Vega C.
- ▶ Martin Sion was appointed as CEO of ArianeGroup in April 2023, succeeding André-Hubert Roussel.
- ▶ After some tests showing the need to redesign the nozzle of the Zephiro 40 engine (second stage), the return to flight of Vega C has been postponed to Q4 2024.
- ▶ The first flight of Ariane 6 has also been postponed and is currently scheduled for mid-2024. Only three European rockets (the last two Ariane 5s and one Vega) were launched in 2023, and the last flight of the Vega launcher is scheduled for Q2 2024. Forecasts call for 4 launches in 2025, then up to 6 flights a year between 2025 and 2028 for Vega C, and for 26 launches between 2024 and 2027 for Ariane 6.
- ▶ An agreement reached at the European Space Agency (ESA) summit in Seville in November 2023 provides for a subsidy of up to €340m a year for Ariane 6 flights n°16 to 42, scheduled from 2026, and the order of at least 4 European institutional launches a year for the launcher.

Home market

- ▶ In November 2022, Arianespace won contracts from ESA for 5 Sentinel satellites launches (1D, 2C, 3C, CO2M-A and CO2M-B versions) aboard Vega C between 2024 and 2026, and from SES for the launch of the EAGLE-1 quantum cryptography satellite system for European cybersecurity, to be placed in low-Earth orbit by a Vega C rocket in Q4 2024.
- ▶ ESA also awarded ArianeGroup €50m in November 2022 to pursue the PHOEBUS (Prototype of a Highly OptimizEd Black Upper Stage) project to develop a demonstrator for Ariane 6's new upper stage using lightweight composite materials.
- ▶ In March 2023, ArianeGroup's CEO announced the award of several upstream studies on future weapons systems based on hypersonic technologies by the DGA. He also mentioned the first flight of the V-MAX hypersonic glider (Experimental Manoeuvring Vehicle, developed in partnership with ONERA since 2019), which was tested in June 2023, and the preparation of a second demonstrator named V-MAX2.
- ▶ Following a call for tenders under the PROTEIN study, ESA signed two contracts in May 2023 with ArianeGroup and German company RFA (Rocket Factory Augsburg, a subsidiary of OHB), to develop a system for transporting reusable heavy payloads via a new generation of European launchers.

Technology and Innovation

- ▶ Ariane 6 qualification tests are still being carried out in Germany and Kourou. The Vinci engine (upper stage) and Vulcain 2.1 engine (main stage) were ignited in September 2023. Tests on a complete reusable launcher stage (Prometheus engine and Themis stage) have also been successfully completed.
- ▶ As part of its Horizon Europe research programme, the European Commission selected ArianeGroup to lead two projects aimed at developing the first European reusable and eco-friendly launchers: SALTO (reusable strAtegic space Launcher Technologies & Operations) and ENLIGHTEN (European iNitiative for Low cost, Innovative & Green High Thrust Engine).
- ▶ In response to the European Space Agency's intent to study the feasibility of nuclear propulsion in space, ArianeGroup will participate in the Alumni project for a nuclear-thermal propulsion engine, along with CEA and Framatome.

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Wheeled armoured vehicles
- ▶ Tactical and logistics vehicles
- ▶ Propulsion systems for armoured vehicles
- ▶ Weapon systems (Remote Control Weapon Systems, RCWS)
- ▶ MRO and modernisation services

GOVERNANCE

Chairman and CEO	Emmanuel Levacher
Senior Vice President Finance & Strategy	Christian Cusset
Vice President Operations	Michel Brun
Senior Vice President Strategy and Product Lines	Frédéric Gratien

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted subsidiary
Market Cap	

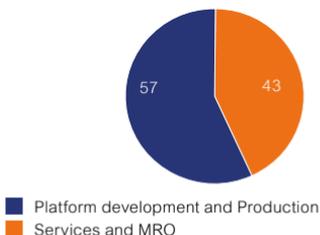
Major shareholders (as of 14.11.2023)

Volvo Group Government Sales	100%
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KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	≈ 620	≈ 558	≈ 591	≈ 550
Δ (%)	37,78%	-10,00%	5,91%	-6,94%
Defence (%)	100%	100%	100%	100%
Export (%)	42%	27%	10%	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	N/A	N/A	N/A	N/A
Order book	5 800	5 500	5 000	N/A
Employees	1 500	1 570	> 1 500	> 1 500

REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SOFEMA	4%	France
ODAS	2%	France

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	KYNDIS France	Thales	Mol	AM General	Safran	MBDA
Armoured combat and transport vehicles						
6x6 Jaguar reconnaissance and combat armoured vehicle (EBRC) and 6x6 Griffon multirole armoured vehicle (VBMR) (Scorpion and CaMo programmes)	●	●	●			
6x6 VAB Mk3 medium weight armoured vehicle		●				
Bastion and Fortress Mk2 armoured personnel carrier/combat vehicles				●		
VBCI armoured infantry fighting vehicle	●					
Maintenance for VAB armoured personnel carrier and transport vehicle						
Reconnaissance vehicles						
4x4 VBL Mk2 light armoured vehicle						
4x4 PVP light protected vehicle						
4x4 Scarabée light armoured vehicle						
Light tactical vehicles						
VLRA, VLRA 2, Sherpa Light and ALTV						
4x4 VT4						
Heavy tactical and logistics trucks						
4x4 / 6x6 / 8x4 / 8x8 Armis						
4x4 / 6x6 VLRA 2 tactical trucks						
Special Forces vehicles						
Areg, Torpedo, Sabre and Patsas						
Weapon systems						
Hornet family of remote controlled weapon stations				●		
Chassis for ground-to-ground artillery pieces (CAESAR)	●					
Ground-based air defence vehicles (Sherpa Mistral)						●

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Arquus generated revenues of approximately €550m in 2022, down 6.9% year-on-year. The group delivered 1,277 vehicles in 2022, including 1,200 4x4 VT4 tactical vehicles, 37 Sherpa light tactical vehicles, 22 Bastion armoured vehicles and 18 CAESAR carriers, mobility kits and remote controlled weapon stations for vehicles in the Scorpion programme. It also provided modernisation and MRO services for nearly 500 vehicles.
- ▶ Arquus, which has customers in more than 60 countries, aims to strengthen its export business in order to achieve its target of €1bn sales by 2030. Thus, the group is paying particular attention to opportunities in Eastern European markets, where defence credits are rising sharply following Russia's invasion of Ukraine.
- ▶ In March 2023, the group announced the signature of a lease with Compagnie de Phalsbourg for its new head office on the Satory plateau in Versailles (78). Scheduled for completion in 2025, the site will provide a surface of around 9,000 m² of offices and 6,000 m² of workshops.

Home market

- ▶ Arquus, KNDS France and Thales are jointly in charge of the Scorpion programme for the supply of wheeled armoured vehicles to the French Army. 1,872 Griffon VBMR/MEPAC multirole armoured vehicles as well as 300 Jaguar EBRC armoured reconnaissance and combat vehicles should be ordered and almost all delivered by 2030, around half of which by 2025. The three groups delivered 113 Griffon and 27 Jaguar vehicles in 2022.
- ▶ The 4,000th 4x4 VT4 tactical vehicle was produced at the Saint-Nazaire (44) facility in September 2022. Only 380 VT4s remain to be produced for the French Armed Forces. Arquus then plans to upgrade standard 1 VT4s to standard 2 from 2023, and will continue to provide support and maintenance services for the vehicles.
- ▶ In February 2023, as part of the FTLT programme, the French Ministry of Armed Forces published a call for tenders for the supply of around 800 various tanker trucks for the French Armed Forces, including equipment, technical support and maintenance services for 10 years. Arquus is expected to be among the competitors.

Export markets

- ▶ Together with KNDS France and Thales, Arquus is participating in the CaMo (Motorised Capability) programme to supply the Belgian Army with 60 Jaguar EBRCs, 382 Griffon VBMRs and 28 CAESARs from 2025 onwards. The contract includes training and maintenance services.
- ▶ In May 2023, Arquus handed over two Ultima VBL light armoured vehicles to the Greek Army, with a more powerful engine among other improvements. The entire Greek VBL LAV fleet could be upgraded to Ultima standard.
- ▶ France supplied Ukraine with dozens of armoured vehicles, including Arquus' VABs (Véhicules de l'avant blindé, armoured personnel carriers and support vehicles).

Technology and Innovation

- ▶ Arquus invests around 4% of its revenues (around €20m) in R&D every year. The group is in particular working on the development of fully autonomous vehicles (new version of the Dagger) and hybrid propulsion vehicles.
- ▶ In November 2022, the group joined the GAI'A innovation cluster (Groupement Académies, Industries, Ingénieurs d'Ile-de-France pour l'Innovation au profit de l'Armée de Terre) to work on optimising the energy consumption of military vehicles.



ATOS

French digital services company, among the three top players in Europe and the 10 top players worldwide

BUSINESS AREAS

IT solutions supplier and systems integrator

- ▶ IT services and digital transformation consulting
- ▶ Big Data and High Performance Computing (HPC) solutions
- ▶ Information and tactical communication systems
- ▶ Command, Control and Surveillance systems
- ▶ Electronic systems (navigation instruments, defence electronics)
- ▶ Cybersecurity

GOVERNANCE

Chairman Jean-Pierre Mustier
 Chief Executive Officer Paul Saleh

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	ATO
Listed on	Euronext Paris
Market Cap (€m)	719

Major shareholders (as of 14.11.2023)

Onepoint	9,98%
Siemens	4,80%
The Vanguard Group, Inc.	3,08%
Employees	2,70%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Athea	50%	France
Atos Saudi	49%	Saudi Arabia

KEY FIGURES (Fiscal year ended: December 31st)

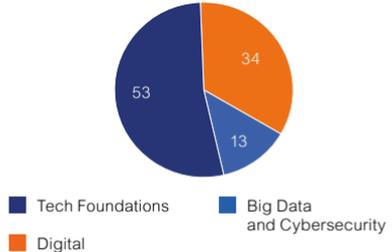
€ millions	2019	2020	2021	2022
Revenue	11 588	11 181	10 839	11 341
Δ (%)	8,83%	-3,51%	-3,06%	4,63%
Defence (%)	>10%	>10%	>10%	>10%
Export (%)	85%	85%	85%	84%
Operating profit/loss	660	650	-2 768*	-795
Operating margin	5,70%	5,81%	-25,54%*	-7,01%
Net income**	834	725	-215	-28
Order book	21 900	23 700	23 600	21 200
Employees***	108 317	104 130	109 135	110 797

*Exceptional/unusual expenses are included in this figure

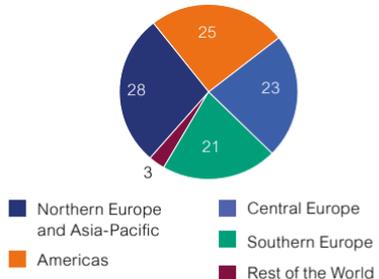
**Normalised net income attributable to shareholders before unusual, abnormal and non-recurring items, net of tax

***Including «indirect employees»

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Capgemini	CEA	Thales Alenia Space	T-Systems	KNDS France	Arqus
Big Data and High Performance Computing (HPC) solutions							
Artemis.IA programme	●	●	●				
BullSequana supercomputers							
Copernicus Data and Information Access Services (DIAS) (Copernicus programme)				●	●		
Tactical communication systems							
Hoox for Mission tactical 4G/LTE communication solution for intervention forces							
Auxylium tactical LTE communication solution							
Command, Control and Surveillance systems							
Bull Battle Management System (Scorpion Combat Information System)						●	●
CENTINELA checkpoint solution							
VIGIA border monitoring solution							
Electronic navigation equipment							
LMN electromagnetic speed log*							
Multi-function repeater for surface ships (MFR6, MFR12) and submarines (MFR6 WP)							
Defence electronics							
Family of ELINT/R-ESM systems (ELIT, OSCAR, CARACAL)							
Family of COMINT/C-ESM systems (FlashHawk)							
Shadow family of jammers (Raid Shadow, Black Shadow)							
Cybersecurity							
Data encryption solutions (Trustway, Trsutway Chronos)							

* The LMN6, a new generation of electromagnetic speed log, has been chosen by the French Navy to equip its ships, such as La Fayette-class frigates, Horizon-class frigates, surveillance frigates and mine-hunting vessels.

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Atos revenues reached €11.3bn in 2022, up 4.6% year-on-year, driven in particular by solid growth in the Digital and Big Data and Cybersecurity divisions (thanks to increased sales of supercomputers, high-end servers, cybersecurity services, digital transformation-related services, etc.). The group generates around 10% of its sales in the defence sector.
- ▶ In June 2022, Atos initiated a transformation plan designed to split the group into two entities. The first one, named Tech Foundations, will include Atos historic IT infrastructure management services, while the growth activities (big data, cloud, cybersecurity, etc.) will be brought together in a new structure called Eviden. To finance this transformation, which cost is estimated at €1.6bn, the group plans to sell non-strategic assets worth around €700m.
- ▶ Atos entered into negotiations in August 2023 with EP Equity Investment (EPEI), a fund owned by Czech businessman Daniel Kretinsky, for the sale of Tech Foundations for €2bn and the acquisition of a 7.5% stake in Eviden. The transaction is subject to shareholder approval at an Extraordinary General Meeting to be held in Q2 2024. Atos will then change its name to Eviden. The group's governance already changed with the appointment of Jean-Pierre Mustier (Chairman) in October 2023 and Paul Saleh (Chief Executive Officer) in January 2024.

Home market

- ▶ Atos has notably been involved in the French Army's Scorpion programme since 2016 (integration of the Bull Battle Management System on Jaguar, Griffon and Serval armoured vehicles) and delivered the Scorpion Combat Information System (SICS in French) in June 2021. The group has also been awarded the contract to modernise and maintain the SICS in operational condition.
- ▶ Atos was selected in January 2022 to develop and produce a new version of the onboard video system for the French Navy's future Falcon Albatros maritime surveillance and intervention aircraft (Dassault Aviation). The Falcon Albatros is part of the AVSIMAR programme led by the DGA, and is due to become operational in 2025.
- ▶ In June 2022, the DGA awarded Athea, a joint venture between Atos and Thales, an initial order for the development phase of a sovereign big data and artificial intelligence platform as part of the Artemis.IA programme (Architecture for the Processing and Massive Exploitation of Multi-Source Information and Artificial Intelligence). Delivery of an initial operational platform is expected in 2023.
- ▶ Atos and several partners were selected by the French Ministry of the Interior and Overseas Territories in October 2022 to develop and supply the management information system for the Future Radio Network (RRF in French), the secure and resilient broadband network for internal security rescue forces. The contract is valued at €43m over 7 years.

Export markets

- ▶ Atos generates around 85% of its revenue from exports, mainly through its civil activities. The group also collaborates with foreign Ministries of Defence (Spain, Netherlands, United Kingdom, etc.).
- ▶ In November 2022, Atos delivered the EuroHPC Leonardo supercomputer (250 petaflops) to the Cineca inter-university consortium (based in Bologna, Italy), the second most powerful supercomputer in Europe and the fourth one globally.
- ▶ Atos opened three Cloud Centers in April 2023, including two in India and one in Poland. The sites offer a range of services (native public cloud offering with hyperscaler technologies, infrastructure, application and data partnerships, edge-to-cloud continuum, etc.).

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €235m in 2022, representing 2.1% of revenues.



AUSTAL

Australian military and civilian shipbuilding company, ranked 74th-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Surface ships (frigates, patrol boats and auxiliary ships)
- ▶ Subsystems for naval platforms
- ▶ Vessel control and information management systems
- ▶ MRO, modernisation and related ship services

GOVERNANCE

Non executive Chairman	John Rothwell
Chief Executive Officer	Patrick Gregg
Chief Financial Officer	Christian Johnstone

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	ASB
Listed on	Australian Stock Exchange
Market Cap (AUDm)	681

Major shareholders (as of 14.11.2023)

Tattarang Ventures Pty Ltd.	19,61%
John Rothwell	9,04%
Macquarie Bank Ltd. (Private Banking)	4,93%
The Vanguard Group, Inc.	3,01%

MAIN JOINT VENTURES AND ASSOCIATES

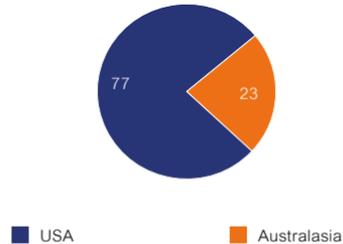
Name	%	Country
Austal Muscat	70%	Oman

KEY FIGURES (Fiscal year ended: June 30th)

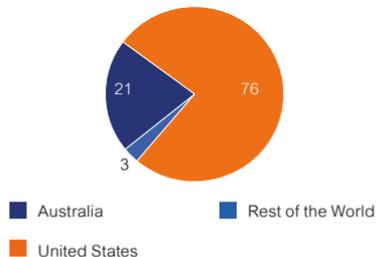
€ millions	2019-20	2020-21	2021-22	2022-23
Revenue	1 265	983	920	1 019
Δ (%) [AUD]*	12,70%	-24,64%	-9,10%	10,92%
Defence (%)	97%	89%	92%	94%
Export (%)	92%	84%	80%	79%
Operating profit/loss	79	72	78	-3
Operating margin	6,23%	7,29%	8,45%	-0,32%
Net income	54	51	51	-9
Order book	2 632	1 577	1 987	1 415
Employees	6 800	5 500	5 000	4 300

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

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	General Dynamics	GE Aerospace*	Rolls-Royce	Caterpillar	L3Harris Technologies**	Saibrome	HII***
Frigates and patrol boats							
Independence-class LCS frigate	●	●	●				
Offshore Patrol Cutter (OPC)			●				
Cape / Evolved Cape-class patrol boats				●			
Guardian-class patrol boat				●			
Auxiliary ships							
T-AGOS future Ocean Surveillance ship				●			
Navajo-class future Towing, Salvage and Rescue (T-ATS) ship							
Spearhead-class Expeditionary Fast Transport (EPF)	●		●				
Landing Craft Utility (LCU) 1700-class craft				●			
Auxiliary Floating Dock Medium (AFD-M)							
Uncrewed surface vehicle							
Saibrome Surveyor future USV						●	
Subsystems for naval platforms							
Command modules for Virginia and Columbia-class submarines	●						
Aircraft elevators for Gerald R. Ford-class aircraft carriers							●
Vessel control and information management systems							
MARINELINK product suite							
Motion Control vessel stability system							
Services							
Naval MRO and modernisation services							

*Formerly GE Aviation **Merger of L3 Technologies and Harris Corporation ***Huntington Ingalls Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Austal revenues reached AUD 1,585m (€1,019m) in 2022-2023, up 10.9% year-on-year in local currency. Growth was driven by the USA division (up 16%), which is involved in a number of U.S. Navy programmes. On the other hand, revenues in the Australasia division fell 3.5%, hindered by commercial shipbuilding activities in the Philippines and Vietnam.
- ▶ The group recorded lower operating and financial results in 2022, due to a AUD 171m (€110m) loss on the U.S. Navy's T-ATS programme (Navajo-class Towing, Salvage and Rescue ships). The first unit is currently under construction and four more are planned.
- ▶ Austal delivered 9 ships during the year, including 7 naval vessels: 4 Evolved Cape-class patrol boats by Austal Australia, as well as 2 LCS frigates and a Spearhead-class EPF (Expeditionary Fast Transport) by Austal USA.
- ▶ To increase its production capacity, Austal (which had been producing only aluminium ships) inaugurated new facilities dedicated to the construction of steel ships at its Mobile (Alabama) shipyard in early 2022. The group also expanded its maintenance facilities in the United States.

Home market

- ▶ In Australia, the group is a long-standing supplier of patrol boats (Cape and Guardian programmes) to the Australian Border Force and the Royal Australian Navy. In October 2023, it delivered the sixth Evolved Cape-class patrol boat and the 17th Guardian-class patrol boat (8 and 22 units planned respectively).
- ▶ Austal Australia teamed up with British company BMT and Raytheon Australia in May 2022 to bid for the Australian Army's LAND 8710 (Phase 1A) programme, which plans the acquisition of ILMV (Independent Littoral Manoeuvre Vessel) landing crafts for AUD 800m (€500m).
- ▶ In April 2023, Austal Australia and U.S. company Saildrone extended their partnership to build the Saildrone Surveyor USV in Australia.

Export markets

- ▶ Austal generated 79% of its sales from exports in 2022-2023, with the United States as its largest market by far. The group is a major U.S. Navy supplier and the prime contractor for the Independence-class frigates in the LCS programme (in partnership with General Dynamics). The last two units (LCS 36 and 38) are currently under construction.
- ▶ Austal USA was awarded a contract with a potential value of \$3.3bn (€3.1bn) in June 2022 to supply up to 11 Offshore Patrol Cutter (OPC) vessels to the U.S. Coast Guard. The first unit has been ordered and the remaining 10 are under option.
- ▶ In January 2023, General Dynamics Electric Boat awarded Austal USA a contract estimated at \$25m (€24m) to produce and assemble subsystems for the U.S. Navy's Virginia-class attack submarines (SSNs).
- ▶ Austal USA was awarded a \$114m (€105m) contract in May 2023 for the detailed design of U.S. Navy's T-AGOS (Auxiliary General Ocean Surveillance Ship) vessels. The construction of up to seven ships is planned, bringing the total contract value up to \$3.2bn (€2.9bn) if all options are exercised.
- ▶ In September 2023, the U.S. Navy awarded Austal USA a \$91.5m (€85.7m) contract to build three 1700-class LCU (Landing Craft Utility) crafts, with options for 9 additional units.
- ▶ However, in March 2022, the Philippines decided not to proceed with the order of six patrol boats based on the Cape class (which would have been built by Austal's Philippine shipyard) and to procure vessels abroad instead. The order could have reached PHP 30bn (€527m).



BAE SYSTEMS

Diversified defence group (aviation, naval, land, etc.), with a strong presence on the U.S. market (nearly 50% of revenues), and 7th-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft and UAV
- ▶ Naval platforms and systems (surface ships and submarines)
- ▶ Land platforms and systems (armoured vehicles and artillery systems)
- ▶ Defence electronics
- ▶ Cybersecurity
- ▶ Space

GOVERNANCE

Chairwoman	Cressida Hogg
Chief Executive Officer	Charles Woodburn
Managing Director, Air	Cliff Robson

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	BA
Listed on	LSE
Market Cap (€m)	32 430

Major shareholders (as of 14.11.2023)

Barclays Bank Plc (Private Banking)	4,03%
The Vanguard Group, Inc.	3,61%
Silchester International Investors LLP	3,05%
Fidelity Management & Research Co.	2,65%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
CTA International	50%	France
FNSS	49%	Turkey
Rheinmetall BAE Systems Land	45%	United Kingdom
Panavia Aircraft	42,5%	Germany
MBDA	37,5%	France
Eurofighter Jagdflugzeug	33%	Germany

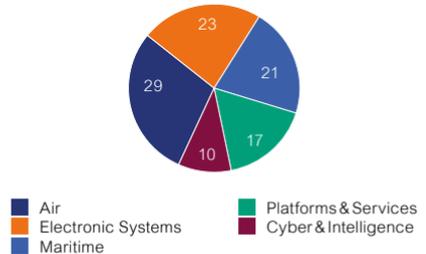
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	20 849	21 660	22 699	24 921
Δ (%) [E]*	8,82%	5,31%	1,27%	8,90%
Defence (%)	92%	95%	95%	95%
Export (%)	80%	81%	80%	80%
Operating profit/loss	2 163	2 169	2 778	2 795
Operating margin	10,37%	10,01%	12,24%	11,21%
Net income**	1 681	1 460	2 044	1 865
Order book	53 349	50 278	52 381	66 404
Employees	87 800	89 600	90 500	93 100

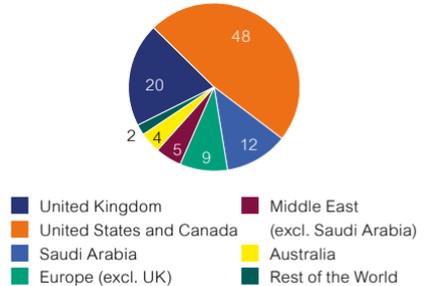
*Variation based on revenue in local currency
See €E, p.7

**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Leonardo	MHI****	Thales	Lockheed Martin	Northrop Grumman	General Dynamics	Raytheon Technologies****	Iveco Defence Vehicles	Saab	KNDS France	ASC
Military aircraft												
GCAP (Global Combat Air Program) future fighter aircraft*		●	●	●			●	●				
F-35 Lightning II fighter aircraft (rear fuselage, electronic warfare suite, etc.)				●								
Eurofighter Typhoon fighter aircraft	●	●		●							●	
Hawk trainer aircraft							●					
Naval platforms and systems												
Type 26 future frigate				●			●					
Hunter-class future frigate (SEA 5000 programme)**			●	●						●		●
Canadian Surface Combatant (CSC) future frigate**				●			●					
Dreadnought-class future ballistic missile submarine				●	●		●					
Astute-class nuclear-powered attack submarine			●			●	●	●				
Land platforms and systems												
CV90 infantry fighting vehicle			●							●		
Armored Multi-Purpose Vehicle (AMPV)												
Amphibious Combat Vehicle (ACV)								●				
M109A7 self-propelled howitzer												
40 mm Cased Telescoped Armament System (40CTAS)***											●	
M982 Excalibur advanced precision guided artillery shell							●					
Defence electronics												
Advanced Precision Kill Weapon System II (APKWS II)						●						
Cybersecurity solutions												

*Formerly Tempest **Based on Type 26 frigate ***CTA International joint venture (BAE Systems / KNDS France) ****Mitsubishi Heavy Industries *****Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ BAE Systems revenues reached £21.3bn (€24.9bn) in 2022, 95% of which in defence. The acquisition of Bohemia Interactive Simulations in March 2022, the delivery of electronic combat solutions to Boeing and Lockheed Martin, and increased work to build submarines and frigates for the Royal Navy all contributed to the group's year-on-year growth of 8.9% (in local currency). BAE Systems is the leading supplier of defence equipment to the UK, Saudi Arabia and Australia, as well as one of the 10 top contractors to the U.S. Department of Defense.
- ▶ In December 2022, the UK, Italy and Japan agreed to merge their 6th generation fighter aircraft projects, Tempest (UK Ministry of Defence, BAE Systems, MBDA, Rolls-Royce, Leonardo, Avio Aero, Elettronica, etc.) and F-X (Mitsubishi Heavy Industries, Mitsubishi Electric, IHI Corporation, etc.), into the Global Combat Air Program (GCAP). The aircraft is intended to replace the Typhoon and F-2 fighter jets in service in these three countries by 2040.
- ▶ In August 2023, BAE Systems announced the signing of an agreement to acquire Ball Aerospace & Technologies, a subsidiary of Ball Corporation specialising in space equipment, particularly in the field of optics, which recorded revenues of \$1.98bn (€1.88bn) in 2022. Valued at \$5.5bn (€5.1bn), the deal could be completed in H1 2024.

Home market

- ▶ BAE Systems generated 20% of its turnover in the UK during 2022.
- ▶ The group delivered a fifth Astute-class SSN, christened Anson, to the Royal Navy at Faslane naval base (Scotland) in February 2023, while two other units are still to be built.
- ▶ In H1 2023, BAE Systems started building the third Dreadnought-class SSBN (named Warspite) and the fourth Type 26 frigate (named Birmingham) for the Royal Navy.
- ▶ In October 2023, the UK Ministry of Defence awarded BAE Systems a £3.95bn (€4.48bn) contract to develop, by 2028, a future SSN for the Royal Navy and the Royal Australian Navy, in partnership with the United States. The SSN-AUKUS is scheduled to enter service in the late 2030s.
- ▶ BAE Systems signed two contracts worth a combined £410m (€465m) with the UK Ministry of Defence for the production of 155mm, 30mm and 5.56mm ammunition.

Export markets

- ▶ In 2022, 80% of the group's revenue came from exports, with the United States accounting for nearly half of sales, thanks in particular to the F-35 programme. In February 2023, BAE Systems delivered the 1,000th F-35 rear fuselage since 2005 to Lockheed Martin.
- ▶ In December 2022, Germany, the UK and Sweden jointly ordered a total of 436 BvS10 Beowulf tracked all-terrain armoured vehicles from Swedish subsidiary BAE Systems Hägglunds for \$760m (€722m), with deliveries starting in 2024. Germany ordered a further 227 vehicles in April 2023 for around \$400m (€373m).
- ▶ BAE Systems Hägglunds won two contracts for its CV90 Mk IV tracked armoured infantry fighting vehicle, one worth \$1.37bn (€1.30bn) in December 2022 with Slovakia for 152 vehicles and the other worth SEK 22bn (€2.1bn) in May 2023 with the Czech Republic for 246 vehicles.
- ▶ BAE Systems signed a \$797m (€742m) contract with the U.S. Army in August 2023 to begin full-scale production of the AMPV tracked armoured personnel carrier.

Technology and Innovation

- ▶ The group's self-funded R&D expenditure reached £287m (€336m) in 2022, representing 1.4% of revenues.



BAYKAR TECHNOLOGY

Family-owned Turkish group specialised in military unmanned aircraft systems, and Turkey's leading exporter in the defence and aerospace sector

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Tactical and combat UAVs
- ▶ Weapon systems for UAVs
- ▶ Avionics and subsystems
- ▶ C4I systems
- ▶ Services (maintenance, training, etc.)

GOVERNANCE

Chairman and CTO

Selçuk Bayraktar

Chief Executive Officer

Haluk Bayraktar

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group

Market Cap

Major shareholders (as of 14.11.2023)

Bayraktar family

100%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Black Sea Shield	N/A	Turkey

KEY FIGURES (Fiscal year ended: December 31st)

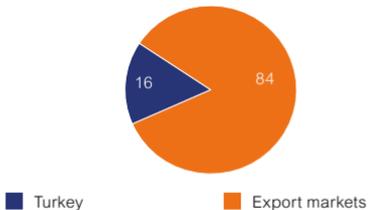
€ millions	2019	2020	2021	2022
Revenue	N/A	N/A	702	1 330
Δ (%) [€]*	N/A	N/A	N/A	68,67%
Defence (%)	≈ 100%	≈ 100%	≈ 100%	≈ 100%
Export (%)	N/A	N/A	80%	84%
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	N/A	N/A	N/A	3 100

*Variation based on revenue in U.S. dollars
See €/\$, p.7

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



BAYKAR TECHNOLOGY

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Aselesan	Roketsan	Tubitak SAGE**	TEI***	Motor Sich
Unmanned aircraft systems					
Bayraktar TB3 future UCAV*				●	
Bayraktar TB2 tactical and combat UAV	●	●		●	
Bayraktar Kizilelma future UCAV	●	●		●	●
Bayraktar Akinci UCAV	●	●	●		●
Bayraktar Diha (VTOL) future small tactical UAV					
Bayraktar Mini UAV					
Weapon systems for UAVs					
Kemankes future small cruise missile (for TB2, TB3 and Akinci UAVs)					
Avionics and subsystems					
Avionics					
Data Link systems					
Subsystems (magnetometers, display command modules, etc.)					
C4I systems					
Software systems (ground stations, mapping systems, etc.)					
Training					
Simulators and training services					
Services					
Maintenance, technical and logistical support, etc.					

*TB2 naval version **Defence Industries Research and Development Institute (Turkey) ***TUSAS Engine Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Baykar revenues reached \$1.4bn (€1.3bn) in 2022, up almost 70% year-on-year (in U.S. dollars). Almost all the contracts signed during the year concerned export sales (to 18 different countries), mainly for the Bayraktar TB2 UAV.
- ▶ To meet rising international demand, Baykar (which order book amounts to 3 years of production) plans to increase its industrial capacity, in particular to double production of the Bayraktar TB2 UAV and reach its target of 30 to 40 units per month.
- ▶ In October 2023, the group announced a \$100m (€94m) investment to build a UAV production site (TB2 and possibly Akinci) and service centre in Ukraine, a project launched before the Russian invasion and expected to create 300 jobs in the country. Production is due to start in 2025.
- ▶ In 2023, Baykar signed an agreement with Azerbaijan to jointly develop and produce an UAV. The group also announced the setting up of R&D activities at the NASTP site in Pakistan. The NASTP (National Aerospace Science and Technology Park) is controlled by the Pakistani Air Force.

Home market

- ▶ The group is one of Turkey's leading UAV manufacturers, and several of its models are in service with the Turkish Armed Forces (Mini UAV, Bayraktar TB2 and Bayraktar Akinci).
- ▶ In May 2023, Baykar ordered CATS (Common Aperture Targeting System) electro-optical systems from Aselsan, to be delivered by 2024, at a cost of \$17.6m (€16.5m). The CATS system was developed to replace the Wescam MX-15D EO/IR system, which Canada banned from being exported to Turkey in 2021. 93% of Bayraktar TB2 components are now of Turkish origin.
- ▶ In June 2023, the group confirmed that series production of the Bayraktar KizilelmaUCAV was due to start in 2024, prior to its entry into service on the Turkish amphibious assault ship (LHD) TCG Anadolu.

Export markets

- ▶ In 2022, 84% of the group's revenue came from exports. Baykar's greatest success on foreign markets is the Bayraktar TB2, which has been acquired or ordered by nearly 30 countries (mainly in Eastern Europe, Africa, the Middle East and Central Asia).
- ▶ In September 2022, Baykar delivered 20 Bayraktar TB2 UAVs to the United Arab Emirates, which are in negotiations to acquire 120 units for around \$2bn (€1.9bn).
- ▶ Baykar signed a \$370m (€344m) contract with the Kuwaiti Ministry of Defence in January 2023 for the supply of 18 Bayraktar TB2 UAVs. In April 2023, Romania also placed an order for 18 Bayraktar TB2s, worth \$321m (€293m).
- ▶ Saudi Arabia ordered Bayraktar Akinci UAVs in July 2023. The contract, worth an estimated \$3.1bn (€2.9bn), is Baykar's largest export sale and includes technology transfers. Baykar signed an agreement with state-owned company SAMI (Saudi Arabian Military Industries) to set up a production site in the country.
- ▶ Kosovo received the 12 Bayraktar TB2 UAVs ordered at the beginning of the year between April and July 2023. In response, Serbia announced that it was cancelling the planned acquisition of Bayraktar TB2s in favor of Chinese UAVs.

Technology and Innovation

- ▶ In June 2023, Baykar carried out a flight test of its future Kemankes air-to-surface small cruise missile, fired from a Bayraktar TB2 UAV 20 km away from its target.



BOEING

Industrial group with civil and military activities, mainly active in military aviation (FA-18 combat aircraft, CH-47 Chinook helicopter, etc.), and 5th-largest defence contractor

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft (combat, transport and mobility, surveillance and unmanned aircraft systems)
- ▶ Defence electronics and C4ISR
- ▶ Guided ammunition and missile systems
- ▶ Space
- ▶ Commercial aircraft

GOVERNANCE

Chairman	L. W. Kellner
Chief Executive Officer	D. L. Calhoun
President Defense, Space & Security	T. Colbert III

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	BA
Listed on	NYSE
Market Cap (\$m)	125 883

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	7,64%
Newport Trust Co.	5,52%
Capital Research & Management Co. (World Investors)	2,55%
Fidelity Management & Research Co.	2,35%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Deep Space Transport	50%	United States
Hellfire Systems	50%	United States
Initium Aerospace	50%	United States
Tata Boeing Aerospace	50%	India
United Launch Alliance	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	68 356	50 926	52 651	63 255
Δ (%) [\$]*	-24,29%	-24,04%	7,10%	6,94%
Defence (%)**	34%	45%	42%	35%
Export (%)***	50%	37%	37%	41%
Operating profit/loss	-1 763	-11 180	-2 453	-3 368
Operating margin	-2,58%	-21,95%	-4,66%	-5,33%
Net income****	-568	-10 397	-3 552	-4 687
Order book	412 647	296 173	333 185	378 989
Employees	161 100	141 000	142 000	156 000

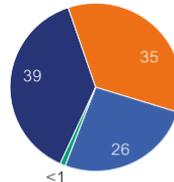
*Variation based on revenue in local currency
See €/\$, p.7

**Defense, Space & Security division only

***Excluding 737 MAX-related impacts

****Net income attributable to shareholders

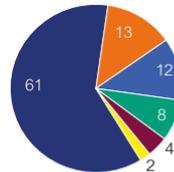
REVENUE BY BUSINESS SEGMENT (%)*



■ Commercial Airplanes ■ Global Services
■ Defense, Space & Security ■ Boeing Capital

*Revenue distribution based on total sales excluding eliminations

REVENUE BY REGION (%)*



■ North America

■ Asia
■ Europe

■ Middle East

■ Latin America
■ Rest of the World

*Excluding 737 MAX-related impacts

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	KHI**	Saab	Northrop Grumman	Raytheon Technologies**	Bell***	Lockheed Martin	Teledyne	Aeroleit Rocketdyne	Rohde & Schwarz	Leonardo	HAL****	HII*****
Military aircraft												
F/A-18E/F Super Hornet fighter aircraft		●									●	
F-15EX Eagle II fighter aircraft		●	●									
T-7A Red Hawk trainer aircraft		●						●				
P-8A Poseidon maritime patrol aircraft		●	●									
KC-46A Pegasus tanker aircraft												
Military helicopters												
AH-64 Apache twin-engine combat helicopter		●	●	●					●			
CH-47 Chinook twin-engine heavy-lift transport helicopter	●							●	●			
MH-139 Grey Wolf twin-engine multirole helicopter									●			
V-22 Osprey tiltrotor transport aircraft				●								
Unmanned systems												
MQ-25 Stingray future refueling unmanned aerial vehicle												
Orca future autonomous underwater vehicle												●
Guided ammunition and missile systems												
Harpoon anti-ship missile						●						
Joint Direct Attack Munition (JDAM)												
Space												
CST-100 Starliner spacecraft							●					
Space Launch System (SLS) super-heavy lift launch vehicle		●		●	●	●						

*Kawasaki Heavy Industries **Merger of Raytheon and UTC ***Textron group ****Hindustan Aeronautics Ltd *****Huntington Ingalls Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Boeing revenues reached \$66.6bn (€63.3bn) in 2022, up 6.9% year-on-year in local currency. Growth was mainly driven by the Commercial Airplanes division (+32.7%), which recorded deliveries of 480 aircraft in 2022, compared to 340 in 2021. Nevertheless, the division's revenues were still 55% below their record level of 2018.
- ▶ The group recorded an operating loss of \$3.5bn (€3.4bn) in 2022, mainly due to the Defense, Space & Security division's high development costs on several programmes (VC-25B, KC-46A Pegasus and MQ-25 Stingray). Though, the Commercial Airplanes division has gradually reduced its losses, with an operating margin up from -33.2% of revenues in 2021 to -9.2% in 2022.
- ▶ Boeing operates in the military sector through its Defense, Space & Security division, which generated sales of \$23.2bn (€22.0bn) in 2022. Deliveries of combat aircraft declined over the year (14 F/A-18E/F Super Hornet and 12 F-15E Strike Eagle aircraft, compared with 21 and 16 respectively in 2021), along those of P-8A Poseidon maritime patrol aircraft (12 in 2022, compared with 16 in 2021) and new AH-64 Apache helicopters (25 in 2022, compared with 27 in 2021). On the other hand, the group recorded increased sales of CH-47 Chinook heavy-lift helicopters (19 in 2022, compared with 15 in 2021) and KC-46A Pegasus tankers (15 in 2022, compared with 13 in 2021).

Home market

- ▶ The group generated 59% of its turnover in the United States in 2022, down by 4 percentage points year-on-year. In defence, the U.S. remain by far Boeing's largest market (74% of sales).
- ▶ In January 2023, the U.S. Air Force ordered from Boeing the ninth batch of KC-46A Pegasus tankers, consisting of 15 aircraft, for \$2.25bn (€2.10bn), to be delivered by the end of August 2026.
- ▶ In February 2023, the U.S. Air Force awarded Boeing a contract worth \$1.2bn (€1.1bn) to develop and produce two new early warning and control (AEW&C) aircraft, based on the E-7 Wedgetail, to replace its fleet of E-3 Sentry (AWACS) aircraft, already produced by the group. The aircraft are due to enter service in 2027, and a further 24 could be ordered by 2032.
- ▶ The U.S. Air Force awarded a \$285m (€266m) contract to Boeing and Leonardo in March 2023 to begin production of the MH-139 Grey Wolf helicopter (13 units ordered, with deliveries expected from 2024).
- ▶ In March 2023, the U.S. Army awarded Boeing a contract worth \$1.9bn (€1.8bn) for the production of 184 AH-64E Apache attack helicopters, including 130 for the U.S. Army and 54 for allied countries under FMS procedures. Australia will become the 18th country to use this helicopter.

Export markets

- ▶ The group generated 41% of its revenues from exports in 2022. About half of export sales were generated by the Commercial Airplanes division.
- ▶ The Canadian government sent a request to its American counterpart in March 2023 for the acquisition of 16 P-8A Poseidon maritime patrol aircraft (Canadian Multi-Mission Aircraft programme).
- ▶ In August 2023, the Indonesian government signed a letter of intent with Boeing for the procurement of 24 F-15EX Eagle II fighter jets.
- ▶ In August 2023, the U.S. Department of State approved the sale of 96 AH-64E Apache attack helicopters to Poland as part of the Kruk programme.

Technology and Innovation

- ▶ The group's total R&D expenditure reached \$2.9bn (€2.7bn) in 2022, representing 4.3% of revenues.



CHINA SHIPBUILDING GROUP (CSG)

World's largest civil shipbuilding company, resulting from the merger of CSIC and CSSC in 2019 and concentrating almost all Chinese naval defence capabilities

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military shipbuilding (surface ships, submarines, naval drones, etc.)
- ▶ Naval ammunition (torpedoes)
- ▶ Commercial shipbuilding
- ▶ Naval diesel engines and turbines
- ▶ Industrial construction
- ▶ Renewable energies

GOVERNANCE

Chairman Lei Fanpei
 Chief Executive Officer Yang Jincheng

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	N/A	58 591	78 253	N/A
Δ (%) [$\$$]*	N/A	N/A	38,35%	N/A
Defence (%)	N/A	≈ 20%	≈ 20%	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 income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	N/A	245 000	N/A	N/A

*Variation based on revenue in U.S. dollars
See €/\$, p.7

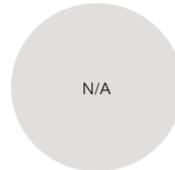
OWNERSHIP STRUCTURE

Symbol Unlisted group
 Listed on
 Market Cap

Major shareholders (as of 14.11.2023)

SASAC (Chinese State)		100%
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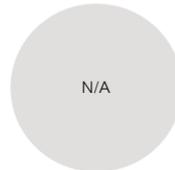
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES*

Name	%	Country
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REVENUE BY REGION (%)



*No information available

CHINA SHIPBUILDING GROUP (CSG)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

Joint programmes
 CSIC
 CSSC

Naval Shipyard
 Kvaerner Shipyard
 K&S/EW*
 Boustead Heavy Industries

Surface ships					
	Type 003 and type 004 future aircraft carriers				
	Type 002 aircraft carrier				
	Type 075 Landing Helicopter Dock (LHD)				
	Type 071/071E Landing Platform Dock (LPD)				
	Type 074A Landing Ship Medium (LSM)				
	Type 052D and type 055 destroyers				
	Type 054A/B frigate				
	Type 056/056A corvette	●			
	Keris-class Littoral Mission Ship (LMS)			●	
	Durjoy-class Large Patrol Craft (LPC)		●		
	Type 901 and Type 903 replenishment oilers				
Submarines					
	Type 094/094A ballistic missile submarines (SSBN) and Type 096 future ballistic missile submarine				
	Type 093A/B nuclear-powered attack submarine (SSN) and Type 095 future nuclear-powered attack submarine				
	Type 039G/G1 and Type 041 conventionally-powered submarines (SSK)		●		
	Type 035G/B conventionally-powered submarines (SSK)				
	Type S20 conventionally-powered submarine (SSK)**				
	Type S26T conventionally-powered submarine (SSK)***				
Unmanned surface vessels					
	JARI multipurpose unmanned combat vessel				
	Marine Lizard autonomous amphibious vehicle				

*Karachi Shipyard & Engineering Works **Based on Type 039B ***Based on Type 041

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Created in 2019, China Shipbuilding Group is the result of the merger between China's two main shipbuilders, CSIC (China Shipbuilding Industry Corporation) and CSSC (China State Shipbuilding Corporation), until then the world's second and third-largest shipbuilding groups. CSG, which is now the world leader in civil shipbuilding with a 20% market share (by volume), concentrates almost all of China's naval defence capacity across a dozen large shipyards. In 2021, CSG revenues reached \$92.6bn (€78.3bn), of which around 20% from defence.
- ▶ The group is currently building a new 4.32km² shipyard on Changxing Island in Shanghai, which will be able to produce six ships (civil or military) a year.

Home market

- ▶ Highly dependent on its domestic defence market, the group is benefiting from China's major efforts to upgrade and expand its naval fleets (both military and civilian).
- ▶ In June 2022, the Type 003 aircraft carrier, known as Fujian, was launched at the Changxing Island shipyard in Shanghai. The ship is 320 metres long, has a displacement of 80,000 tonnes at full load and is equipped with electromagnetic aircraft launch systems (EMALS). It is due to enter service in 2024 and should operate China's future J-35 fighter jets (Shenyang) among other aircraft.
- ▶ A third Type 075 landing helicopter dock (LHD), named Anhui, entered service with the Chinese Navy in October 2022, while a fourth ship is currently under construction.
- ▶ In 2022, the Chinese Navy commissioned the fifth, sixth and seventh Type 055 destroyers (Yan'an, Wuxi and Zunyi) and the last three Type 052DL destroyers (Baotou, Jiaozuo and Zhanjiang).
- ▶ In February 2023, the eighth and last Type 055 destroyer in Batch 1, named Xianyang, entered service with the Chinese Navy. The first two ships of Batch 2 are currently being built in Dalian and on Changxing Island.
- ▶ In parallel with the construction of the Type 003 aircraft carrier, China Shipbuilding Group is working on the design of the Type 004 aircraft carrier. This future vessel, with a maximum displacement of 110,000 tonnes, could be built in the late 2020s and is likely to be equipped with a nuclear propulsion system.
- ▶ The group reportedly started building two Type 093B nuclear-powered attack submarines at the Huludao shipyard in Liaoning province.

Export markets

- ▶ Exports of naval vessels (including the sale of former Chinese Navy ships) are increasing, but remain limited to a handful of countries (Bangladesh, Malaysia, Pakistan, Thailand, Algeria, Nigeria, etc.).
- ▶ Following an order placed in 2020, Algeria received a corvette named El Moutassadi, based on the type 056, in April 2023. The vessel is 96 metres long and is configured for patrol, escort and maritime protection missions.
- ▶ In April 2023, the group delivered a Type 071 landing craft, named Chang, to the Thai Navy. However, in October 2023 Thailand suspended the acquisition of a type S26T conventionally-powered submarine, ordered from CSG in 2017 for THB 13.5bn (€360m). This decision stemmed from Germany's refusal to let the MTU-396 engine that was initially planned for the submarine be used for military purposes. In return, the Thai Navy offered to buy a frigate from China.

Technology and Innovation

- ▶ At the Airshow China 2022 in Zhuhai (China), the group unveiled its new search and rescue UUV (unmanned underwater vehicle), the Haishen (Poseidon) 6000.

DAMEN

Dutch family-owned group mainly operating in commercial shipbuilding, major global player in the patrol vessel segment

BUSINESS AREAS

Platform manufacturer

- ▶ Military shipbuilding (combat ships, patrol vessels, auxiliary ships, etc.)
- ▶ Commercial shipbuilding (tugs, yachts, ferries, utility ships, etc.)
- ▶ Spare parts and components
- ▶ MRO, conversion and refit of commercial and military ships

GOVERNANCE

Chairman	Kommer Damen
Chief Executive Officer	Arnout Damen
Chief Financial Officer	Ronald Suhlmann

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	1 834	2 082	2 415	2 486
Δ (%)	16,67%	13,52%	15,99%	2,94%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	-289	-190	11	5
Operating margin	-15,76%	-9,13%	0,46%	0,20%
Net income	-287	-162	2	15
Order book	3 700	8 000	8 800	N/A
Employees	13 150	12 500	11 000	12 000

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Damen family	100%
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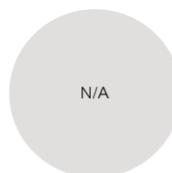
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Damen Shipyards Cape Town	70%	South Africa
Nakilat Damen Shipyards Qatar	30%	Qatar
Delta Marine Engineering	N/A	Belgium

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Blohm + Voss*	ASTIMAR 20**	PT PAL Indonesia	Meial Shark Boats	Irving Shipbuilding	Navantia	Hensoldt	Thales	OTO Melara***	Lockheed Martin	Caterpillar	Rolls-Royce
Combat ships												
F126 future multipurpose frigate (MKS 180 programme)	●						●	●	●	●		●
Future anti-submarine warfare frigate (Belgian and Dutch Navies)								●	●	●		
Sigma family of light frigates and corvettes		●	●					●	●			●
Patrol vessels												
OPV family of offshore patrol vessels								●	●			●
Stan Patrol family of patrol vessels			●	●								●
Interceptor family of fast attack craft												●
Fast Crew Supplier family												●
Amphibious support ships												
Enforcer family of landing platform docks (LPD)					●							
Stan Lander-class landing ship												●
Landing Ship Transport and Landing Ship Logistics families												●
Landing Craft Utility and Landing Craft Vehicle Personnel families												
Auxiliary ships												
Den Helder future replenishment oiler									●			
Karel Doorman multi-fonction support ship								●	●			●
Snellius-class hydrographic survey vessel											●	
Multi-Role Auxiliary Vessel family												
EGS and RGS submarine rescue vessels												

*Subsidiary of NVL Group, formerly Lürssen Defence **Subsidiary of the Mexican Astilleros de la Secretaria de Marina ***Subsidiary of Leonardo

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Damen revenues increased 2.9% year-on-year to €2,486m, despite a drop in ship deliveries in 2022 (over 100 units according to the group, compared with 143 in 2021).
- ▶ Damen carried out several deliveries in the military sector in 2022 (around 25% of revenues), including a LST-100 landing ship to the Nigerian Navy and the first of three patrol boats under the South African Navy's MMIPV (Multi-Mission Inshore Patrol Vessels) programme.
- ▶ Damen recorded a net profit of €15m in 2022 after reaching losses of €466m between 2018 and 2020. The group is facing difficulties in naval defence following the loss of several contracts, for example to supply 12 minehunters to the Belgian and Dutch Navies (awarded to Naval Group and Exail) and 4 Tamandaré-class frigates (awarded to tkMS and Embraer) in 2019, or to build 3 frigates for the Greek navy in 2022 (won by Naval Group).

Home market

- ▶ The group has been a key supplier to the Royal Netherlands Navy for its surface ship programmes since it took control of Royal Schelde (the former Royal Arsenal), renamed Damen Schelde Naval Shipbuilding, in 2000.
- ▶ Damen was awarded a contract in June 2023 for the supply of 4 anti-submarine warfare frigates to the Belgian and Dutch navies (two units each), to be delivered between 2028 and 2030. The ships will replace the Karel Doorman-class frigates currently in service and already built by Damen. The ASWF (Anti-Submarine Warfare Frigate) programme will involve a number of subcontractors, including RH Marine (decision support system), Thales (radars), OTO Melara (naval artillery) and Lockheed Martin (Mk 41 VLS vertical launch system).

Export markets

- ▶ Damen generates around 80% of its revenues from exports. Its extensive network of shipyards abroad (Poland, Romania, South Africa, United Arab Emirates, Qatar, Turkey, China, Vietnam, etc.) allows the group to win international tenders in both the civil and military sectors.
- ▶ Since 2020, Damen has been prime contractor for the German Navy's €5.5bn MKS 180 F126 multi-mission frigate programme, in partnership with Thales Nederland and Blohm + Voss (a subsidiary of NVL Group). Damen is designing the ships, which will be built in Germany by Blohm + Voss, with deliveries starting in 2027. Several players will be involved in the supply and/or integration of equipment: Thales (mission and combat systems), Hensoldt (radar), OTO Melara and Rheinmetall (naval guns), Lockheed Martin (Mk 41 VLS vertical launch system) and Rolls-Royce (propulsion systems).
- ▶ Damen was awarded two contracts in Sweden in the summer of 2022: one for the construction of four Stan Tug 1706 ICE ice-breaking tugs for the Navy and one for the development and supply of seven KBV 320 patrol boats to the coastguard.
- ▶ In September 2022, Damen signed a contract with Colombia's COTECMAR for the co-development of the Colombian Navy's future PES (Plataforma Estratégica de Superficie) frigates, based on Damen's Sigma 10514 light frigate. The Colombian Ministry of National Defence has a budget of \$2bn (€1.9bn) for this programme, and plans to acquire 5 ships for delivery in the 2030s.
- ▶ The Romanian General Inspectorate for Emergency Situations ordered two Stan Patrol 5009 multirole patrol vessels from Damen in October 2022, one in search and rescue configuration and one to fight fires on board another vessel or an offshore platform (Vision 2020 project).

DASSAULT AVIATION

Aerospace and defence group operating in military aviation (including the Rafale fighter jet) and business jets, 20th-largest defence company in the world

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Fighter aircraft
- ▶ Mission aircraft (maritime patrol, surveillance, etc.)
- ▶ Unmanned aircraft systems
- ▶ Pyrotechnics and space activities
- ▶ Business jets

GOVERNANCE

Chairman and CEO	Éric Trappier
Chief Operating Officer	Loïk Segalen
Senior Executive Vice President, International	Richard Lavaud
Executive Vice President, Military and Space Programmes	J.-M. Gasparini
Senior Executive Vice President, Military Customer Support	Bruno Chevalier

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	AM
Listed on	Euronext Paris
Market Cap (€m)	15 341

Major shareholders (as of 14.11.2023)

GIMD (Dassault family)	64,31%
Airbus	10,24%
T.Rowe Price International Ltd.	1,28%
DNCA Finance SA	1,10%

MAIN JOINT VENTURES AND ASSOCIATES

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

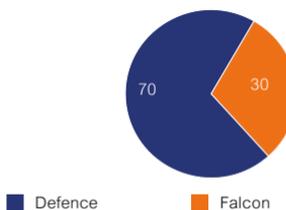
KEY FIGURES* (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	7 341	5 489	7 233	6 929
Δ (%)	44,39%	-25,23%	31,77%	-4,20%
Defence (%)	70%	59%	73%	70%
Export (%)	88%	89%	89%	82%
Operating profit/loss	765	261	527	572
Operating margin	10,42%	4,75%	7,29%	8,26%
Net income**	814	396	693	830
Order book	17 798	15 895	20 762	35 008
Employees	12 757	12 441	12 371	12 768

*Figures adjusted

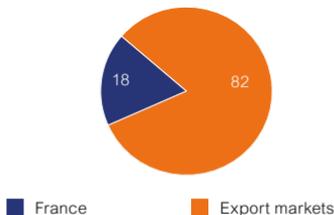
**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Figures adjusted

REVENUE BY REGION (%)*



*Figures adjusted

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Safran	Airbus	Indra	Sistemas	HAL**	Naval Group	L3Harris Technologies***	Leonardo	Pratt & Whitney****	Avio Aero*****	Rolls-Royce	Saab
Fighter aircraft													
NGWS (Next Generation Weapon System), including the future NGF fighter aircraft and its Remote Carrier	●	●	●	●									
Rafale fighter jet and MRO activities	●	●											
Mirage 2000	●	●			●								
Mission aircraft													
Future maritime and patrol reconnaissance aircraft (AVSIMAR programme)*	●												
Falcon 8X future intelligence aircraft, CUGE programme (Capacité Universelle de Guerre Electronique)	●								●				
Falcon 2000 multirole maritime aircraft	●	●					●		●				
Modernisation of the ATL2 maritime patrol aircraft	●				●								
Unmanned aircraft systems													
nEUROn UCAV demonstrator			●					●			●	●	
European MALE RPAS future UAV (Eurodrone programme)			●					●		●			

*Based on the Falcon 2000 LXS

**Hindustan Aeronautics Ltd

***Merger of L3 Technologies and Harris Corporation

****Raytheon Technologies group (merger of Raytheon and UTC)

*****Subsidiary of GE Aerospace (formerly GE Aviation)

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Dassault Aviation adjusted revenues reached €6,929m in 2022, down 4.2% year-on-year. The Defence division recorded lower sales, as fewer Rafale fighter jets were delivered (13 during the year, compared with 25 in 2021). On the other hand, Falcon aircraft deliveries increased (32 units compared with 30 in 2021).
- ▶ The group's order book stood at €35bn at the end of 2022, up 68.6% year-on-year. It mainly consisted of defence orders (87% in value) and included 164 new Rafales, of which 125 are to be delivered overseas and 39 to France (compared with 46 and 40 respectively at the end of 2021). In France, the order book also includes the RAVEL (Rafale), BALZAC (Mirage 2000) and OCEAN (ATL2) MRO contracts, the upgrading of the Rafale F3R to the F4.1 standard and phase 1B of the FCAS demonstrator.
- ▶ For 2023, Dassault Aviation expects a decrease in revenues, with limited deliveries (15 Rafales, mainly to France, and 35 Falcon jets).

Home market

- ▶ In December 2022, the DGA awarded Dassault Aviation, Airbus and Indra a contract worth €3.2bn over three and a half years for phase 1B of the FCAS programme (work on the FCAS demonstrator and its components). The first flight of a demonstrator is scheduled for 2030.
- ▶ The DGA also awarded Dassault Aviation a €10.9m contract in December 2022 to study the architecture of the future maritime patrol system (Patmar), based on its Falcon 10X, to replace the French Navy's 22 ATL2s by 2030. The group is in competition with Airbus on this programme.
- ▶ Dassault Aviation delivered the first Rafale upgraded to the F4.1 standard in March 2023. The aircraft incorporates a number of new features, including the integration of a helmet-mounted sight, a 1,000 kg weapons capacity and improved air-to-air/air-to-ground fire control systems and self-protection system.

Export markets

- ▶ Following an initial order for 6 Rafales in September 2022, the Indonesian Air Force ordered a second batch of 18 units in August 2023. This new order is part of the €8.1bn contract signed in February 2022 for the procurement of 42 aircraft, including crew training, logistical support, the delivery of a training centre with two mission simulators, and offsets. Deliveries will start in 2025.
- ▶ In July 2023, the Indian Defence Acquisition Council approved the procurement of 22 single-seat Rafale M (Navy) aircraft and 4 two-seat Rafale DH trainer aircraft for its Multi-Role Carrier Borne Fighters programme. The contender was Boeing's F/A-18E/F Super Hornet fighter aircraft.
- ▶ In addition to the orders received in recent years, the Dassault Group is working on other export opportunities for the Rafale fighter jet.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €572m in 2022, representing 8.3% of revenues.
- ▶ In February 2023, Dassault Aviation launched the EICACS European project dedicated to the standardisation of collaborative air combat. Supported by the European Defence Fund with a €75m funding, this programme brings together 37 manufacturers and research organisations from 11 European countries.



EMBRAER

Aerospace manufacturing group mainly present in civil and military aviation (attack, surveillance and transport aircraft), leading Brazilian defence company and 99th worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft (fighter aircraft, attack aircraft, transport aircraft, reconnaissance aircraft)
- ▶ Radar systems
- ▶ C4I systems
- ▶ Space
- ▶ Commercial aircraft (passenger aircraft, business jets)

GOVERNANCE

Chairman A. Gonçalves Silva

Chief Executive Officer F. Gomes Neto

President and CEO, Defense & Security J. B. da Costa Júnior

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	EMBR3, ERJ
Listed on	B3 (55%), NYSE (45%)
Market Cap (\$m)	2 945

Major shareholders (as of 14.11.2023)

BNDES Participações SA	5,37%
Banco Santander Brasil SA (Private Banking)	3,55%
Kapitalo Investimentos Ltda	2,30%
Nuveen Asset Management LLC	2,26%

MAIN JOINT VENTURES AND ASSOCIATES

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

KEY FIGURES (Fiscal year ended: December 31st)

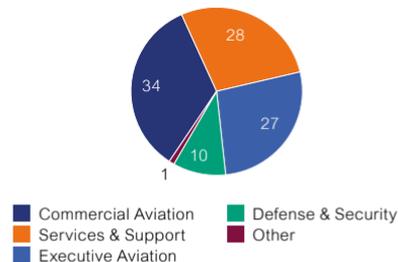
€ millions	2019	2020	2021	2022
Revenue	4 877	3 302	3 548	4 312
Δ (%) [\$]*	7,72%	-30,97%	11,30%	8,18%
Defence (%)**	11%	17%	14%	10%
Export (%)	89%	90%	89%	89%
Operating profit/loss	-69	-283	170	-105
Operating margin	-1,41%	-8,58%	4,80%	-2,43%
Net income***	-288	-641	-38	-176
Order book	14 920	11 706	15 039	16 390
Employees	18 734	15 658	16 067	17 263

*Variation based on revenue in U.S. dollars
See €/\$, p.7

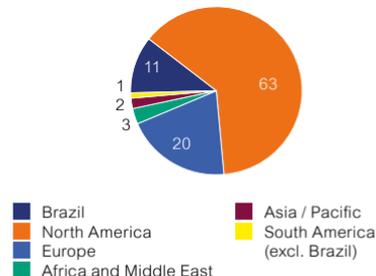
**Defence & Security division only

***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	AEL Sistemas*	Sierra Nevada Corp.	DRDO**	Teledas	Safran	BAE Systems	CTEX***	Thales	Alenia Space	Raytheon Technologies****	Elta Systems*****	IMMS*****	Leonardo	Saab	
Fighter aircraft																
F-39E/F (JAS 39 Gripen E/F) fighter aircraft		●														●
Light attack and trainer aircraft																
EMB 314 Super Tucano (A-29)		●	●							●						
A-4 Skyhawk modernisation programme	●															
A-1M (AMX) modernisation programme																●
AEW&C aircraft																
P600 future AEW&C aircraft											●					
EMB 145 AEW&C aircraft				●							●					●
Radar and C4ISR systems																
SABER-M60, SABER-M200 and SABER-S200 3D surveillance radars							●									
SISFRON integrated border monitoring system		●								●						●
Naval systems																
Tamandaré-class future guided-missile frigate (armament and electronic systems integration)						●	●					●				
Satellites																
SGDC Geostationary Defense and Strategic Communications Satellites				●				●								
Transport aircraft																
C-390 Millennium tactical transport aircraft	●	●				●	●			●						●

*Subsidiary of Elbit Systems **Defence Research and Development Organization (India) ***Centro Tecnológico do Exército (Brazil)
 ****Merger of Raytheon and UTC *****Subsidiary of Israel Aerospace Industries (IAI) *****thyssenkrupp Marine Systems, thyssenKrupp group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Embraer revenues grew 8.2% in U.S. dollars in 2022 to \$4,540m (€4,312m). Revenues in the Commercial Aviation division went up 13.4% thanks to higher deliveries of civil aircraft (57 aircraft delivered, compared with 48 in 2021). Revenues in the Executive Aviation division (business jets) also rose 10.1%. The Defense & Security division, which includes most of the group's defence activities (excluding, in particular, aeronautical maintenance and aerostructure production in Portugal), was the only one to record a decline in revenues in 2022 (-24.7%).
- ▶ Embraer recorded losses for the fifth year in a row in 2022 (€1.3bn in cumulative losses since 2018). The least profitable divisions are Defense & Security (with an operating margin of 2.2% of revenues in 2022) and Commercial Aviation (1.0%).
- ▶ At the LAAD Defence & Security exhibition in Rio de Janeiro (Brazil) in April 2023, Embraer and Saab confirmed their intent to integrate an avionics suite from Saab on Embraer's C-390 Millennium tactical airlifter to enable its sale to the Swedish Armed Forces. Other countries targeted by the group for the sale of the aircraft include Austria, the Netherlands, the Czech Republic, South Africa, Egypt, Rwanda, India and South Korea.

Home market

- ▶ Embraer is the main beneficiary of the major military programmes launched by the Brazilian government in the last decade (F-39 fighter aircraft, C-390 Millennium tactical transport aircraft, etc.). In fact, 54.8% of the Defense & Security division's revenues came from its domestic market in 2022.
- ▶ However, the Brazilian Air Force regularly resizes the scope of its acquisition programmes. After an initial reduction in February 2022 of its order for C-390 Millennium aircraft from 28 to 22 units, the Brazilian Air Force reached an agreement with Embraer in October 2022 for a further reduction to 19 units.
- ▶ In 2022, the group delivered a fifth C-390 Millennium aircraft and two modernised combat and training aircraft to the Brazilian Air Force, as well as two SABER-M60 2.0 air defence radars to the Brazilian Army. A sixth C-390 Millennium aircraft was handed over to the Brazilian Air Force in April 2023.
- ▶ Embraer and Saab inaugurated the F-39E fighter aircraft production line at the group's Gavião Peixoto plant in May 2023. The 15 locally assembled aircraft (out of a total of 36 aircraft ordered by Brazil) are scheduled for delivery from 2025 onwards.

Export markets

- ▶ The Defense & Security division generated 45.2% of its revenues from exports in 2022, a share that has decreased by 9.3 percentage points since 2020. This downward trend follows the termination in 2020 of the U.S. Air Force's Light Air Support programme, under which EMB 314 Super Tucano light attack aircraft were ordered for allied countries of the United States.
- ▶ In October 2022, Embraer delivered to the Portuguese Air Force the first of the five C-390 Millennium tactical transport aircraft ordered in 2019.
- ▶ In October 2023, the Czech Republic selected Embraer's KC-390 Millennium tanker/transport aircraft and entered into negotiations for the procurement of two aircraft.

Technology and Innovation

- ▶ In April 2023, Embraer unveiled a version of its EMB 314 Super Tucano light attack and trainer aircraft meeting NATO's operational requirements. The aircraft would be assembled in Portugal by the group's subsidiary OGMA and include a new data link system, a one-person control system and the ability to carry out JTAC (Joint Terminal Attack Controller) training missions. This version is named A-29N and is aimed specifically at the European market.

EURENCO

European leader in military explosives, powders and combustible objects, and a major partner of European ammunition providers and systems integrators

BUSINESS AREAS

Explosives and subsystems supplier

- ▶ Explosives
- ▶ Powders (single and multi-base, low vulnerability, spherical)
- ▶ Combustible objects (modular propellant charges, rounds, nitrofilm)
- ▶ Additives (EHN, for fuel)

GOVERNANCE

Chairman and CEO

Thierry Francou

Deputy CEO

Suzanne
Kucharekova Milko

Chief Financial Officer

Bruce lehl

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group

Market Cap

Major shareholders (as of 14.11.2023)

SNPE (French State)

100%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Eurenco Bofors	100%	Sweden
PB Clermont	100%	Belgium

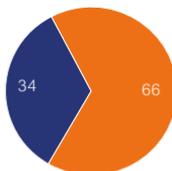
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	234	215	274	302
Δ (%)	-2,50%	-8,12%	27,44%	10,22%
Defence (%)	N/A	N/A	≈ 66%	≈ 66%
Export (%)	N/A	N/A	≈ 66%	≈ 66%
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	N/A	N/A	22	N/A
Order book	N/A	N/A	N/A	N/A
Employees	N/A	N/A	1 200	1 100

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



■ France / Sweden / Belgium ■ Export markets

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	KNDS France	MSM Group*	Expal**	MBDA	Naval Group	Rheinmetall	Thales LAS
Explosives							
High-performance explosives (for melt-cast, compressed and composite charges, priming relays, etc.)	●					●	●
Composite explosive charges for insensitive munitions (warheads, bombs, shells and underwater mines)	●		●	●	●		
Base drag reduction blocks for extended-range artillery ammunition	●						
Powders							
Single and multi-base powders (for reloading, military ammunition of all calibres, mortar increments, anti-tank missiles, etc.)	●						●
Spherical powders for small calibre military ammunition							
Combustible objects							
Modular propellant charges for artillery ammunition	●	●	●				
Combustible cases and rounds for tank and artillery ammunition	●						
Nitrofilm for mortar increments							●

*Subsidiary of Czechoslovak Group

**Subsidiary of Rheinmetall

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Eurenco revenues increased 10.2% in 2022, to €302m. The group benefited from international geopolitical instability, particularly with the war in Ukraine. Eurenco aims for €400m sales in 2023 and €500m by 2025.
- ▶ After relaunching nitrocellulose production in spring 2023, Eurenco, through its Pourpre project, announced a self-financed investment of €50m to increase the group's production capacity for propellant powders for large-calibre ammunition. This activity, currently carried out at its Swedish plant in Karlskoga, will be supplemented by a new production line at its Bergerac site in southwestern France. Due for 2025, it will allow the group to produce between 500,000 and 800,000 modular charges a year by 2026, mainly for 155 mm shells. Eurenco will also invest €200m over the 2020-2025 period at its Sorgues site (France) to double its production capacity, particularly for hexogen, and at its Clermont site (Belgium) for propellant powder by 2026.
- ▶ Eurenco is facing pressure on its raw materials supplies, particularly nitric acid (an unstable chemical compound that cannot be stored for more than a week). Faced with these difficulties, the group is relocating many of its suppliers in France and developing new production processes. At the end of 2021, 90% of Eurenco's suppliers (out of a total of more than 2,000) were based in France, Belgium and Sweden.

Home market

- ▶ Around a third of the group's revenues are generated in its home market. For instance, it supplies modular charges for the 155 mm artillery systems of KNDS France, as well as explosive charges for the F21 heavy torpedo (Naval Group) and the ANL / Sea Venom light anti-ship missile (MBDA, Franco-British programme).
- ▶ In 2022, Eurenco completed the delivery of 70,000 modular artillery charges to KNDS France, to equip 155 mm CAESAR truck-mounted artillery systems.

Export markets

- ▶ Exports account for about two-thirds of the group's revenues. Its main customers include Rheinmetall, Czechoslovak Group, BAE Systems and Saab.
- ▶ Eurenco, in partnership with USA - Days & Zimmermann (D&Z), was selected by the U.S. Department of Defense (DoD) to supply and operate a modular load case production facility, with the DoD awarding D&Z a contract worth nearly \$1bn (€936m) in October 2023. This contract aims to create a dual-source facility in the United States to produce an additional 1,500,000 boxes a year, at a plant that will be operational by the end of 2024.

Technology and Innovation

- ▶ Eurenco relies on a vast network of partners (laboratories, universities, public and private research centres) around the world to develop new innovative solutions: explosives and powders with improved performance, less toxic 'green' powders, smaller and lighter explosives for drones, products and processes for civil and military applications, etc.
- ▶ In June 2022, Eurenco was selected by Expal, Rheinmetall's Spanish subsidiary, to supply a new modular charge for a 155 mm artillery system. This charge used 3D printing of energetic materials for the first time, and was produced on a robotised line dedicated to very high-volume production.
- ▶ In June 2022, Eurenco signed a partnership agreement with French aerospace equipment manufacturer Aresia in the field of high-powered aviation bombs. This alliance means that the French Ministry of Armed Forces will have a single point of contact in this area, and strengthens both players in their export negotiations.

EXAIL TECHNOLOGIES (FORMERLY GROUPE GORGÉ)

High-tech industrial group mainly active in navigation systems and civil and military robotics. Exail was formed by ECA Group and iXblue joining forces in 2022.

BUSINESS AREAS

Systems integrator and cutting-edge equipment supplier

- ▶ Unmanned systems (USVs, AUVs, UGVs, UAVs)
- ▶ Mine warfare systems
- ▶ Navigation and positioning systems
- ▶ Onboard sensors (sonars)
- ▶ Onboard equipment for naval platforms
- ▶ Photonic components and quantum instruments

GOVERNANCE

Chairman and CEO Raphaël Gorgé

Deputy CEO - Finances Loïc Le Berre

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	EXA
Listed on	Euronext Paris
Market Cap (€m)	287

Major shareholders (as of 14.11.2023)

Gorgé family*	43,83%
Quaero Capital SA	2,71%
Amundi Asset Management SA (IM)	2,54%
Invesco Advisers, Inc.	2,36%

*Voting rights : 60,72%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Exail Holding*	62%	France

*Control : 86%

KEY FIGURES (Fiscal year ended: December 31st)

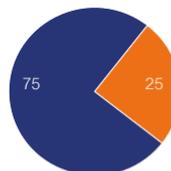
€ millions	2019	2020	2021*	2022**
Revenue	-	-	116	280
Δ (%)	-	-	-	141,38%
Defence (%)	-	-	N/A	51%
Export (%)	-	-	59%	66%
Operating profit/loss	-	-	13	37
Operating margin	-	-	10,79%	13,03%
Net income***	-	-	46	3
Order book	-	-	490	634
Employees	-	-	767	1 636

*Figures restated and adjusted for contributions from former subsidiaries

**2022 pro forma figures (with iXblue accounted for over 12 months)

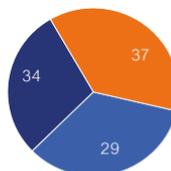
***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



Navigation and Maritime robotics Advanced technologies

REVENUE BY REGION (%)



France Rest of the World
Europe (excl. France)

EXAIL TECHNOLOGIES (FORMERLY GROUPE GORGÉ)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

		Mauric	Naval Group	HMMS*
Unmanned systems				
	Inspector 90, 120 and 125 USVs	●	●	
	DriX USV			
	Iguana E UGV			
	IT180 family of mini-UAVs			
Mine warfare systems				
	UMIS (Unmanned MCM Integrated System)			
	A18-M mine detection AUJ		●	
	K-STER C underwater mine identification and disposal system		●	
Navigation systems				
	Marins and Phins inertial navigation systems for naval platforms		●	●
	Quadrans and Octans gyrocompasses			
	Netans Navigation Data Distribution System (NDDS)		●	
Onboard sensors				
	T18-M towed sonar		●	
	SeapiX-FLS mine and obstacle avoidance sonars			
	GAPS underwater acoustic positioning systems			
Onboard equipment for naval platforms				
	Auxiliary propulsion systems, magnetic and acoustic signature management systems, etc.			
Components and photonics				
	Special optical fibers			
	Quantum instruments			

* thyssenkrupp Marine Systems, thyssenkrupp group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ In Q4 2022, Groupe Gorgé completed the acquisition of iXblue and the simplification of the rest of the group's activities. Created by the combination of iXblue and ECA Group, the new company Exail is a major player in the French DTIB, with over 1,600 employees. It ranks among the world's leaders in the following fields: maritime autonomous robotic systems; very high performance inertial navigation solutions; photonic, quantum and space solutions.
- ▶ Groupe Gorgé changed its name to Exail Technologies to reflect the completion of its transformation. In its new scope, the group reached revenues of €280m sales in 2022.

Home market

- ▶ Exail produced UUVs (unmanned underwater vehicles) for the Franco-British MMCM (Maritime Mine Counter Measure) mine warfare system, with the first prototype delivered in 2021.
- ▶ In September 2022, TechnicAtome selected ECA Group to supply electrical systems for the French Navy's SNLE 3G programme (third generation nuclear-powered ballistic missile submarines).
- ▶ Exail signed two contracts in January 2023, one with the DGA for the supply of a Full Flight Simulator to train E-3FAWACS aircraft crews, and the other with an unspecified European navy for the supply of five R7 ROVs (remotely operated underwater vehicles) and five M7 GAPS acoustic positioning systems in 2023. These two contracts amounted to about €20m.
- ▶ Exail Technologies is part of the QKISS project, launched in January 2023, to develop European quantum cryptographic communication systems.
- ▶ In the quantum field, Exail won several orders to supply photonic components to French champion PASQAL, which is developing a quantum computer.

Export markets

- ▶ Exail Technologies generated 66% of its revenues from exports in 2022, and has customers in 80 countries.
- ▶ Exail Technologies is positioned on several major defence contracts, in particular since 2019 alongside Naval Group (Belgium Naval & Robotics consortium) for the design, construction and maintenance of 12 mine warfare vessels (produced by Naval group) equipped with mine-clearing drones (produced by ECA group) for the Belgian and Dutch navies. Exail's share of this contract amounts to €500m over 10 years, out of a total value of €2.1bn.
- ▶ Exail also equips many submarines with inertial units and steering consoles. The group is a partner of the U.S. NOAA and France's IFREMER in ocean exploration.
- ▶ Exail's DriX USV (unmanned surface vehicle) was very successful in terms of exports in 2023, with the group winning four new orders during the year for survey applications. Exail also forged a partnership with the University of New Hampshire (UNH), recognised as an international leader in ocean mapping. The DriX USV also took part in two large-scale military exercises organised by the U.S. Navy: Digital Horizon 22 (Bahrain) and IMX 23 (Bahrain and Jordan).
- ▶ In May 2023, the group signed a €2.1m contract with the U.S. Coast Guard to supply navigation systems, including Octans gyrocompasses and Netans navigation data distribution systems.
- ▶ In October 2023, Exail Technologies was awarded four orders for navigation systems worth a total of almost €10m from three European navies and one Asian navy. The group will in particular deliver inertial units (including the Marins model) over the 2023-2024 period.

Technology and Innovation

- ▶ The group's R&D expenditure reached €52m in 2022, representing 19% of revenues (pro forma figures).



FINCANTIERI

Among the leading European players in naval defence and world's main cruise shipbuilding group, 48th-largest defence company worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military vessels and commercial ships
- ▶ Naval systems (propulsion systems, platform systems)
- ▶ Offshore (drilling units, offshore support vessels)
- ▶ MRO, modernisation and services

GOVERNANCE

Chairman	Claudio Graziano
Chief Executive Officer	Pierroberto Folgiero
General Manager Naval Vessels	Dario Deste

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	5 849	5 879	6 911	7 482
Δ (%)	7,99%	0,51%	17,55%	8,26%
Defence (%)*	23%	21%	23%	22%
Export (%)	82%	87%	87%	87%
Operating profit/loss	153	148	289	-10
Operating margin	2,62%	2,52%	4,18%	-0,13%
Net income**	-141	-240	22	-309
Order book	28 590	27 781	25 819	23 826
Employees	19 823	20 150	20 774	20 798

*Naval vessels revenue, 2020 figure restated

**Net income attributable to shareholders

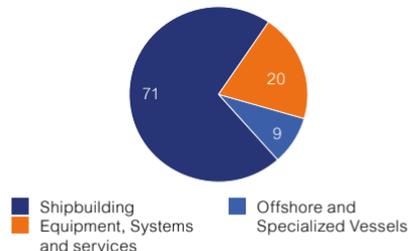
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	FCT
Listed on	Borsa Italiana
Market Cap (€m)	918

Major shareholders (as of 14.11.2023)

Italian State	71,32%
The Vanguard Group, Inc.	0,85%
Norges Bank Investment Management	0,41%
Self-owned	0,29%

REVENUE BY BUSINESS SEGMENT (%)*

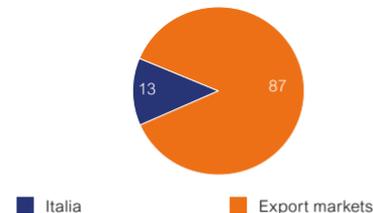


*Excluding revenue from Other activities division

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Vard Holdings	98,37%	Singapore
Marinette Marine	87,44%	United States
Centro per gli Studi di Tecnica Navale Cetena	86,10%	Italia
Orizzonte Sistemi Navali	51%	Italia
Naviris	50%	Italia
Etihad Ship Building	35%	UAE

REVENUE BY REGION (%)



FINCANTIERI

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	tkMS***	MAN	Leonardo	Gibbs & Cox****	Lockheed Martin	Naval Group	Chantiers de l'Atlantique	GE Aerospace*****	Rolls-Royce	MTU Aero Engines	LMG Marin	Electronica	Wartsila
Surface ships													
Trieste Landing Helicopter Dock (LHD)		●	●					●				●	
Cavour aircraft carrier			●				●				●	●	
San Giorgio-class/BDSL Landing Platform Dock (LPD)			●								●	●	
Constellation-class future guided-missile frigate (FFG-62 programme)				●	●		●						
FREMM Bergamini-class multipurpose frigate			●			●	●				●		
Multi-Mission Surface Combatant (MMSC) future light frigate*				●	●								
Freedom-class LCS frigate				●	●			●					
Doha-class guided-missile corvette			●										
Thaon di Revel-class multipurpose offshore patrol vessel (PPA)		●	●				●		●			●	
Jan Mayen-class coastguard vessel											●		
Vulcano-class Logistic Support Ship		●	●									●	
BRF logistic support and refuelling ship (FlotLog programme)**						●	●						
Submarine													
Todaro-class U212 NFS conventionally-powered attack submarine (under tkMS licence)	●		●						●				
Propulsion and guidance systems													
Diesel engines for ships and military vehicles													
Naval steam turbines			●										
Shaft lines and propellers													
Rudder roll governance and fin stabilizers													
MRO and modernisation services													
Horizon-class air defence frigates mid-life upgrade						●							

*Based on Freedom-class LCS frigate **Based on Italian Navy's Vulcano-class LSS ***thyssenkrupp Marine Systems, thyssenkrupp group
 ****Subsidiary of Leidos *****Formerly GE Aviation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Fincantieri revenues increased 8.3% in 2022, to €7,482m. Revenues of the Shipbuilding division grew 4.5% year-on-year thanks to the solid growth recorded both in naval vessels (+7.3%) and civil ships (+3.3%). However, the group returned to a loss-making position, due to rising raw materials and energy costs and difficulties in the infrastructure segment.
- ▶ Defence revenues reached €1,855m in 2022 (before intra-group eliminations). During the year, Fincantieri delivered in particular six naval vessels (two Thaon di Revel-class multipurpose OPVs to the Italian Navy, two Doha-class corvettes and two Musherib-class offshore patrol vessels to the Qatari Emiri Navy).

Home market

- ▶ With nine shipyards and over 10,900 employees in Italy, Fincantieri is the prime contractor for the Italian Navy's main programmes (surface ships, special vessels, submarines under German licence, naval systems, etc.). However, the group generates a small share of its sales on its domestic market (less than 14% in 2022).
- ▶ In June 2023, Fincantieri launched the construction of the second Vulcano-class refuelling tanker (LSS) for the Italian Navy at the Castellammare di Stabia shipyard. Delivery is scheduled for 2025.
- ▶ OCCAR awarded a €1.5bn contract to Naviris (a joint venture between Naval Group and Fincantieri) and Eurosam (a consortium comprising Thales and MBDA) in July 2023 for the mid-life upgrade of the Horizon-class frigates with the French and Italian Navies (two units each). This contract mainly covers the installation of the new Principal Anti Air Missile System (PAAMS) and a long-range AESA radar.
- ▶ In July 2023, Orizzonte Sistemi Navali (a joint venture between Fincantieri and Leonardo) signed a €925m contract with the Italian Navy (of which €540m for Fincantieri), for the construction of three new-generation offshore patrol vessels. The contract includes an option for three additional units.

Export markets

- ▶ Export sales accounted for around 86% of the group's revenues in 2022. Through its subsidiaries Marinette Marine and Vard, Fincantieri is well positioned in the United States and the Nordic countries.
- ▶ In December 2022, Fincantieri laid the keel of the French Navy's second BRF (logistic support and refuelling ship, FlotLog programme) forward section at the Castellammare di Stabia shipyard. The group is taking part in the production of the four BRFs, with Chantiers de l'Atlantique being in charge of final construction.
- ▶ The twelfth Freedom-class LCS frigate, named Cooperstown (LCS-23) and built by Marinette Marine in partnership with Lockheed Martin, entered into service with the U.S. Navy in May 2023.
- ▶ As part of the FFG-62 programme, Marinette Marine signed a contract worth \$526m (€490m) in May 2023 with the U.S. Navy for the construction of the fourth of ten Constellation-class guided-missile frigates. Delivery of the ship (FFG-65, named Lafayette) is scheduled for 2026.
- ▶ In May 2023, Fincantieri handed over the fourth and last Doha-class corvette ordered in 2016, named Sumaysimah, to the Qatari Emiri Navy.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to €158m in 2022, representing 2.1% of revenues.
- ▶ At the NAVDEX exhibition in Abu Dhabi (United Arab Emirates) in February 2023, Fincantieri presented a new small submarine concept, the S800. With a length of 51 m, this submarine is powered by diesel-electric propulsion with an AIP (air-independent propulsion) system. The group plans to offer it to Pakistan and other countries in the Middle East.



GE AEROSPACE (FORMERLY GE AVIATION)

One of the world's leading manufacturers of engines for civil and military aircraft and ships, 25th-largest defence contractor, and parent company of Italian engine manufacturer Avio Aero

BUSINESS AREAS

Engine manufacturer, systems integrator/
equipment supplier

- ▶ Propulsion systems (fighter aircraft, transport aircraft, helicopter and UAV engines, gas turbines)
- ▶ Aircraft systems and equipment (avionics, structures)
- ▶ Support services and maintenance solutions

GOVERNANCE

Chief Executive Officer	H. Lawrence Culp
President and CEO, Defense & Systems	Amy Gowder
CEO, Avio Aero	Riccardo Procacci

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	29 353	19 301	18 014	24 739
Δ (%) [\$/]*	7,55%	-32,95%	-3,32%	22,24%
Defence (%)**	13%	21%	19%	17%
Export (%)	59%	49%	55%	59%
Operating profit/loss	6 082	1 076	2 436	4 535
Operating margin	20,72%	5,58%	13,52%	18,33%
Net income	N/A	N/A	N/A	N/A
Order book	243 317	212 235	267 821	330 485
Employees	52 000	40 000	40 000	45 000

*Variation based on revenue in local currency

See €/\$, p.7

**Military division only

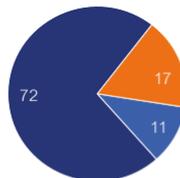
OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted subsidiary
Market Cap	

Major shareholders (as of 14.11.2023)

General Electric		100%
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REVENUE BY BUSINESS SEGMENT (%)

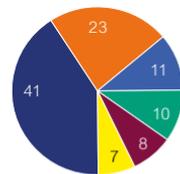


- Commercial Engines & Services
- Military
- Systems & Other

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Advanced Ceramic Coatings	50%	United States
TUSAS Engine Industries	46,2%	Turkey
NGS Advanced Fibers	25%	Japan

REVENUE BY REGION (%)



- United States
- Europe
- Asia (excl. China)
- Africa and Middle East
- China
- Americas (excl. United States)

GE AEROSPACE (FORMERLY GE AVIATION)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Hanwha Aerospace*	Safran	MTU Aero Engines	IHI Corporation	ITP Aero	GKN Aerospace	TransCanada Turbines	Leonardo DRS**	StandardAero	TAE Aerospace	Navamnia	HAL***	TEI****
Aircraft engines													
F404 (F/A-18C/D Hornet, T-50, T-7A Red Hawk, JAS-39 Gripen C/D)	●				●			●					
F414 (F/A-18E/F, EA-18G, JAS-39 Gripen E/F, Tejas Mk II, KF-21)		●		●	●			●			●		
F108/CFM56-7B (737 AEW&C, P-8A Poseidon)		●											
F110 (F-16C/D, F-16E/F, F-15, F-15EX)	●		●	●	●			●					
F138/CF6 (C-5M, KC-10, B767 AWACS, A310 MRTT)		●											
Helicopter engines													
T901 future turboshaft engine (AH-64, UH-60)													
T408 (formerly GE38) (CH-53K)			●										
T700/CT7 (UH-60, AH-64, NH90, Surion)	●			●	●								
UAS propulsion system													
Catalyst engine (European MALE RPAS)													
Gas turbines													
GE LM2500 (FREMM, Arleigh Burke, Cavour, Vikrant, Independence, Constellation)	●		●	●	●	●	●	●			●	●	●
GE LM500 (PKX-A, PKX-B, 24DDH, 22DDH)	●			●									
Systems and aerostructures													
Landing gear systems (X-47B, T-38)													
Pylons (P-8A Poseidon)													
External fuel tanks (F/A-18, Eurofighter Typhoon)													
Refuelling probes (A400M Atlas)													
Propeller systems (C-27J, C-130J, US-2, Saab 2000)													

*Hanwha group **U.S. subsidiary of Leonardo ***Hindustan Aeronautics Ltd ****TUSAS Engine Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ The largest division of U.S. conglomerate General Electric (GE), GE Aerospace is the world's leading supplier of engines for commercial aircraft (through CFM International, its joint venture with Safran) and is one of the world's top three engine manufacturers for military aircraft, alongside Rolls-Royce and Pratt & Whitney.
- ▶ After two years of decline, GE Aerospace revenues grew 22.2% in 2022 (year-on-year, in local currency), to \$26.1bn (€24.7bn). The division benefited from the uptick in air traffic and orders from aircraft manufacturers. As a result, 1,663 civil engines and 632 military engines were delivered during the year, compared with 1,487 and 553 units respectively in 2021.
- ▶ In May 2023, GE Aerospace announced the opening of a new production site in the United States, in the Dayton region (Ohio), dedicated to the manufacture of engine components for civil and military aeronautics.
- ▶ GE Aerospace and Hindustan Aeronautics Ltd (HAL) partnered in June 2023 to produce engines for the Indian Air Force's Tejas Mk2 LCA fighter aircraft. Pending U.S. government approval, the F414 engines will be partly produced in India.

Home market

- ▶ GE Aerospace generated 41% of its sales in the United States in 2022.
- ▶ In March 2023, the U.S. Air Force announced the cancellation of the Adaptive Engine Transition Program (AETP) aimed at developing a future turbojet engine for the F-35 fighter, in favour of upgrading the current F135 turbojet engine supplied by Pratt & Whitney. GE Aerospace still hopes that the programme will be maintained (at least in part), thanks to additional funding from the U.S. Congress.
- ▶ In April 2023, Lockheed Martin awarded GE Aerospace a four-year contract to provide maintenance and logistics support for the F-35 fighter jet's avionics and electrical systems worldwide.
- ▶ GE Aerospace was awarded a \$684m (€656m) contract in April 2023 to supply T408 engines to power the U.S. Marine Corps' CH-53K King Stallion (Sikorsky) heavy-lift helicopters.
- ▶ GE Aerospace was selected by Bell (a division of Textron) in September 2023 to develop equipment for the future V-280 Valor helicopter, selected in December 2022 for the U.S. Army's FLRAA (Future Long-Range Assault Aircraft) programme. Development work will focus on a voice and flight data recorder and a Health Awareness System to monitor the aircraft's performance.

Export markets

- ▶ Most of GE Aerospace's export sales relate to civil engines, mainly in Europe and Asia. European subsidiaries include Italian aerospace company Avio Aero and British engineering company Dowty Propellers.
- ▶ In October 2022, the Polish government ordered 64 CT7-2E1 turboshaft engines and spare engines to power the 32 AW149 military helicopters (Leonardo) to be delivered from 2023.
- ▶ In March 2023, the South Korean Navy selected LM500 gas turbines to power its first four PKX-B Batch II fast patrol boats (18 ships planned, after the 16 units in the first batch, each equipped with two turbines). GE Aerospace was also chosen by Korea Aerospace Industries (KAI) in June 2023 to supply the Health and Usage Monitoring System (HUMS) for the Korean Marine Attack Helicopter (KMAH).
- ▶ GE Aerospace was selected in July 2023 to supply LM2500 gas turbines for three of the Turkish Navy's Istanbul-class frigates (TCG Izmir, Içel and Izmit). The division also signed a licence agreement with TUSAS Engine Industries for the maintenance of LM2500 turbines in Turkey.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$806m (€765m) in 2022, representing 3.1% of revenues.



GENERAL ATOMICS

American family-owned group, a leading player in the military UAV market (MQ-9, MQ-1C, MQ-9B), operating in the defence and space sectors, and 56th defence contractor*

*SIPRI rankings (2022 data)

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft (unmanned aircraft systems, utility aircraft, MRO)
- ▶ UAS payloads
- ▶ Naval systems
- ▶ Weapon systems
- ▶ Satellite and space systems
- ▶ Nuclear engineering (fusion and fission technologies)

GOVERNANCE

Chairman and CEO	James N. Blue
CEO, General Atomics Aeronautical Systems Inc.	Linden P. Blue
CEO, General Atomics Electromagnetic Systems	Scott Forney

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Blue family	100%
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MAIN JOINT VENTURES AND ASSOCIATES

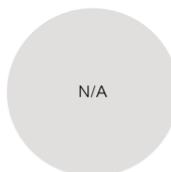
Name	%	Country
ConverDyn	50%	United States
TRIGA International	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

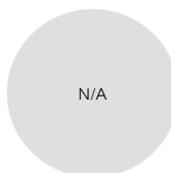
€ millions	2019	2020	2021	2022
Revenue	≈ 2 979	N/A	≈ 2 649	≈ 2 985
Δ (%) / [\$]*	N/A	N/A	N/A	N/A
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	15 000	15 000	15 000	15 000

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

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



GENERAL ATOMICS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Leonardo	BAE Systems	L3harris Technologies*	Lockheed Martin	Northrop Grumman	Raytheon Technologies**	Honeywell	GKN Aerospace	Potez Aéronautique	General Dynamics	Hill***	QinetiQ
Military aircraft												
MQ-20 Avenger / Predator C UCAV			●	●								
MQ-9A Reaper / Predator B UCAV	●	●		●	●	●						
MQ-9B SkyGuardian and SeaGuardian ISTAR MALE UAVs	●			●	●	●						
MQ-1C Gray Eagle and Gray Eagle Extended Range (GE-ER) MALE UAVs		●	●	●	●							
Mojave future reconnaissance and close support STOL UAV												
Dornier 228 NXT utility aircraft								●				
UAS payloads												
Eagle Eye and Lynx multi-mode radars												
Due Regard collision avoidance radar												
Naval systems												
Electromagnetic Aircraft Launch System (EMALS)										●	●	
Advanced Arresting Gear (AAG)										●	●	
Virginia Payload Tubes (VPT)									●	●		
Weapon systems												
High Energy Liquid Laser Area Defense System (HELLADS)			●									
Hypersonic missiles components												
Power systems												
Lithium-ion Fault Tolerant (LiFT) battery systems			●									

*Merger of L3 Technologies and Harris Corporation **Merger of Raytheon and UTC ***Huntington Ingalls Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ A privately held company, wholly owned by the Blue family, General Atomics posted revenues of around \$3.1bn (€3.0bn) in 2022. During the year, the group completed deliveries of the four MQ-9A Reaper Block 5 ISR UAVs and their ground control stations ordered in 2018 by the Royal Netherlands Air Force.
- ▶ General Atomics teamed up with French equipment manufacturer Potez Aéronautique in May 2023 to produce fuselage sections and basic parts for the Dornier 228 NXT multipurpose aircraft. Some five aircraft a year will be assembled in Germany by the group, with the first aircraft leaving the factory in 2024.
- ▶ In September 2023, General Atomics acquired U.S. company EO Vista, which specialises in the development of optronic payloads for aircraft and space systems.

Home market

- ▶ A key supplier to the U.S. government, General Atomics notably supplied MQ-1C Gray Eagle MALE UAVs to the U.S. Army until December 2023. However, U.S. drone requirements are changing and the U.S. Air Force may stop purchases of MQ-9A Reaper UAVs in the near future, as they may no longer be suitable against new threats.
- ▶ The group is also involved in the U.S. Navy's Gerald R. Ford-class aircraft carrier programme as a supplier of EMALS (Electromagnetic Aircraft Launch System) and AAG (Advanced Arresting Gear) systems. Both systems are in service on the first unit of the class (CVN-78) and are being installed on the next three sisterships (CVN-79, CVN-80 and CVN-81).
- ▶ The U.S. Air Force Special Operations Command (AFSOC) ordered three MQ-9B SkyGuardian UAVs from General Atomics in March 2023, the first contract won by the group for this UAV in its domestic market.
- ▶ In April 2023, General Atomics delivered the first MQ-9A Reaper Extended Range UCAV to the U.S. Marine Corps for training purposes under the Agile Reaper Enterprise Solution (ARES) contract. Eight units were ordered in July 2022.
- ▶ The group was awarded a contract by General Dynamics in May 2023 to produce Virginia Payload Tubes (VPTs) for the Block IV Virginia-class nuclear-powered attack submarines currently being built by General Dynamics and HII. Each submarine will be equipped with two VPTs, each capable of firing six Tomahawk missiles.

Export markets

- ▶ The group's export strategy is constrained by the U.S. Administration's ITAR regulations and Missile Technology Control Regime (MTCR). Most sales are made under the FMS (Foreign Military Sales) programme and mainly on the basis of unarmed offers. Western European countries (Spain, France, Italy, the Netherlands and the United Kingdom) are among the target markets for General Atomics.
- ▶ The U.S. Department of Defense awarded General Atomics a \$218m (€203m) contract in May 2023 to supply Taiwan, under the FMS programme, with four MQ-9B SeaGuardian ISTAR MALE UAVs, two ground control stations and spare parts by May 2025.
- ▶ In August 2023, the Royal Netherlands Air Force ordered four armed MQ-9A Reaper Block 5 UCAVs and three additional ground control stations from General Atomics under the FMS programme, to be delivered in 2025-2026.

Technology and Innovation

- ▶ In January 2023, General Atomics' Eaglet light airborne ISR UAV made its maiden flight. It was launched from an MQ-1C Gray Eagle Extended Range UAV.
- ▶ In April 2023, the group carried out a flight demonstration of its MQ-20 Avenger UCAV, demonstrating collaboration between human and Artificial Intelligence pilots.



GENERAL DYNAMICS

Diversified defence group (naval platforms, armoured vehicles, weapon systems, C5ISR, etc.) with commercial aerospace activities, and sixth-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military vessels and commercial ships
- ▶ Armoured vehicles
- ▶ Weapon systems and ammunition
- ▶ Mission systems and C5ISR
- ▶ IT solutions and cybersecurity
- ▶ Aeronautics (Gulfstream multimissions jets)

GOVERNANCE

Chairwoman and CEO	Phebe N. Novakovic
Executive VP Combat Systems	Mark C. Roualet
Executive VP Marine Systems	Robert E. Smith

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	35 134	33 209	32 518	37 424
Δ (%) [\$]*	8,72%	-3,62%	1,43%	2,44%
Defence (%)	62%	66%	67%	67%
Export (%)**	19%	18%	18%	15%
Operating profit/loss	4 080	3 619	3 519	3 999
Operating margin	11,61%	10,90%	10,82%	10,69%
Net income	3 111	2 773	2 753	3 219
Order book	77 422	72 933	77 312	85 414
Employees	102 900	100 700	103 100	106 500

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

**Excluding Foreign Military Sales

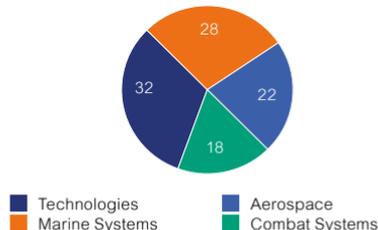
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	GD
Listed on	NYSE
Market Cap (\$m)	67 190

Major shareholders (as of 14.11.2023)

Longview Asset Management LLC	10,37%
The Vanguard Group, Inc.	7,71%
Newport Trust Co.	5,97%
Wellington Management Co. LLP	4,59%

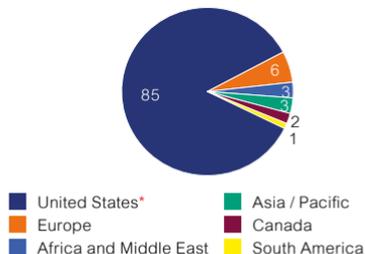
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
General Dynamics Mission Systems-Gulf	60%	Oman
Defense Munitions International	50%	United States
GR Dynamics	50%	United States
Range Generation Next	50%	United States
EuroTrophy	N/A	Germany

REVENUE BY REGION (%)



*Including Foreign Military Sales

GENERAL DYNAMICS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Rafael	Thales	Hill***	Northrop Grumman	Raytheon Technologies****	Lockheed Martin	L3Harris Technologies****	Honeywell	BAE Systems	Leonardo	Austal USA	IAI*****
Surface ships												
Arleigh Burke-class destroyer		●		●	●				●			
John Lewis-class replenishment oiler												
Submarines												
Columbia-class future nuclear-powered ballistic missile submarine (SSBN)		●	●									
Virginia-class nuclear-powered attack submarine (SSN)		●	●					●				
Armoured vehicles												
M1A2 Abrams main battle tank	●							●		●		
M10 Booker future assault gun (Mobile Protected Firepower programme)												
ASCOD family of tracked armoured vehicles		●		●	●							
Piranha family of wheeled armoured vehicles												
8x8 LAV family of armoured vehicles*				●								
8x8 Stryker family of armoured vehicles**				●	●					●		
Weapon systems and ammunition												
SAMSON remote controlled weapon station	●											
70 mm Hydra-70 family of rockets												
Mission systems and C5ISR												
Open architecture computing infrastructure (OPEN CI) (Independence-class LCS frigate)											●	
Bowman C4I system and Morpheus future system				●	●			●	●			
Warfighter Information Network-Tactical (WIN-T)				●	●	●		●				
Aeronautics												
Gulfstream multimission jets												●

*Canadian version of the Piranha **American version of the LAV ****Huntington Ingalls Industries *****Merger of Raytheon and UTC
 *****Merger of L3 Technologies and Harris Corporation *****Israel Aerospace Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ General Dynamics revenues reached \$39.4bn (€37.4bn) in 2022, up 2.4% year-on-year in local currency. The Aerospace division recorded the strongest growth (+5.3%) thanks to the rebound in services, while revenues of the Marine Systems division grew 4.9%, driven by shipbuilding activities for the U.S. Navy (future Columbia-class SSBN, Virginia-class SSN, Arleigh Burke-class destroyer, John Lewis-class tanker, etc.).
- ▶ The group has a very diversified portfolio of defence activities (67% of total revenues in 2022): surface ships and submarines, armoured vehicles, weapon systems and ammunition, cybersecurity, etc. The Aerospace division, however, is predominantly civilian-oriented (12% of defence turnover only in 2022).

Home market

- ▶ The United States remain General Dynamics' largest market, accounting for 85% of total revenues in 2022. The U.S. Department of Defense alone accounted for 56% of revenues in 2022.
- ▶ In March 2023, General Dynamics NASSCO handed over to the U.S. Navy a fourth Expeditionary Sea Base support ship, christened John L. Canley (ESB-6). The fifth unit in the programme (Robert E. Simanek, ESB-7) has been under construction since May 2022 and the sixth (ESB-8) was ordered in August 2022.
- ▶ The U.S. Army awarded General Dynamics Ordnance and Tactical Systems a \$1.48bn (€1.38bn) contract in March 2023 to produce large calibre ammunition and mortar rounds by July 2029.
- ▶ The Carl M. Levin Arleigh Burke-class destroyer (DDG-120), built by General Dynamics Bath Iron Works, entered service with the U.S. Navy in June 2023. The shipyard is currently building six other ships, and three additional destroyers were ordered during summer 2023.
- ▶ General Dynamics NASSCO received a \$736m (€687m) funding in May 2023 from the U.S. Navy for the supply of a ninth John Lewis-class tanker (T-AO 213, Harriet Tubman). Three ships (Nos. 3 to 5) are currently under construction and three other units (Nos. 6 to 8) have already been ordered.
- ▶ The U.S. Army awarded General Dynamics Land Systems a contract worth \$712m (€665m) in June 2023 for the production of 300 Stryker DVHA1 wheeled armoured vehicles.
- ▶ General Dynamics Electric Boat signed three contracts worth a combined total of \$2.56bn (€2.39bn) between May and October 2023 with the U.S. Navy to continue construction work on the Virginia-class SSNs.
- ▶ The group is currently competing for three U.S. Armed Forces programmes: XM30 Mechanized Infantry Combat Vehicle (formerly OMFV, tracked infantry combat vehicle, up against Rheinmetall), Robotic Combat Vehicle (reconnaissance and escort UGV, up against Oshkosh Defense) and DDG(X) (guided-missile destroyer, up against HII).

Export markets

- ▶ The group generated 15% of its revenues from exports in 2022 (without FMS programmes), mostly through General Dynamics European Land Systems (based in Germany, Austria, Denmark, Spain, the Czech Republic, Romania and Switzerland) and General Dynamics UK (United Kingdom).
- ▶ Following an initial order for 227 vehicles in 2018, Romania's Ministry of National Defence announced in February 2023 its intention to acquire a further 150 Piranha V wheeled armoured vehicles from Swiss subsidiary MOWAG for around \$674m (€629m).
- ▶ In April 2023, the Swiss Federal Office for Defence Procurement (Armasuisse) ordered 16 8x8 Mörser 16 armoured vehicles equipped with a 120 mm calibre mortar, based on the Piranha IV, from the Swiss subsidiary MOWAG, for delivery in 2026 onwards. RUAG Switzerland will contribute its Cobra mortar to this contract.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$480m (€456m) in 2022, representing 1.2% of revenues.



HANWHA OCEAN (FORMERLY DSME)

South Korean shipbuilder with civil and military activities, acquired by the Hanwha conglomerate in 2023 after a failed takeover by KSOE (holding company for HHI)

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Naval ships (surface combatants and submarines)
- ▶ Commercial ships
- ▶ Offshore plants

GOVERNANCE

Chairman and CEO: Hyek Woong Kwon
 Head of Geoje shipyard (South Korea): In Sub Jung

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol: A042660
 Listed on: Korea Stock Exchange
 Market Cap (KRWbn): 5 031

Major shareholders (as of 20.12.2023)

Hanwha Aerospace Co., Ltd.	23,14%
South Korean State	21,18%
Hanwha Systems Co., Ltd.	11,57%
Hanwha Energy Corp.	10,88%

MAIN JOINT VENTURES AND ASSOCIATES*

Name		%		Country
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*No information available

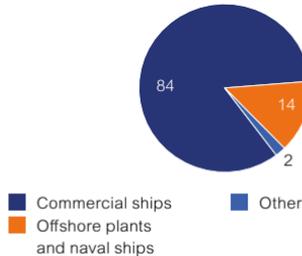
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	6 404	5 225	3 313	3 579
Δ (%) [KRW]*	-13,33%	-15,89%	-36,18%	8,33%
Defence (%)	9%	≈ 10%	< 16%	< 14%
Export (%)	2%	1%	1%	4%
Operating profit/loss	224	114	-1 296	-1 188
Operating margin	3,50%	2,18%	-39,11%	-33,20%
Net income**	-36	64	-1 255	-1 285
Order book (USD)	18 600	15 500	20 900	29 500
Employees	9 461	9 032	8 628	8 303

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

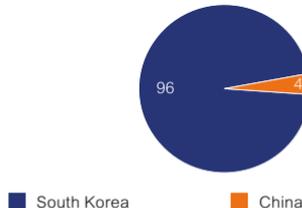
**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Revenue distribution based on total sales excluding eliminations

REVENUE BY REGION (%)*



*Revenue distribution based on total sales excluding eliminations

HANWHA OCEAN (FORMERLY DSME)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Lockheed Martin	GE Aerospace**	Indra Sistemas	tkMS***	BMT Defence Services	Raytheon Technologies****	NGV Tech / Grade One Marine	LIG Nex1	Thales	Hanwha Systems	Rolls-Royce	PT PAL	Babcock	HHI*****
Surface ships														
Sejong Daewang-class destroyer (KDX-III)	●	●			●	●	●	●	●	●				●
Chungmugong Yi Sun-sin-class destroyer (KDX-II)	●	●			●	●	●							●
Chungnam-class future frigate (FFX-III)		●				●		●	●	●				
Daegu-class frigate (FFX-II)					●	●		●	●	●				●
ASR-II future submarine rescue ship														
Tide-class tanker				●	●									
Royal Malaysian Navy's Gagah Samudera-class training ship						●			●					
Conventionally-powered attack submarines														
Dosan Ahn Chang-ho-class attack submarine (KSS-III)			●	●		●	●	●					●	●
Son Won-il-class attack submarine (KSS-II)*				●		●	●							●
MRO and services														
Chang Bogo-class submarine (KSS-I)* MRO				●								●		

*Based on tkMS' submarines

**Formerly GE Aviation

***thyssenkrupp Marine Systems (including Atlas Elektronik), groupe thyssenkrupp

****Merger of Raytheon and UTC

*****Hyundai Heavy Industries (KSOE group)

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After several years of decline, Hanwha Ocean revenues rose 8.3% (year-on-year, in local currency) to KRW 4,861bn (€3.6bn) in 2022. The group benefited from the recovery in its civil shipbuilding activities, driven by increased demand. Activity remained strong in naval defence thanks to Hanwha Ocean's participation in South Korean Navy programmes.
- ▶ The takeover of DSME by Hyundai Heavy Industries (HHI) was blocked by the European Commission in January 2022 for fair competition reasons. An agreement was reached with Hanwha, which would acquire a stake giving it operational control. The deal was completed in May 2023, following approval from the South Korean competition authorities, and DSME was renamed Hanwha Ocean. Hanwha is banking on synergies with its other defence subsidiaries, Hanwha Aerospace and Hanwha Systems.
- ▶ In summer 2023, Hanwha Ocean announced major investments to increase its production capacity, reportedly financed by a capital increase of KRW 2 trillion (€1.4bn). The group thus intends to simultaneously build two combat ships.

Home market

- ▶ Hanwha Ocean is a major supplier to the Republic of Korea Navy (ROKN), along with its domestic peer HHI.
- ▶ Together with HHI, Hanwha Ocean is in charge of the construction of the Dosan Ahn Chang-ho-class (KSS-III) attack submarines. The ROKN is expected to acquire nine of these submarines by 2029, divided into three batches of three units each. In addition to the first two submarines of the first batch, which entered into service in August 2021 and April 2023 respectively, Hanwha Ocean will build the first two units of the second batch. Delivery of the first submarine of the second batch is scheduled for 2027.
- ▶ Hanwha Ocean is also in charge, alternating with HHI, of the construction of four of the eight FFX-II Daegu-class frigates (Nos. 1, 2, 5 and 6). The fifth frigate was commissioned in early 2023, and the sixth unit was delivered in March 2023.
- ▶ In April 2023, the South Korean Navy selected Hanwha Ocean to develop and supply an Arsenal Ship, also known as a JFS (Joint Firepower Ship). Intended for deterrence missions against North Korea, this heavily armed ship (80 missiles) will be able to attack land targets. The ship's concept should be finalised by the end of the year, with the aim of building three units by the end of the decade.
- ▶ Hanwha Ocean was selected in July 2023 over HHI to build the last two of the six FFX-III Chungnam-class frigates, the other units being supplied by HHI (No. 1) and South Korean shipyard SK Oceanplant (Nos. 2 to 4). The contract is worth an estimated \$655m (€613m).

Export markets

- ▶ Hanwha Ocean partnered with Babcock Canada in June 2023 to cooperate on the Canadian Patrol Submarine Project (CPSP) programme to replace the four Victoria-class submarines. The Royal Canadian Navy intends to acquire up to 12 conventionally-powered submarines, at an estimated cost of CAD 60bn (€41bn), including the supply of maintenance and training services. Babcock Canada also signed an agreement with HHI.
- ▶ In addition to Canada, Hanwha Ocean announced in October 2023 its intention to offer submarines based on the KSS-III to the Philippines (two units planned) and Poland (three to four units, Orka programme).

Technology and Innovation

- ▶ The group's R&D expenditure amounted to KRW 73.6bn (€54.2m) in 2022, representing 1.5% of revenues.
- ▶ At the MADEX exhibition in Busan (South Korea) in June 2023, Hanwha Ocean presented a concept for a naval platform designed to operate airborne, surface and underwater drones (UAVs, USVs and UUVs) and a combat XLUUV.



HENSOLDT

Defence electronics group majority-owned by the German State and Italian group Leonardo, 51st-largest defence company worldwide

BUSINESS AREAS

Systems integrator/equipment supplier

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

GOVERNANCE

Chairman of the Supervisory Board	Reiner Winkler
Chief Executive Officer	Thomas Müller
Chief Financial Officer	Christian Ladurner

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	HAG
Listed on	XETRA
Market Cap (€m)	2 797

Major shareholders (as of 14.11.2023)

German State	25,10%
Leonardo	25,10%
Capital Research & Management Co. (World Investors)	4,50%
Norges Bank Investment Management	1,90%

MAIN JOINT VENTURES AND ASSOCIATES

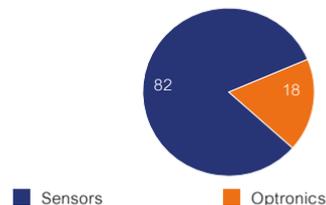
Name	%	Country
Hensoldt Cyber	90,6%	Germany
DEGFA	66,67%	Germany
Euro-ART International EWIV	50%	Germany
Atlas Optronics	49%	UAE
SCAFSE	49%	Algeria
Euro-ART Advanced Radar Technology	25%	Germany
EuroMIDS	25%	France

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	1 114	1 207	1 474	1 707
Δ (%)	0,36%	8,35%	22,12%	15,81%
Defence (%)	≈ 95%	≈ 95%	≈ 95%	≈ 95%
Export (%)	58%	50%	43%	42%
Operating profit/loss	62	69	126	166
Operating margin	5,57%	5,72%	8,55%	9,72%
Net income*	6	-65	63	80
Order book	2 202	3 424	5 092	5 366
Employees	5 461	5 605	6 316	6 463

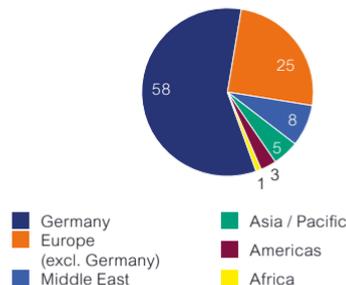
*Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Revenue distribution based on total sales excluding eliminations

REVENUE BY REGION (%)*



*Revenue distribution based on total sales excluding eliminations

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Indra Sistemas	Leonardo	BAE Systems	Lockheed Martin	Electronica	Safran	Rohde & Schwarz	Diehl Defence	Madses	ESG
Radar systems											
Captor-E Mk1 AESA radar (Typhoon)		●	●								
PrecISR and ASR air surveillance radars											
Counter Battery Radar (COBRA)	●				●						
TRS-3D and TRS-4D naval radars	●										
Defence electronics											
NGF future fighter aircraft (FCAS programme) (Sensors pillar, Combat Cloud pillar)	●	●						●	●		●
Praetorian Defensive Aids Sub-System (DASS) (Typhoon)		●	●	●		●					
Eropean MALE RPAS' future ISTAR solution	●	●				●					
Airborne Missile Protection System (AMPS)											
MILDS and MILDS-F missile warning systems											
Advanced Laser Threat Alerting System (ALTAS)											
Kalaetron family of radar warning receivers											
Future Multifunctional Self-protection System 2.0 (MUSS 2.0) for armoured vehicles											
Optronics											
European MALE RPAS' Euroflir 610 future multispectral optronical targeting and observation system							●			●	
SETAS optronical system for armoured vehicles											
Communication and display systems											
MIDS Low Volume Terminals (MIDS-LVT)	●	●	●								
Identification Friend or Foe (IFF) systems											
MSR 1000 I and MSSR 2000 I IFF interrogators			●								

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Hensoldt revenues increased 15.8% to €1,707m in 2022. Growth was mainly driven by the Sensors segment (+22.3% before consolidation), and in particular the Spectrum Dominance & Airborne Solutions and Radar & Naval Solutions divisions. The former recorded strong demand for its Pegasus airborne intelligence system, and the latter for its Captor-E Mk1 radar. On the other hand, revenues in the Optronics segment fell by 3.7% (before consolidation), as a result of supply disruptions that caused production delays, particularly in land systems.
- ▶ In March 2023, Hensoldt launched the construction of an extension to its Oberkochen (Germany) plant to meet increased demand for precision optronic measurement equipment for the German Armed Forces and NATO members. The extension, which requires an investment of around €100m, will be operational in 2025 and will accommodate more than 800 employees.
- ▶ The group announced that Oliver Dörre, the current CEO of Thales Germany, will succeed Thomas Müller as Hensoldt CEO in 2024.

Home market

- ▶ A major supplier to Germany's Armed Forces, Hensoldt generates a growing share of its revenues on its domestic market (58% before consolidation in 2022, +16 percentage points since 2019).
- ▶ In January 2023, Germany's Federal Office of Bundeswehr Equipment (BAAINBw) awarded Hensoldt the contract, worth an estimated €15m, to develop a SIGINT pod demonstrator to be integrated into the European MALE RPAS to provide it with an electromagnetic intelligence capability.
- ▶ In February 2023, the DGA awarded Hensoldt, a member of the FCMS (Future Combat Mission System) consortium, a €100m contract to develop demonstrators for the future sensor network under the FCAS programme by 2025. The group will contribute its expertise in radar electronics, reconnaissance and self-protection systems, optronics and global sensor networking.

Export markets

- ▶ The group generated 42% of its revenues from exports in 2022, mainly in Europe.
- ▶ Following an initial delivery in October 2022, Hensoldt handed over two additional TRML-4D air surveillance radars to Ukraine in January 2023.
- ▶ Hensoldt UK was awarded two contracts by Hyundai Heavy Industries (HHI) in March 2023 to supply Kelvin Hughes Mk11 SharpEye navigation radars for six offshore patrol vessels and two corvettes being built for the Philippine Navy.
- ▶ In June 2023, Hensoldt received a €40m order from the Norwegian Defence Materiel Agency (NDMA) to equip Norwegian Ula-class submarines with new periscopes and optronic mast systems.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €32m in 2022, representing 1.9% of revenues.
- ▶ In December 2022, Hensoldt and Aero Network DMI entered into a partnership in the field of situational awareness of drones for helicopter crews. The aim is to integrate the CLEARDRONE detector, designed by Aero Network DMI, into the EuroNav7 system developed by Hensoldt.
- ▶ In January 2023, Hensoldt and 21strategies started a partnership to develop next-generation defence systems incorporating artificial intelligence solutions. The group also acquired a stake in 21strategies.



HONEYWELL INTERNATIONAL

Commercial and military provider (mainly propulsion systems), 23rd-largest defence contractor worldwide

BUSINESS AREAS

Engine manufacturer, systems integrator/
equipment supplier

- ▶ Commercial and military aerospace (propulsion systems, avionics, wheels, brake systems)
- ▶ Defence electronics and ISR systems
- ▶ Protection solutions
- ▶ Infrastructures, energy
- ▶ Healthcare, pharmaceutical industry

GOVERNANCE

Chairman	Darius Adamczyk
Chief Executive Officer	Vimal Kapur
President and CEO Aerospace	Jim Currier

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	HON
Listed on	NYSE
Market Cap (\$m)	124 870

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	8,92%
Wellington Management Co. LLP	2,92%
Newport Trust Co.	2,46%
Geode Capital Management LLC	1,78%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Honeywell TAECO Aerospace (Xiamen)	65%	China
ATEC	50%	United States
Integrated Guidance Systems	50%	United States
ITEC	50%	United States
LHTEC	50%	United States

KEY FIGURES (Fiscal year ended: December 31st)

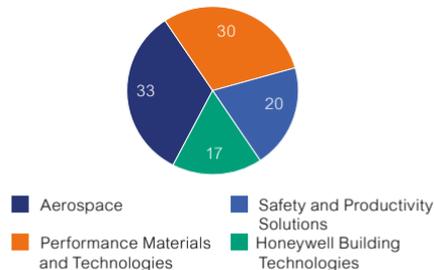
€ millions	2019	2020	2021	2022
Revenue	32 776	28 579	29 072	33 681
Δ (%) [\$]*	-12,18%	-11,09%	5,38%	3,12%
Defence (%)**	14%	18%	15%	13%
Export (%)	55%	52%	52%	52%
Operating profit/loss	6 117	4 988	5 241	6 104
Operating margin	18,66%	17,45%	18,03%	18,12%
Net income***	5 485	4 185	4 685	4 716
Order book	22 807	21 002	24 432	27 702
Employees	113 000	103 000	99 000	97 000

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

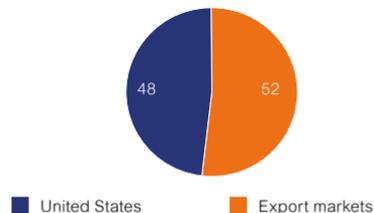
**Defense and Space activity of the Aerospace division

***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



HONEYWELL INTERNATIONAL

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Rolls-Royce	Lockheed Martin	AIDC*	Raytheon Technologies**	PT Dirgantara Indonesia	Turkish Aerospace	KHI***	HAL****
Propulsion systems and Auxiliary Power Units (APUs)								
T55 turboshaft engine (CH-47 Chinook)								●
CTS800 turboshaft engine (AW159 Wildcat, T129 ATAK, T625 Gökbey)	●				●			
F124/F125 turbofan engines (M346 Master, L-159 Alca, F/A-259 Striker)			●					
TPE331 turboprop engine (MQ-9 Reaper, HTT-40, NC-212i)				●				●
AGT1500 gas turbine (M1 Abrams)								
36-150 APUs family (AH-64 Apache, UH-60 Black Hawk, CH-47 Chinook)								
G230 and G250 APUs (F-35 Lightning II, F-22 Raptor)								
Avionics and navigation systems								
Enhanced Ground Proximity Warning System (EGPWS)								
Embedded GPS/INS (EGI)								
Weather radar systems								
RDR-4000/7000 weather radar systems								
Security and maintenance								
Health and Usage Monitoring System (HUMS)								
Control and actuation systems								
CAS and FCA directional steering control systems for missiles and GMLRS	●			●				
TVC steering control system for launch vehicles and spacecraft	●							
Satellite communication systems								
JetWave satellite communication system								

*Aerospace Industrial Development Corp. **Merger of Raytheon and UTC ***Kawasaki Heavy Industries ****Hindustan Aeronautics Ltd

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Honeywell revenues reached \$35.5bn (€33.7bn) in 2022, up 3.1% year-on-year in local currency. Three of the group's four divisions reported higher sales, including Honeywell Building Technologies (+8.3%) and Performance Materials and Technologies (+7.1%). The revenues of the Aerospace division grew 7.3% following the recovery in the aerospace industry, but were still 15.8% below their 2019 level.
- ▶ At the Australian International Airshow in Avalon in March 2023, Honeywell entered into a partnership with Australian company Rosebank Engineering, which became a Honeywell-approved maintenance centre for the supply of wheels and brakes for Lockheed Martin's F-35 Lightning II fighter aircraft in the Asia-Pacific region.
- ▶ Honeywell reached an agreement in June 2023 to acquire Saab's head-up display activities. In particular, Honeywell wants to integrate these technologies into its new Anthem integrated cockpit.

Home market

- ▶ In 2022, Honeywell generated 48% of its revenues in the United States. Sales to the U.S. Department of Defense amounted to \$2.9bn (€2.7bn), or 62% of the group's defence business.
- ▶ Under multi-year contracts, Honeywell is involved in the maintenance and modernisation of various key equipment for the U.S. Armed Forces. The group is in particular in charge of upgrading its T55 turboshaft engine that powers the U.S. Army's CH-47 Chinook helicopters (development of the T55-GA-714C version, which provides a 25% increase in power and a 10% reduction in fuel consumption compared with the T55-GA-714A version).
- ▶ The group announced in January 2023 that the U.S. Army carried out the first flight test of its new EGI (Embedded Global Positioning System/Inertial Navigation System) navigation system in M-code (Military-code) on an MQ-1C Gray Eagle UAV (General Atomics). The U.S. Army is also ready to deploy this system on its MQ-1C Gray Eagle fleet during 2023 as part of its EAGLE-M programme. This new system offers better protection against attempts to jam the GPS signal.
- ▶ In January 2023, Honeywell's JetWave MCX Ka-band SATCOM terminal got certified for use on the Global SATCOM Wideband telecommunications network operated by the U.S. Armed Forces.

Export markets

- ▶ Honeywell generated 52% of its revenues from exports in 2022. 40% of production is located outside the United States, mainly in Europe and Asia (but only 15% in the Aerospace division).
- ▶ Operational maintenance services are key drivers of export sales. They are supported by engine production licences and partnerships, for example with Japan's KHI (for the T55 engines of the CH-47JA helicopters), Turkey's Turkish Aerospace (for the CTS800 engines of the T129 ATAK and T625 Gökbey helicopters) and Taiwan's AIDC (for the F125 engines of the F-CK-1 Ching-kuo multirole combat aircraft).
- ▶ Honeywell signed a contract with BAE Systems Australia in March 2023 for the supply of spare parts and repair services over five years for the Australian fleet of 33 Hawk 127 trainer aircraft.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$1.5bn (€1.4bn) in 2022, representing 4.2% of revenues.



HUNTINGTON INGALLS INDUSTRIES (HII)

Leading military shipbuilder in the United States, where its Newport News and Ingalls shipyards are based, and 13th largest defence company in the world

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Nuclear-powered aircraft carriers
- ▶ Surface ships
- ▶ Autonomous systems (USVs, UUVs)
- ▶ Submarines (SSN, SSBN)
- ▶ Training and integrated logistic support
- ▶ MRO and modernisation
- ▶ Energy sector services

GOVERNANCE

Chairman	K. H. Donald
Chief Executive Officer	C. D. Kastner
President, Newport News Shipbuilding	J. Boykin
President, Ingalls Shipbuilding	K. Wilkinson

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	7 946	8 197	8 051	10 139
Δ (%) [\$]*	8,84%	5,19%	1,74%	12,10%
Defence (%)	91%	92%	99%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss**	657	700	434	537
Operating margin	8,27%	8,54%	5,39%	5,29%
Net income	490	609	460	550
Order book	41 402	37 504	42 763	44 164
Employees	42 000	42 000	44 000	43 000

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

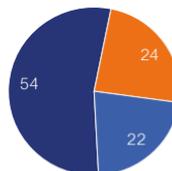
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	HII
Listed on	NYSE
Market Cap (\$m)	9 270

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	12,34%
Capital Research & Management Co. (World Investors)	5,71%
Fidelity Management & Research Co.	4,19%
Geode Capital Management LLC	2,15%

REVENUE BY BUSINESS SEGMENT (%)*



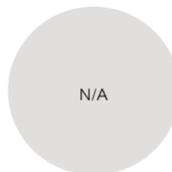
■ Newport News** ■ Ingalls*** ■ Mission Technologies****

*Revenue distribution based on total sales excluding eliminations
**Nuclear-powered submarines and aircraft carriers
***Surface ships
****Professional and government services

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Newport News Nuclear BWXT-Los Alamos (N3B)	N/A	United States
NSI	N/A	Australia
Sea Machines Robotics	N/A	United States

REVENUE BY REGION (%)



HUNTINGTON INGALLS INDUSTRIES (HII)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Northrop Grumman	General Atomics	Bechtel Marine Propulsion Corporation	GE Aerospace**	MAN	General Dynamics	Lockheed Martin	Raytheon Technologies***	Leonardo DRS****	BAE Systems	Boeing
Aircraft carriers											
Gerald R. Ford-class aircraft carrier	●	●	●				●				
Nimitz-class aircraft carriers refueling and complex overhaul	●		●				●				
Amphibious assault ships											
America-class Landing Helicopter Assault (LHA)			●				●				
San Antonio-class Landing Platform Dock (LPD)				●	●	●	●				
Combat ship											
Arleigh Burke-class destroyer	●		●		●	●	●				
Patrol ship											
Legend-class National Security Cutter (NSC)			●				●				
Autonomous systems											
REMUS family of UUVs											
Proteus USV											
Submarines											
Future Columbia-class ballistic missile submarine*	●				●	●	●	●			
Virginia-class nuclear-powered attack submarine	●				●	●	●		●		
Integrated logistic support											
U.S. Navy's surface vessel and submarine integrated logistic support											
U.S. Air Force's Training Systems Acquisition IV (TSA IV) programme (sustainment of training systems)	●				●	●	●			●	

*Subcontractor of General Dynamics Electric Boat **Formerly GE Aviation ***Merger of Raytheon and UTC ****U.S. subsidiary of Leonardo

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Huntington Ingalls Industries (HII) generated revenues of \$10.7bn (€10.1bn) in 2022, up 12.1% year-on-year in local currency. Driven by the acquisition of Alion, an American ISR engineering group, in 2021, the Mission Technologies division recorded the strongest growth (+61.7%). Shipbuilding activities also performed rather well (+3.3% for Newport News and +1.7% for Ingalls).
- ▶ HII generates almost all of its revenues in the defence sector. As a strategic partner of the U.S. Navy, the group benefits from favourable prospects thanks to the U.S. Navy's various renewal programmes. At the end of 2022, HII had a backlog of \$47.1bn (€44.2bn), 43% of which to be fulfilled beyond 2025.
- ▶ In February 2023, the group started building new facilities dedicated to the construction of nuclear submarines at the Newport News shipyard. HII aims to speed up production of the Virginia-class SSNs and Columbia-class SSBNs, two major programmes for the U.S. Navy, which is part-financing the work.

Home market

- ▶ HII operates almost exclusively in the U.S. naval defence sector, with the U.S. Navy and U.S. Coast Guard as its main customers.
- ▶ Ingalls Shipbuilding signed a \$1.3bn (€1.2bn) contract in March 2023 for the design and construction phase of the LPD-32 amphibious assault ship (16th unit of the San Antonio-class and third of the Flight II version).
- ▶ General Dynamics Electric Boat awarded Newport News a contract worth \$568m (€523m) in April 2023 for the production of components for the five future Build II Columbia-class SSBNs. HII already signed a contract for the production of components for the first two submarines in the class (Build I version), the SSBN-826 and SSBN-827.
- ▶ General Dynamics Electric Boat also awarded Newport News a \$305m (€281m) contract to in May 2023 to participate in the construction of two additional Block V Virginia-class submarines (SSN-812 and SSN-813). This contract brought HII's total programme revenue to \$10.2bn (€9.4bn).
- ▶ Newport News handed over the nuclear-powered aircraft carrier George Washington (CVN-73, the sixth unit of the Nimitz class) to the U.S. Navy in May 2023, after completing tests following the ship's mid-life upgrade, which began in mid-2017.
- ▶ The DDG-125 (Jack H. Lucas) Arleigh Burke-class destroyer, built by Ingalls Shipbuilding, entered service in October 2023. The first unit of the Flight III version, the ship is equipped with Raytheon Technologies' AN/SPY-6(V)1 Air and Missile Defense Radar (AMDR) and Lockheed Martin's Aegis Baseline 10 combat system. Four other Flight III destroyers (DDG-128, 129, 131 and 133) are currently being built by HII.

Export markets

- ▶ HII's export sales are mainly made of unmanned underwater vehicles, which were sold to 30 countries. Former contracts include four REMUS 300 UUVs for the Royal New Zealand Navy (for surveillance and mine countermeasure missions) in 2021 and three REMUS 100 UUVs for the Royal Navy (for mine countermeasure missions) in 2022.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$40m (€38m) in 2022, representing 0.4% of revenues. Most of the R&D costs of the group's programmes are funded by government contracts.
- ▶ In November 2022, HII presented its REMUS 620 UUV, based on the REMUS 300, with an autonomy of up to 110 hours and a range of 275 nautical miles (more than 500 km).



INDRA SISTEMAS

Company with civil and military activities, leader in the Spanish defence electronics market, involved in the FCAS programme, and 85th-largest defence contractor worldwide

BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Defence and security (defence electronics, C4ISR systems, radar and sonar systems, simulation, etc.)
- ▶ Transportation and air traffic
- ▶ Energy and industry
- ▶ Financial services
- ▶ Public and health sectors
- ▶ Telecom and media

GOVERNANCE

Chairman	Marc Murtra
Chief Executive Officer	José Vicente de los Mozos
President, Defence & Security	Manuel Escalante

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	IDR
Listed on	Bolsa de Madrid
Market Cap (€m)	2 470

Major shareholders (as of 20.12.2023)

Spanish State (through SEPI)*	25,16%
Fidelity Management & Research Co.	6,84%
FIL Investment Advisors (UK) Ltd.	5,25%
Escribano Mechanical & Engineering SL	4,63%

*The Spanish State plans to increase its stake to 28% of the capital

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
UTE Indra-Eurocopter	62,5%	Spain
SAES Capital	49%	Spain
Inmize Sistemas	40%	Spain
UTE VCR 8x8	37,94%	Spain
Eurofighter Simulation System	26%	Germany
Euromids	25%	France
A4 Essor	20%	France

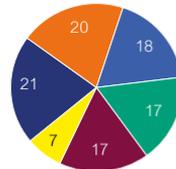
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	3 204	3 043	3 390	3 851
Δ (%)	3,22%	-5,02%	11,40%	13,60%
Defence (%)*	18%	17%	19%	17%
Export (%)	50%	48%	49%	50%
Operating profit/loss	221	-33	256	300
Operating margin	6,90%	-1,08%	7,55%	7,79%
Net income**	121	-65	143	172
Order book	4 511	5 229	5 459	6 309
Employees	50 349	49 027	52 083	56 735

*Defence & Security division

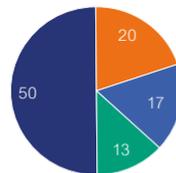
**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



Financial services	Defence & Security
Energy & Industry	Public adm. & Healthcare
Transportation & Air traffic	Telecom & Media

REVENUE BY REGION (%)



Spain	Europe (excl. Spain)
Americas	Asia, Middle East, Africa

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Electronica	Hensolot	Lockheed Martin	Airbus	BAE Systems	Boeing	Dassault Aviation	Leonardo	Santa Bárbara	Navantia	Sistemas Thales
Defence electronics											
NGF future fighter aircraft (FCAS programme) (Sensors pillar, Combat Cloud pillar)		●	●			●					●
Praetorian Defensive Aids Sub-System (DASS) (Typhoon)	●	●	●	●			●				
RF ALQ-500 countermeasure system (Spanish F/A-18)					●						
EuroDIRQM IR future countermeasure system	●										
InSHIELD DIRCM countermeasure system (A400M)			●								
RIGEL naval electronics defence system										●	
C4ISR systems											
European MALE RPAS* future ISTAR solution	●	●	●			●	●				●
Mission system of the 8x8 Dragón wheeled combat vehicles								●			
SILVER Battlefield Management System (BMS)											●
Radar and sonar systems											
Naval suite for submarines (209/212/214, S-80)											●
Lanza 3D radar family											●
E-Captor and ECRS MK1 AESA radars (Typhoon)	●		●	●			●				
S-Band AESA naval radar (F-100/F-110)		●									●
X-Band maritime surveillance radar (F-110)											●
Simulation											
Aircrew Synthetic Training Aids (ASTA) simulator (Typhoon)			●	●			●				
Transport aircraft simulators (A400M, C130, A330 MRTT)		●	●								
Military helicopter simulators (Tiger, NH90, AW159, Chinook, etc.)			●		●		●				

*Spanish subsidiary of General Dynamics

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Indra revenues rose by 13.6% to €3,851m in 2022, but sales in the Defence & Security division grew at a slower pace (+6.1%).
- ▶ Following the acquisition of the Air Traffic Management division of Leonardo's U.S. subsidiary Selex ES (defence electronics and navigation aid systems for civil and military aircraft), the group's U.S. subsidiary Indra Air Traffic Inc. began operations in May 2023. The company employs around 100 people and has a production site in Overland Park (Kansas). Its customers include the Federal Aviation Administration (FAA), the U.S. Air Force and the U.S. Navy.
- ▶ In June 2023, Indra signed an agreement to acquire Park Air, a UK subsidiary of Northrop Grumman specialising in communications systems for civil and military use (particularly air traffic management). Operating mainly in the United States, Park Air employs more than 120 people. The deal is expected to be completed by the end of 2023.
- ▶ In August 2023, Indra signed an agreement with private investment firm Bain Capital to acquire a 9.5% stake in the Spanish engine manufacturer ITP Aero for €175m. Following this transaction, which is expected to be approved by the end of 2023, Indra will have a seat on the Board of Directors of ITP Aero. The two groups are notably involved in the development of the future European NGF fighter aircraft (FCAS programme) in fields related to electronics and propulsion.

Home market

- ▶ Indra generated 50% of its revenues in its domestic market in 2022. The group is expected to benefit from increased public support, particularly due to the announced rise in Spain's military spending (up to 2% of GDP in the coming years) and the planned increase in the Spanish state's stake in the group to 28%, through the holding company SEPI.
- ▶ In January 2023, the Spanish Army Airmobile Force awarded Indra a €19m contract to supply a new Full Mission Simulator (FMS) for the NH90 helicopter. This simulator is meant to reduce the number of flight hours required to train pilots by 40%.
- ▶ In February 2023, the group signed a €15m contract with Spain's Directorate-General for Armament and Material (DGAM) to supply its Talium mission planning system, designed to improve the performance of the CH-47F Chinook helicopters used during complex operations.
- ▶ In March 2023, Indra, Thales and the German consortium FCMS (Diehl Defence, ESG, Hensoldt and Rohde & Schwarz) launched the design phase for the NSDAS (Networked and distributed Sensors, Defensive aids and Attack Systems) sensor suite for the future NGF fighter aircraft as part of phase 1B of the FCAS programme.
- ▶ Indra started delivering simulators for Pizarro armoured infantry fighting vehicles to the Spanish Army in May 2023.

Export markets

- ▶ Indra generated half of its sales from exports in 2022, mainly in the civilian sector.
- ▶ In January 2023, the group completed the modernisation of two IRS 20-MP/S transportable air traffic control radars for the Brazilian Air Force, supplied by Indra in 2011.
- ▶ In May 2023, Indra installed the first unit of the naval version of the Lanza 3D radar on an Indian destroyer. The group will supply the Indian Navy with 23 radars, based on the model fitted on the LHD Juan Carlos I, as well as maintenance services over a period of twelve and a half years.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to €312m in 2022, representing 8.1% of revenues.



ITP AERO

Spanish engine manufacturer among the top 10 global players and involved in the development and production of aeronautical propulsion parts and subsystems

BUSINESS AREAS

Engine manufacturer and equipment supplier

- ▶ Aircraft propulsion parts and subsystems
- ▶ Equipment and components
- ▶ Aircraft engines MRO

GOVERNANCE

Chairman	Juan María Nin Génova
Chief Executive Officer	Carlos Alzola Elizondo
CEO, Defence Business Unit	Álvaro Santodomingo

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	983	735	915	1 047
Δ (%) [\$]	11,70%	-25,23%	24,49%	14,43%
Defence (%)*	14%	29%	30%	N/A
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	105	2	40	104
Operating margin	10,68%	0,27%	4,37%	9,93%
Net income	95	- 13	67	N/A
Order book	N/A	N/A	N/A	N/A
Employees	4 006	3 559	4 175	4 500

*Including military maintenance activities in 2020 and 2021

OWNERSHIP STRUCTURE

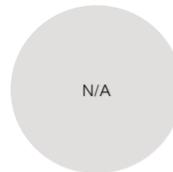
Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Bain Capital	72,5%
Other investors*	27,5%

*JB Capital, SAPA, Basque Government, etc.

REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES*

Name	%	Country
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*No information available

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Safran	MTU Aero Engines	Rolls-Royce	Avio Aero**	GE Aerospace***	Pratt & Whitney****
Fighter aircraft engine parts						
NEFE (Next European Fighter Engine, FCAS programme)	●	●				
EJ200 (Eurofighter Typhoon)*		●	●	●		
F414-GE-400 (F/A-18E/F)					●	
J85-GE-21 (F-5E/F) and J85-GE-5 (T-38)					●	
Transport aircraft engine parts						
TP400-D6 (A400M)	●	●	●			
Helicopter turbine parts						
CT7-8F5 (NH90)*					●	
MTR390-E (Tiger)	●	●	●			
Gas turbine parts						
LM2500 family					●	
Aircraft engines MRO						
EJ200 and F404 fighter aircraft turbofans		●	●	●	●	
CT7, TPE331 and TP400 transport aircraft turboprops	●	●	●		●	
CT7, M250, MTR390-E, PW200 and T700 helicopter turboshafts	●	●	●		●	●

*Parts and assembly of turbofans for Spanish aircraft

**Subsidiary of GE Aerospace

***Formerly GE Aviation

****Raytheon Technologies group (merger of Raytheon and UTC)

STRATEGIC HIGHLIGHTS

Business trends

- ▶ ITP Aero revenues reached €1,047m in 2022, up 14.4% year-on-year thanks in particular to the recovery in the civil aeronautics market (around 70% of sales). The group is a subcontractor to Rolls-Royce for the Trent family of turboshaft engines used on Airbus and Boeing passenger aircraft, and to the American groups GE Aerospace, Honeywell and Pratt & Whitney, for whom it produces engine parts for business jets.
- ▶ Following approval of the deal by the Spanish government in August 2022, Rolls-Royce finalised the sale of ITP Aero in September 2022 for €1.7bn to the American private investment firm Bain Capital, which acquired 72.5% of the group's capital, and to several Spanish players (JB Capital, SAPA, the government of the Basque Autonomous Community, etc.), who shared the remaining 27.5% in unspecified proportions.
- ▶ In August 2023, Bain Capital reached an agreement with Spanish electronics manufacturer Indra Sistemas for the sale of a 9.5% stake in ITP Aero for €175m. Following this transaction, which should be validated by the end of 2023, Indra Sistemas will have a seat on the engine manufacturer's Board of Directors. The two groups are notably involved in the development of the future European NGF fighter aircraft (FCAS programme) in fields related to propulsion and electronics.
- ▶ ITP Aero invested €24m in February 2023 in the construction of a new R&D centre in Zamudio, where the group's head office is based. The building is expected to be operational in the second half of 2024 and 120 positions should be created.

Home market

- ▶ ITP Aero is Spain's leading engine manufacturer. In the defence sector, the group operates mostly through partnerships with the other main European engine manufacturers (Avio Aero, MTU Aero Engines, Rolls-Royce and/or Safran), to which it supplies parts and components. ITP Aero is part of several consortiums: EuroJet Turbo (EJ200 turbofan engine for the Typhoon fighter), Europrop International (TP400-D6 turboprop for the A400M Atlas transport aircraft) and MTRI (MTR390-E turboshaft engine for the EC665 Tiger attack helicopter). The group also assembles the EJ200 and CT7-8F5 engines for Spain's Typhoon aircraft and NH90 helicopters respectively.
- ▶ In addition, ITP Aero is the main partner of MTU Aero Engines and Safran in the EUMET joint venture for the development of the NEFE (Next European Fighter Engine) propulsion system for the future NGF European fighter aircraft, for which the contract for phase 1B of the programme (development of a demonstrator by 2030) was awarded by the DGA in December 2022. ITP Aero is responsible for the low-pressure turbine and the nozzle of the future engine.

Export markets

- ▶ In export markets, ITP Aero supplies GE Aerospace with components for the F414-GE-400 (F/A-18E/F Super Hornet fighter aircraft) and J85 (F-5E/F Tiger II fighter aircraft and T-38 Talon trainer aircraft) turbojet engines, and for the LM2500 gas turbine installed on several frigates (FREMM, Álvaro de Bazán-class, Independence-class, etc.).
- ▶ In March 2023, GE Aerospace renewed its contract with ITP Aero for the maintenance of the CT7-2A, CT7-2E1, CT7-8A, CT7-8E and CT7-8F5 turboshaft engines and the CT7-9C and CT7-9C3 turboprop engines, previously carried out by the group, for a five-year period, in addition to the maintenance of the CT7-9B turboprop engine.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €60m in 2022, representing 5.7% of revenues.



IVECO DEFENCE VEHICLES

Subsidiary of Italian group Iveco, specialised in military vehicles (tracked and wheeled armoured vehicles, logistic vehicles, etc.)

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Wheeled armoured vehicles
- ▶ Light tactical vehicles
- ▶ Logistic vehicles
- ▶ Civil security vehicles
- ▶ MRO and modernisation services
- ▶ Robotics and unmanned ground systems

GOVERNANCE

CEO, Iveco Group Gerrit Marx

CEO, Iveco Defence Vehicles Claudio Catalano

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	356	366	475	560
Δ (%)	21,83%	2,69%	29,95%	17,91%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	-13	3	24	29
Operating margin	-3,68%	0,83%	4,99%	5,21%
Net income	-19	-3	11	13
Order book	N/A	N/A	N/A	N/A
Employees	814	809	843	880

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted subsidiary
Market Cap	

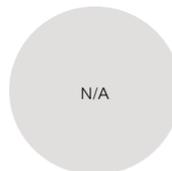
Major shareholders (as of 14.11.2023)

Iveco Group*	100%
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*Group incorporated under Dutch law with headquarters in Amsterdam (Netherlands) and main site in Turin (Italy).

Iveco Group's majority shareholder (27,1%) is Exor, a Netherlands based investment company controlled by the Agnelli Family.

REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
MIRA UGV	> 50%	United Kingdom
Consorzio Iveco OTO-Melara (CIO)	50%	Italy

REVENUE BY REGION (%)



IVECO DEFENCE VEHICLES

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	OTO Melara**	BAE Systems	FPT Industrial***	AEL Sistemas****	FN Herstal	Rheinmetall	KND S Germany	Soframe	HORIBA MIRA	Hensoldt
Wheeled armoured vehicles										
8x8 Centauro II tank destroyer	●									
8x8 VBM Freccia armoured infantry fighting vehicle	●									
8x8 SuperAV amphibious armoured vehicle	●									
Amphibious Combat Vehicle (ACV)*		●								
6x6 VBTP-MR Guarani amphibious armoured vehicle			●	●						
4x4 and 6x6 Puma light armoured fighting vehicles	●									
4x4 MTV multirole tactical vehicle (Manticore)				●	●					
4x4 Medium Protected Vehicle (MPV / VTMM Orso)						●				
Light tactical vehicles										
4x4 Light Multirole Vehicle 2 (LMV 2 / VTLM Lince 2)	●									
M40E15 WM and Military Utility Vehicle (MUV) light range			●							●
High mobility logistic vehicles										
8x8 PPT logistic vehicle							●			
8x8 M1250.70T WM logistic vehicle										
4x4, 6x6 and 8x8 High mobility logistic vehicles			●							
Eurocargo and Trakker logistic vehicles										
MRO and modernisation										
Modernisation of the Ariete main battle tank	●									
Robotics and unmanned ground systems										
6x6 Viking multirole vehicle									●	
MACE autonomy kit									●	

*Based on SuperAV **Subsidiary of Leonardo ***Iveco group ****Subsidiary of Elbit Systems

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Iveco Defence Vehicles (IDV) revenues grew 17.9% in 2022 to €560m. Financial performance remained slightly positive, after six consecutive years of losses between 2015 and 2020.
- ▶ Iveco Defence Vehicles is a wholly-owned subsidiary of the Iveco Group, an entity incorporated under Dutch law which was spun off from the CNH Industrial conglomerate on 1 January 2022 and listed on the Milan Stock Exchange.
- ▶ In January 2023, Iveco Defence Vehicles signed an agreement to become the majority shareholder of MIRA UGV, the unmanned ground vehicle division of the UK-based HORIBA MIRA group. MIRA UGV will remain headquartered in Nuneaton (UK). As a result of this transaction, Iveco Defence Vehicles created a new division, IDV Robotics, dedicated to UGVs and robots.

Home market

- ▶ Directly and through the Iveco-OTO Melara consortium (CIO), Iveco Defence Vehicles is a major supplier of land vehicles to the Italian Army. A major acquisition programme is planned for Centauro II and Freccia armoured vehicles, produced by the CIO consortium (with a total value of €2.2bn over the 2020-2032 period), as well as VTLM Lince 2 multirole vehicles.
- ▶ The Italian Secretariat General of Defence ordered 671 4x4 VTLM Lince 2 tactical vehicles from Iveco Defence Vehicles in November 2022, at a cost of €979m. Several dozen units will be equipped with OTO Melara's Hitrole Light remote weapons station.
- ▶ In December 2022, the Marina Militare ordered 36 8x8 SuperAV amphibious armoured personnel carriers from Iveco Defence Vehicles. They will be equipped with an OTO Melara Hitrole Light remote weapons station and a 12.7 mm machine gun.

Export markets

- ▶ To reduce its dependence on orders from the Italian Army, Iveco Defence Vehicles targets export markets, mainly in Europe and Brazil but also in the United States through its partnership with BAE Systems for the production of the Amphibious Combat Vehicle (ACV) for the U.S. Marine Corps. The acquisition of a majority stake in MIRA UGV may also enable Iveco Defence Vehicles to participate in future British defence programmes.
- ▶ The CIO consortium signed a contract worth \$946m (€898m) in December 2022 with the Brazilian Army for the supply of an initial batch of 98 8x8 Centauro II armoured vehicles (known as VBC CAV - MSR) to replace its fleet of EE-9 Cascavel vehicles. The Brazilian Army plans to acquire a total of 221 vehicles, bringing the contract value to around \$2.1bn (€2bn), with deliveries scheduled until 2038. Apart from the first ten or so units produced in Italy, the vehicles will be assembled in Brazil, at the Sete Lagoas plant in particular.
- ▶ In January 2023, the U.S. National Advanced Mobility Consortium (NAMC) pre-selected four American players to each produce three different prototypes of logistics trucks as part of the U.S. Army's Common Tactical Truck (CTT) programme. However, Iveco Defence Vehicles, which teamed up with American carmaker AM General to compete in this programme, was not selected.
- ▶ Iveco Defence Vehicles signed an agreement with the Swedish Defence Materiel Administration (FMV) in June 2023 to supply up to 3,000 4x4 light MUVs (under the name LMPV, Light Multi-Purpose Vehicle) in 12 versions. An initial batch of 400 vehicles was ordered, worth SEK 850m (€80m).

Technology and Innovation

- ▶ At the DSEI show in London (UK) in September 2023, Iveco Defence Vehicles presented its Viking 6x6 multirole UGV, designed for reconnaissance, fire support, refuelling, casualty evacuation and CBRN (chemical, biological, radiological and nuclear) risk mitigation missions.



JOHN COCKERILL

Belgian group specialised in civil and military industrial activities (turrets, weapons systems, anti-tank missiles and simulation / training)

BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Turrets and weapons systems for armoured vehicles and naval ships
- ▶ Anti-tank missiles
- ▶ Services (simulation, training and MRO)
- ▶ Energy supply equipments
- ▶ Heat treatment furnaces
- ▶ Water pumping solutions
- ▶ Renewable energies (hydrogen)

GOVERNANCE

Chairman	Bernard Serin
Chief Executive Officer	François Michel
President, John Cockerill Défense	Thierry Renaudin

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Ebenis SA (Bernard Serin)	80,65%
Dodeca SA (management)	19,35%

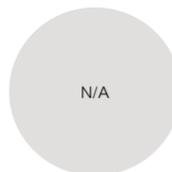
MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SAMI CMI Defence Systems	N/A	Saudi Arabia

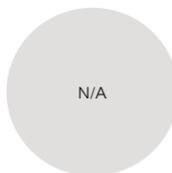
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	1 260	1 014	947	1 046
Δ (%) [\$]	-2,85%	-19,52%	-6,61%	10,45%
Defence (%)	≈ 40%	≈ 35%	≈ 25%	≈ 20%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	81	54	54	47
Operating margin	6,46%	5,34%	5,71%	4,46%
Net income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	5 741	5 176	5 480	6 003

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Hanwha	Northrop Grumman	KNDS France	Rheinmetall	PT Pindad	North Sea Boats	NIMR*	Luch Design Bureau**	Thales	General Dynamics	FNSS	UkrSpecExport**	Otokar
Ground weapon systems													
Série 3000 family of modular weapon turrets (25 to 105 mm calibre guns)	•	•							•	•			•
CSE 90LP two-person turret (90 mm calibre low pressure gun)												•	
LCTS 90MP two-person turret (90 mm calibre gun)								•					
1030 remote controlled turret (30 mm calibre gun)		•											
CPWS Gen.2 multirole remote controlled weapon station (25 and 30 mm calibre guns)		•	•	•									
CLWS 25 & 30 weapon station (25 and 30 mm calibre guns)													
Naval weapon systems													
C1030 turret (30 mm calibre gun) (Combat Boat programme)		•			•	•							
Ground vehicles													
i-X future ground interceptor (data fusion, armament)							•						
Missile systems													
Falarick 105 gun-launched anti-tank guided missile								•					
Services													
Agueris simulator									•				
Shooting training													
Weapon systems MRO													

*Subsidiary of Edge Group

**Subsidiary of UkrOboronProm

STRATEGIC HIGHLIGHTS

Business trends

- ▶ After three years of decline, John Cockerill revenues grew 10.5% year-on-year to €1,046m in 2022, of which approximately 20% from defence activities (compared with 40% in 2019).
- ▶ This reduced share of defence revenues reflects John Cockerill's strategy of rebalancing its activities towards the civil sector, particularly in industrial heat recovery systems (acquisition of the Hamon group, which operates in Belgium and France, in June 2022), nuclear energy (acquisition of the French company STIN, which specialises in welding and pipework, in May 2023) and green hydrogen (creation of the Rely joint venture with Technip Energies in May 2023).

Home market

- ▶ The group is a key partner of the Belgian Ministry of Defence for land programmes (design, production and integration of turrets and provision of associated services such as maintenance, simulation and training), just like FN Herstal (production of assault rifles and machine guns).
- ▶ John Cockerill was to participate, as a partner of KNDS France (prime contractor), in the Belgian Army's CaMo (Motorised Capability) programme to acquire 382 Griffon armoured multirole vehicles and 60 Jaguar armoured reconnaissance and combat vehicles. The group was to carry out the final assembly of the Griffon vehicles and the Jaguar's T-40 turrets in Belgium. However, despite the contractual commitments made by KNDS France, the contract was awarded to the Flemish company Mol in January 2022.

Export markets

- ▶ John Cockerill has a strong international presence with subsidiaries or representative offices for its defence activities in nine countries (Spain, France, Poland, Brazil, United States, Saudi Arabia, United Arab Emirates, Indonesia and Singapore).
- ▶ On 1 January 2023, the group merged its French defence subsidiaries into John Cockerill Defense France, a company with four locations. Through this operation, John Cockerill intends to achieve synergies between its various activities and structure its business by being present on all segments, from production to military training. In particular, the group intends to offer its Agueris range for programmes using simulators, as the Scorpion-CaMo programme which includes training for the French and Belgian Armies.
- ▶ In May 2023, John Cockerill entered into a partnership with NIMR, subsidiary of the UAE-based Edge group, to develop and market the future i-X ground interceptor, with a retractable weapons system. The aim is to combine the expertise of both parties, John Cockerill's lethality solutions and NIMR's mobility solutions.
- ▶ In May 2023, John Cockerill presented the French Army's Technical Section with its i-X ground interceptor prototype, which could serve as the basis for the future armoured engagement support vehicle (VBAE in French) intended to replace the light armoured vehicle (VBL) as part of the Scorpion programme.

Technology and Innovation

- ▶ In September 2022, John Cockerill was selected by the European DG Defis to take part in the Famous2, Marseus and Indy projects, three European Defence Fund programmes. Famous2, led by Patria, aims to develop tracked and wheeled armoured vehicles. John Cockerill will coordinate research into the development of medium-calibre weapon systems, in partnership with Patria, Escribano, ISD, Kongsberg and KNDS France.



KAWASAKI HEAVY INDUSTRIES (KHI)

Japanese conglomerate of about 50 companies, operating in the military aerospace and maritime defence sectors, ranked 72nd defence company in the world

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military and commercial aviation (aircraft, helicopters, propulsion systems)
- ▶ Shipbuilding
- ▶ Space
- ▶ Railway construction
- ▶ Energy
- ▶ Industrial equipment
- ▶ Motorcycles

GOVERNANCE

Chairman	Y. Kanehana
Chief Executive Officer	Y. Hashimoto
President, Aerospace Systems	H. Shimokawa

KEY FIGURES (Fiscal year ended: March 31st)

€ millions	2019-20	2020-21	2021-22	2022-23
Revenue	13 591	12 028	11 498	12 247
Δ (%) [JPY]*	2,92%	-9,31%	0,83%	14,97%
Defence (%)	16%	18%	15%	N/A
Export (%)	57%	53%	56%	60%
Operating profit/loss	514	-43	233	605
Operating margin	3,78%	-0,36%	2,02%	4,94%
Net income**	155	-156	97	391
Order book	13 687	11 865	12 069	13 781
Employees	36 332	36 691	36 587	38 254

*Variation based on revenue in local currency
See EUIPY, p.7

**Net income attributable to shareholders

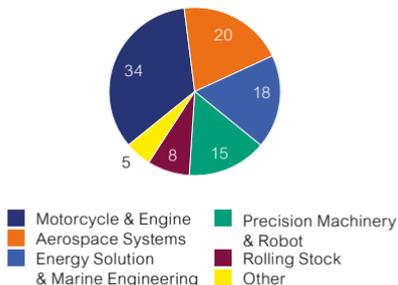
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	7012
Listed on	Tokyo Stock Exchange
Market Cap (JPYbn)	568

Major shareholders (as of 14.11.2023)

Nameura Asset Management Co., Ltd.	3,54%
Nippon Life Insurance Co.	3,43%
Employees	3,11%
The Vanguard Group, Inc.	2,87%

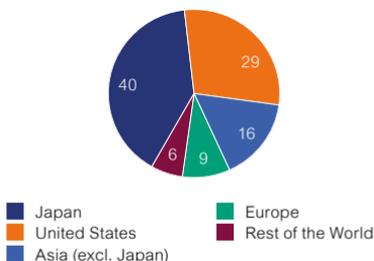
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Enseada Indústria Naval	31,09%	Brazil

REVENUE BY REGION (%)



KAWASAKI HEAVY INDUSTRIES (KHI)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	GE Aerospace**	IHI Corporation	Toshiba	Mitsubishi Heavy Industries	Boeing	Leonardo	Northrop Grumman	Airbus	Saab	Honeywell	Safran
Military aircraft											
C-2 tactical transport aircraft	●										
P-1 maritime patrol aircraft		●	●								
T-4 trainer aircraft		●									
Military helicopters											
CH-47JA Chinook multirole helicopter*				●							
MCH-101 airborne mine countermeasures helicopter*					●	●					
BK 117 utility-transport helicopter							●				
OH-1 light observation helicopter				●							
Propulsion systems											
T55 turbofan engine (CH-47 JA)*										●	
RTM332 turbofan engine (MCH-101)*											●
Missile systems											
New SSM future coastal anti-ship cruise missile											
Middle range MPM, Type 01 LMAT, Type 79 Jyu-MAT, Type 87 Chu-MAT and Type 96 MPMS anti-tank missiles											
Submarines											
Taigei-class submarine				●							
Soryu-class submarine				●					●		
Space systems											
H-IIA/H-IIB and H3 payload fairings for launch vehicles				●							

*Sub-licensed production **Formerly GE Aviation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Kawasaki Heavy Industries (KHI) reported revenues of 1.726 trillion yen (€12.2bn) during fiscal year 2022-23, up 15% year-on-year in local currency. In particular, revenues in the Aerospace Systems division rose by 17%, driven by a recovery in orders from civil aircraft manufacturers (aerostructures and components for passenger aircraft and propulsion systems), for which KHI is a subcontractor, and by increased demand for components from Japan's Ministry of Defense.
- ▶ The group's military activities are concentrated in two divisions: Aerospace Systems (military aircraft and helicopters) and Energy Solution & Marine Engineering (submarines). In the coming years, KHI intends to benefit from an increased level of orders in its domestic market. In December 2022, Japan's Ministry of Defense announced it intended to spend between 40 and 43 trillion yen (between €283 and €305bn) on defence over the April 2023-March 2028 period, compared to 27.5 trillion yen (€213bn) over the April 2018-March 2023 period.

Home market

- ▶ KHI generated 40% of its revenues in its domestic market in 2022-23, including almost all of its defence activities. The group is a key supplier to the Japan Self-Defense Forces as prime contractor for the C-2 tactical transport aircraft and P-1 maritime patrol aircraft programmes. KHI is also the co-builder, alongside Mitsubishi Heavy Industries (MHI), of the Taigei-class attack submarines, powered by lithium-ion batteries (seven units to build, of which four by MHI and three by KHI).
- ▶ In March 2023, the group handed over its first Taigei-class submarine, named Hakuhei, to the Japan Maritime Self-Defense Force. It was the second submarine of the class to enter service, following the Taigei (built by MHI) in March 2022.
- ▶ After taking delivery of two units in June 2022, the Japan National Police Agency awarded KHI a contract in April 2023 for the supply of two additional BK 117 D-3 multipurpose helicopters, to be delivered by March 2025.
- ▶ In June 2023, KHI signed a JPY 39.3bn (€272m) contract with the Japan Ministry of Defense to begin development of a future infrared and RF-guided anti-ship coastal defence missile, the New SSM. The missile will be powered by the KJ300 turbofan engine currently being developed by the group. Thanks to its modular architecture, the missile will also be able to carry out ISR missions using sensors and electronic jamming missions.
- ▶ In June 2023, the Japan Maritime Self-Defense Force ordered an unspecified number of new MCH-101 underwater mine countermeasures helicopters from Leonardo and KHI (jointly in charge of this programme since 2003), and launched a mid-life modernisation programme for its existing fleet of 14 aircraft.

Export markets

- ▶ KHI generated 60% of its revenues from exports in 2022-23, mainly in the civil sector. In defence, KHI intends to win new markets by offering the Soryu-class conventionally-powered attack submarine, the C-2 tactical transport aircraft and the P-1 maritime patrol aircraft to foreign armed forces, although yet unsuccessfully.
- ▶ In March 2023, the group announced that it was working on a programme to reduce the production costs of its C-2 aircraft to facilitate export sales.

Technology and Innovation

- ▶ The group's R&D expenditure amounted to JPY 47bn (€361m) in 2021-22, representing 3.1% of revenues.
- ▶ In April 2023, Japan's Acquisition, Technology and Logistics Agency (ATLA) started testing a 100 kW anti-drone laser weapon prototype developed by KHI and meant to be installed on armoured vehicles.



KNDS

Leading European defence land systems group, resulting from the 50-50 merger between Germany's KMW and France's Nexter, and 36th-largest defence company in the world

BUSINESS AREAS

Platform manufacturer and system architect-integrator

- ▶ Tracked and wheeled armoured vehicles
- ▶ Artillery and weapon systems
- ▶ Ammunition
- ▶ Defence and security robotics
- ▶ Embedded electronics
- ▶ Simulation and training solutions

GOVERNANCE

Chairman	Philippe Petitcolin
CEO of KNDS	Frank Haun
CEO of KNDS France	Nicolas Chamussy
CEO of KNDS Germany	Ralf Ketzler

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	2 539	2 409	2 682	3 172
Δ (%)	13,08%	-5,12%	11,33%	18,26%
Defence (%)	100%	100%	100%	100%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	283	296	389
Operating margin	N/A	11,74%	11,03%	12,28%
Net income	N/A	183	216	291
Order book	9 633	10 600	10 700	11 000
Employees	7 873	8 270	8 619	8 952

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

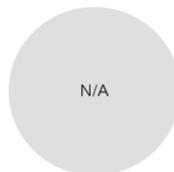
Major shareholders (as of 14.11.2023)

Giat Industries S.A. (French State)	50%
Wegmann & Co. GmbH	50%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
KNDS France		
CTA International	50%	France
TNS-MARS	37,5%	France
KNDS Germany		
Projekt System & Management	50%	Germany
ARTEC	36%	Germany
Milrem Robotics	24,9%	Estonia
EuroTrophy	N/A	Germany

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



STRATEGIC HIGHLIGHTS

Business trends

- ▶ KNDS revenues reached €3,172m in 2022, up 18.3% year-on-year. Growth was driven by deliveries of ammunition, Jaguar and Griffon armoured vehicles to France, Leopard 2A7 HU main battle tanks to Hungary and PzH 2000 self-propelled howitzers. Following the increase in new order intake (€3.4bn, compared to €2.8bn in 2021), the group's order book reached a solid €11bn at the end of 2022.

Home markets (France, Germany)

- ▶ KNDS France, Arqus and Thales are jointly in charge of the Scorpion programme for the supply of wheeled armoured vehicles to the French Army. 1,872 Griffon VBMR/MEPAC multirole armoured vehicles as well as 300 Jaguar EBRC armoured reconnaissance and combat vehicles should be ordered and almost all delivered by 2030, around half of which by 2025. The three groups delivered 113 Griffon and 27 Jaguar vehicles in 2022.
- ▶ In 2022, France awarded KNDS France the contract for the development of the CAESAR MKII artillery system, and ordered 18 CAESAR MKI* artillery systems to replenish the French fleet following transfers to Ukraine.
- ▶ Germany ordered ten new PzH 2000 self-propelled howitzers from KNDS Germany in March 2023, with deliveries starting in 2025. The agreement includes options for the supply of a further 18 units.
- ▶ In May 2023, Germany's Federal Office of Bundeswehr Equipment (BAAINBw) ordered 50 Puma tracked infantry fighting vehicles from Projekt System & Management, a joint venture between KNDS Germany and Rheinmetall, for a total of €1.1bn, of which €574m for KNDS Germany. Deliveries are scheduled between December 2025 and early 2027.
- ▶ In July 2023, KNDS France, Arqus and Thales announced the delivery of a total of 50 Jaguar and 500 Griffon vehicles to the French Army. In addition, KNDS France and Texelis handed over their 135th Serval 4x4 light multirole armoured vehicle, out of a total target of 2,038 vehicles for the Scorpion and VLTP programmes.
- ▶ KNDS France aims to deliver its 300th 30mm x 150 calibre M791 gun for the Rafale fighter aircraft (Dassault Aviation) in 2023.

Export markets

- ▶ Together with Thales and Arqus, KNDS France is participating in the CaMo (Motorised Capability) programme to supply the Belgian Army with 60 Jaguar EBRC and 382 Griffon VBMR vehicles from 2025 onwards. The €1.6bn contract includes training and maintenance services. Flemish company Mol will carry out the final assembly of the Griffon vehicles and the Jaguar's T-40 turrets in Belgium.
- ▶ In 2022, Belgium, the Czech Republic and Lithuania ordered a total of 37 CAESAR artillery systems from KNDS France.
- ▶ Norway ordered 54 Leopard 2A8 NOR main battle tanks in February 2023 for NOK 19.7 bn (€1.8 bn). The vehicles are to be delivered between 2026 and 2028. The contract includes an option for a further 18 units. Italy and the Netherlands are also interested in the Leopard 2A8 MBT.

Technology and Innovation

- ▶ In December 2022, KNDS France launched an on-board energy research programme for its vehicles. Named Baldur, the programme will focus on three key topics: guaranteeing a secure power supply for vehicle equipment and enhancing the resilience of operational functions; reducing the thermal, noise and electromagnetic signature of vehicles; diversifying on-board energy sources and controlling system consumption.
- ▶ The French Defence Innovation Agency (AID) selected KNDS France, EOS Technologie and TRAAK in June 2023 in the Larinae medium-range remotely operated munition call for projects. This programme aims to provide the French Ministry of Armed Forces with an aerial drone equipped with an anti-tank warhead developed by KNDS France. The first demonstrator is due to be presented at the end of 2024.



KONGSBERG

Technology group with civil and military activities, 50% owned by the Norwegian State, specialist for RWS and missile systems (NSM, JSM), and 61st-largest defence contractor

BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Remote weapon stations (RWS)
- ▶ Missile and air defence systems
- ▶ Combat systems for surface ships and submarines
- ▶ C4ISR and communication systems
- ▶ Systems and equipment for commercial ships
- ▶ Aircraft and space systems (aerostructures, propulsion systems)

GOVERNANCE

Chairman

Eivind Reiten

Chief Executive Officer

Geir Håøy

President Kongsberg Defence & Aerospace

Eirik Lie

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	KOG
Listed on	Oslo Stock Exchange
Market Cap (NOKm)	82 754

Major shareholders (as of 14.11.2023)

Norwegian State	50,40%
Folketrygdfondet	5,74%
Erik Christian Must	2,53%
MP Pensjon PK	1,36%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Kongsberg Aviation Maintenance Services	50,1%	Norway
Kongsberg Satellite Services	50%	Norway
Kta Naval Systems	50%	Norway
Patria	49,9%	Finland
Andøya Space	10%	Norway

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019**	2020	2021	2022
Revenue	2 360	2 389	2 701	3 148
Δ (%) [NOK]*	68,36%	10,18%	7,17%	15,86%
Defence (%)***	31%	33%	37%	37%
Export (%)	81%	80%	81%	79%
Operating profit/loss	104	178	282	328
Operating margin	4,43%	7,44%	10,43%	10,40%
Net income****	71	270	212	275
Order book	3 279	3 433	4 940	6 016
Employees	10 793	10 689	11 122	12 187

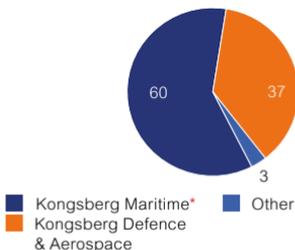
*Variation based on revenue in local currency. See €/NOK, p.7

**Figures restated

***Kongsberg Defence & Aerospace division only

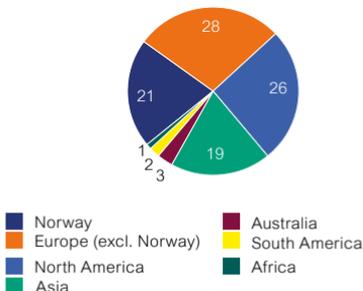
****Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



*Mainly civil activities

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	PCZ	Raytheon Technologies*	Northrop Grumman	BAE Systems	Rheinmetall	Marvin Group	Lockheed Martin	Leonardo	Patria	Nammo	TKMS**	Airbus
Remote weapon stations													
PROTECTOR family (RWS, MCT, Lite)	●		●	●	●			●					
Missile systems													
Penguin anti-ship missile												●	
Naval Strike Missile (NSM)	●	●										●	
Joint Strike Missile (JSM)			●	●			●						
Air defence systems													
National Advanced Surface-to-Air Missile System (NASAMS)			●					●					
Coastal Defence System (CDS)													
Naval systems													
MCM C2 tactical system													
MSI-90U Mk2 submarine combat system												●	
PROTEUS naval training solutions													
HUGIN Autonomous Underwater Vehicles (AUVs)													
C4ISR and communication systems													
Kongsberg Tactical Communication System (K-TaCS)			●										
NATO Alliance Ground Surveillance (AGS) System Master Archival/Retrieval Facility information (SMARF)				●									
Military aircraft													
Fuselage parts, main landing gear and JSM carriage of the F-35 Lightning II fighter aircraft			●			●	●						
Military aircraft and helicopters MRO							●	●	●				●

*Merger of Raytheon and UTC **thyssenkrupp Marine Systems, thyssenkrupp group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Kongsberg revenues rose 15.9% year-on-year in local currency, to NOK 31.8bn (€3,148m) in 2022. The Kongsberg Defence & Aerospace division recorded solid growth (+17.7%), mostly driven by increased deliveries of NASAMS air defence systems, combat systems for submarines and digital solutions for military vehicles. The division generated revenues of NOK 11.8bn (€1,171m) in 2022, accounting for 37.2% of the group's total turnover, and has 3,879 employees.
- ▶ In February 2023, Kongsberg Australia started building a new factory at Mawson Lakes, which will be dedicated to the local production of the NSM anti-ship missiles ordered in June 2022 for NOK 489m (€48m) by the Australian Defence Force. The NSM missile will be fitted on Anzac-class frigates and Hobart-class destroyers from 2024.
- ▶ At the Paris Air Show in June 2023, Airbus signed a letter of intent with Kongsberg Aviation Maintenance Services to maintain helicopters for the Norwegian Army and Special Forces.

Home market

- ▶ The group generated 21% of its turnover in its domestic market in 2022. Defence revenues generated in Norway reached NOK 2.7bn (€269bn), representing 23% of total defence revenues.
- ▶ The Norwegian Defence Materiel Agency (NDMA) ordered several batches of NSM anti-ship missiles from Kongsberg, in December 2022 for NOK 604m (€60m) and in September 2023 for NOK 487m (€44m).
- ▶ Kongsberg signed two contracts in June 2023 with the NDMA, one worth NOK 365m (€33m) to replace some components of the AN/MPQ-64 radars of the NASAMS air defence system, and the other worth NOK 320m (€29m) to develop a new tactical radio system called Thor.

Export markets

- ▶ Kongsberg generated 77% of its defence sales from exports in 2022. Its main export market is North America (43% of defence revenues), ahead of Europe excluding Norway (22%).
- ▶ As part of the U.S. Navy's Over-The-Horizon Weapon System (OTH WS) programme, Raytheon Missiles & Defense awarded Kongsberg a contract worth NOK 1,345m (€121m) in June 2023 for the supply of NSM anti-ship missiles.
- ▶ In June 2023, the Norwegian Defence Materiel Agency (NDMA) awarded a contract worth NOK 700m (€63m) to Kongsberg Aviation Maintenance Services to overhaul and adapt 32 of the Norwegian Air Force's F-16 Fighting Falcon fighter aircraft, which are to be resold to the Romanian Air Force.
- ▶ In June 2023, Lithuania's Ministry of National Defence ordered two NASAMS air defence systems from Kongsberg, which will later be transferred to Ukraine.
- ▶ The UK-led International Fund for Ukraine signed a £56m (€60m) contract with Kongsberg in August 2023 for the supply of several CORTEX Typhoon anti-drone systems, developed in partnership with Flir (a Teledyne subsidiary) and mounted on remote weapons stations. The group is also supplying Dingo 2 4x4 armoured vehicles, remote weapon stations and various weapons.
- ▶ Kongsberg signed a contract worth around NOK 16bn (€1.4bn) in September 2023 with the Polish Ministry of National Defence for the delivery of four CDS coastal defence systems armed with NSM anti-ship missiles.

Technology and Innovation

- ▶ Kongsberg Defence & Aerospace's R&D expenditure amounted to NOK 104m (€10.2m) in 2022, representing 0.9% of the division's revenues.



KOREA AEROSPACE INDUSTRIES (KAI)

Aerospace and defence group, mainly operating in military aviation (T-50 training aircraft, future KF-21 Boramae fighter aircraft), and 56th-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Commercial and military aircraft
- ▶ Military helicopters
- ▶ Unmanned aerial systems
- ▶ Aerostructures
- ▶ Commercial and military aircraft MRO and modernisation services
- ▶ Training solutions
- ▶ Space

GOVERNANCE

Chief Executive Officer

Goo-young Kang

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	A047810
Listed on	Korea Exchange
Market Cap (KRWbn)	4 518

Major shareholders (as of 14.11.2023)

South Korean State	26,41%
National Pension Service of Korea	9,98%
Fidelity Management & Research Co.	3,14%
The Vanguard Group, Inc.	2,50%

MAIN JOINT VENTURES AND ASSOCIATES

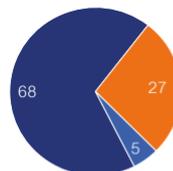
Name	%	Country
KAEMS	66,4%	South Korea
KAI-EC	51%	South Korea

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	2 383	2 100	1 892	2 052
Δ (%) [KRW]*	11,63%	-9,16%	-9,30%	8,77%
Defence (%)	65%	72%	77%	73%
Export (%)	54%	33%	28%	31%
Operating profit/loss	211	104	43	104
Operating margin	8,86%	4,94%	2,27%	5,08%
Net income	129	54	39	85
Order book	13 037	13 743	13 857	18 299
Employees	4 936	5 028	4 968	5 004

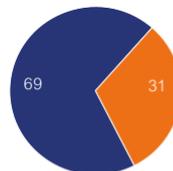
*Variation based on revenue in local currency
See €IKRW, p.7

REVENUE BY BUSINESS SEGMENT (%)



■ Domestic business
■ Aerostructure
■ Export of finished aircraft

REVENUE BY REGION (%)



■ South Korea
■ Export markets

KOREA AEROSPACE INDUSTRIES (KAI)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Lockheed Martin	Hanwha	PT Dirgantara Indonesia	Boeing	Hyundai Heavy Industries*	KARI**	Thales Alenia Space	Elbit Systems	AAI Corp***
Military aircraft										
KF-21 Boramae future fighter aircraft (KF-X programme)	●	●	●							
KA-1 and FA-50 light fighter aircraft	●									
T-50 and TA-50 advanced trainer aircraft	●	●								
KT-1 basic trainer aircraft	●									
Military helicopters										
Single-turbine future Light Attack Helicopter (LAH)	●	●								
KUH-1 Surion twin-turbine transport helicopter	●	●						●		
Unmanned aerial vehicle										
Night Intruder 600VT (NI-600 VT) future UAV										
Aerostructures										
F-15 (fuselage, wings) and F-16 (fuselage) fighter aircraft	●				●				●	
AH-64 (fuselage) attack helicopter					●					
MRO and modernisation										
ROKAF's FA-50, P-3CK, E-737 AEW&C and C-130H aircraft, and Lynx helicopter MRO and modernisation	●				●					
US Air Force's F-16 fighter aircraft maintenance	●									
Training solutions										
T-50, TA-50 and FA-50 aircraft simulators										
Space										
Nuri (KSLV-II) launcher		●			●	●				
Future observation radar satellites (425 Project)		●					●			

*Korea Shipbuilding & Offshore Engineering group (KSOE) **Korea Aerospace Research Institute ***Textron group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Korea Aerospace Industries (KAI) posted revenues of 2.787 trillion won (€2,052m) in 2022, up 8.8% year-on-year in local currency. Growth was mainly driven by a recovery in aerostructures sales (+49.9%), as aircraft manufacturers increased their production rates. On the other hand, the group's domestic revenues rose only 3.5%, despite the continuation of various programmes, and military aircraft exports fell significantly (-41.6%).
- ▶ KAI ambitions to reach a turnover of 15 trillion won (around €11bn) by 2030, as was announced in January 2023, meaning a more than five-fold increase on 2022 revenues, and of 40 trillion won (around €29bn) by 2050 to rank among the world's top seven aircraft manufacturers. To achieve its goals, the group aims to boost its exports of military aircraft and enter promising military and civil segments, such as transport aircraft (MC-X), advanced aerial vehicles (AAVs), urban air eco-mobility and artificial intelligence solutions for autonomous piloting of aircraft, satellites and drones.
- ▶ South Korea and the United Arab Emirates signed two letters of intent in January 2023, one to deepen their bilateral arms cooperation, and the other to include the United Arab Emirates in the future MC-X transport aircraft project, for which KAI presented a mock-up in September 2022.
- ▶ In January 2023, KAI also signed a letter of intent with Northrop Grumman to cooperate in the field of vertical take-off and landing (VTOL) UAVs for maritime patrol missions.

Home market

- ▶ As South Korea's sole aircraft manufacturer, KAI is involved in the main programmes of the Republic of Korea Air Force (ROKAF). In particular, the group is in charge of developing the future KF-21 Boramae fighter aircraft (KF-X programme), in partnership with PT Dirgantara Indonesia, as well as the future Light Armed Helicopter (LAH), in partnership with Airbus.
- ▶ KAI signed a contract worth KRW 302bn (€222m) in December 2022 with South Korea's Defense Acquisition Program Administration (DAPA) for the production of ten Light Attack Helicopters by December 2024. The DAPA plans to order helicopters until 2031 at a cost of KRW 5.75 trillion (€4.2bn).
- ▶ The Nuri launcher (KSLV-II), produced by KAI in partnership with other South Korean players, successfully completed its first operational flight in May 2023 and placed an X-band SAR radar technology demonstrator (NEXTSat-2) and seven CubeSats into low-Earth orbit, for a total payload of 240 kg.

Export markets

- ▶ The group generated 31% of its revenues from exports in 2022.
- ▶ In May 2023, KAI won a tender in Malaysia for its FA-50 Golden Eagle aircraft, with an order for 18 units (8 trainer aircraft and 10 light fighter aircraft) worth \$919m (€858m). 30% of production is to be carried out locally, with the first aircraft due for delivery in August 2026. A further order for 18 aircraft could be placed at a later date.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to KRW 119bn (€88m) in 2022, representing 4.3% of revenues.
- ▶ South Korea's DAPA awarded KAI a contract worth KRW 345bn (€254m) in December 2022 to develop a prototype mine warfare helicopter for the Republic of Korea Navy by 2026. If this project is successful, KAI will become the third group in the world to offer this type of helicopter, alongside Leonardo and Sikorsky (subsidiary of Lockheed Martin).



KOREA SHIPBUILDING & OFFSHORE ENGINEERING (KSOE)

Holding company with civil and military activities which gathers three shipyards, including Hyundai Heavy Industries (HHI), one of South Korea's largest military shipbuilders

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military vessels (surface combatants and conventionally-powered submarines)
- ▶ Commercial ships
- ▶ Naval engines and turbines
- ▶ Power and petrochemical plants
- ▶ Offshore plants
- ▶ Civil nuclear energy

GOVERNANCE

Co-Chief Executive Officer
and Chairman

Sam-hyun Ka

Co-Chief Executive Officer

Ki-sun Chung

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	11 631	11 076	11 442	12 740
Δ (%) [KRW]**	15,36%	-1,84%	3,96%	11,67%
Defence (%)**	≈ 5%	≈ 5%	≈ 6%	≈ 4%
Export (%)	76%	70%	69%	74%
Operating profit/loss	222	55	-1 023	-262
Operating margin	1,91%	0,50%	-8,94%	2,06%
Net income***	126	-620	-686	-160
Order book	21 157	17 496	28 259	42 783
Employees	21 634	20 780	19 990	20 536

*Variation based on revenue in local currency. See €/(KRW), p.7

**Naval & Special ships division of Hyundai Heavy Industries only

***Net income attributable to shareholders

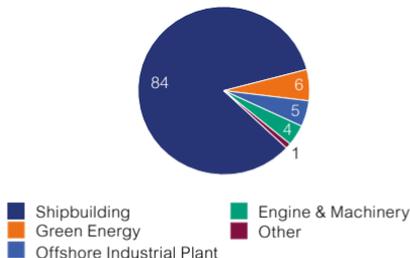
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	009540
Listed on	Korea Exchange
Market Cap (KRWbn)	6 745

Major shareholders (as of 14.11.2023)

HD Hyundai Co. Ltd.	35,05%
National Pension Service of Korea	6,80%
KCC Corporation	3,91%
BAMCO, Inc.	1,74%

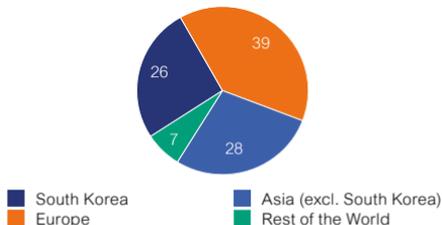
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Hyundai Heavy Industries	78,02%	South Korea

REVENUE BY REGION (%)*



*Revenue distribution based on total sales excluding eliminations

KOREA SHIPBUILDING & OFFSHORE ENGINEERING (KSOE)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Hanwha Ocean**	Hanwha Systems***	SK Oceanplant	HJSC****	tkMS*****	Lockheed Martin	GE Aerospace*****	Rolls-Royce	Raytheon Technologies*****	LIG Nex1	Thales	Elta Systems*****	Indra Systems*****	Babcock
Combat ships														
Future stealth destroyer (KDDX / KDX-IV)		●							●					
Sejong Daewang-class destroyer (KDX-III)	●	●			●	●	●	●	●	●				
Chungnam-class future frigate (FFX-III)	●	●	●			●	●		●					
Daegu-class frigate (FFX-II)	●	●					●	●	●					
Jose Rizal-class frigate (Philippine Navy)		●					●				●			
HDC-3100 future corvette (Philippine Navy)		●					●					●		
Soyang fast combat support ship														
Patrol ships														
Sam Bong-class and Tae Pyung Yang-class coast guard ships														
Mine warfare ships														
Nampo-class minelayer									●					
Auxiliary ships														
Cheon Wang Bong-class tank landing ship				●					●					
Aotearoa auxiliary ship (Royal New Zealand Navy)							●							
Hansando training ship														
Conventionally-powered submarines														
Dosan Ahn Chang-ho-class attack submarine (KSS-III)	●	●							●	●		●	●	
Son Won-il-class attack submarine (KSS-II)*	●			●					●	●				

*Based on tkMS' Type 214 submarine **Hanwha group ***HJ Shipbuilding & Construction (ex-Hanjin Heavy Industries)
 ****thyssenkrupp Marine Systems (including Atlas Elektronik), thyssenkrupp group *****Formerly GE Aviation *****Merger of Raytheon and UTC
 *****Subsidiary of Israel Aerospace Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ KSOE revenues reached 17,302 trillion won (€12.7bn) in 2022, up 11.7% year-on-year in local currency. The Shipbuilding division recorded a 10% increase during the year. Hyundai Heavy Industries (HHI), the only KSOE shipyard involved in military shipbuilding, posted revenues of 9,065 trillion won (€6.7bn, up 9.2% year-on-year in local currency).
- ▶ HHI partnered with Babcock Canada in June 2023 to cooperate on the Canadian Patrol Submarine Project (CPSP) programme to replace the four Victoria-class submarines. The Royal Canadian Navy intends to acquire up to 12 conventionally-powered submarines, at an estimated cost of CAD 60bn (€41bn), including the supply of maintenance and training services. Babcock Canada also signed an agreement with Hanwha Ocean (formerly DSME).

Home market

- ▶ HHI is a major supplier to the Republic of Korea Navy (ROKN), alternating or competing (depending on the programme) with its domestic peer Hanwha Ocean.
- ▶ HHI is in charge, in turn with Hanwha Ocean, of the construction of four of the eight FFX-II Daegu-class frigates. The third and fourth units (FFG-821 and FFG-822), built by HHI, were commissioned during 2021, and the seventh and eighth units (FFG-826 and FFG-827) in May and October 2023 respectively.
- ▶ HHI and Hanwha Ocean also take turns in the construction of the KSS-III Dosan Ahn Chang-ho-class conventionally-powered attack submarines. The ROKN is expected to acquire nine of these submarines by 2029, divided into three batches of three units each. Hanwha Ocean supplied the first two submarines of the first batch and HHI launched the third unit (SS-086, named Shin Chae-ho) in September 2021, with delivery scheduled for 2024.
- ▶ HHI and Hanwha Ocean are also competitors in the ROKN's future CVX light aircraft carrier programme and have respectively partnered with Babcock and Fincantieri for the design phase. The vessel is scheduled to enter service in 2033.
- ▶ South Korea's Defense Acquisition Program Administration (DAPA) awarded HHI a contract worth KRW 670bn (€493m) in December 2022 for the supply of the third KDX-III Sejong Daewang-class stealth destroyer of the second batch, to be delivered in 2028. All three destroyers of the second batch will be built by HHI.
- ▶ In April 2023, HHI launched the first of the six FFX-III Chungnam-class frigates (FFG-828), for delivery in December 2024. South Korean shipyard SK Oceanplant (formerly Samkang M&T) will supply the next three units (Nos. 2 to 4) and Hanwha Ocean the last two ships (Nos. 5 and 6).

Export markets

- ▶ HHI has a marginal export presence. However, the shipyard was awarded two contracts by the Philippine Navy, for a total value of approximately PHP 58bn (around € 1bn), for the supply of two HDC-3100 corvettes in December 2021 and six HDP-1500 Neo offshore patrol vessels in May 2022 respectively.
- ▶ In June 2023, HHI submitted a version of its HDC-2000 design in response to a call for tenders from Malaysia, which announced its intention to acquire three additional LMS (Littoral Mission Ship) patrol vessels for a budget of MYR 2.4bn (around €520m) in September 2022. These vessels would be the first of a batch of eight patrol boats.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to KRW 125bn (€92m) in 2022, representing 0.7% of revenues.
- ▶ At the MADEX exhibition in Busan (South Korea), HHI presented several ship concepts, including a 130m long trimaran able to displace up to 6,000 tonnes, armed with various missiles and able to serve as a platform for drones, developed in partnership with LIG Nex1.



L3HARRIS TECHNOLOGIES

6th-largest U.S. defence group and 9th-largest worldwide, operating in ISR and communication systems, which acquired rocket engine manufacturer Aerojet Rocketdyne in mid-2023

BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ ISR systems
- ▶ Communication systems
- ▶ Electronic warfare systems
- ▶ Avionics
- ▶ Space (payloads)
- ▶ Air traffic control
- ▶ Training solutions

GOVERNANCE

Chairman and CEO	C. E. Kubasik
President Integrated Mission Systems	J. Rambeau
President Aerojet Rocketdyne	R. Niebergall

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	16 158	15 932	15 058	16 203
Δ (%) [\$]*	N/A	0,54%	-2,09%	-4,22%
Defence (%)	77%	78%	75%	74%
Export (%)	22%	20%	22%	23%
Operating profit/loss**	N/A	2 466	2 414	2 496
Operating margin**	N/A	15,48%	16,03%	15,40%
Net income***	1 192	982	1 561	1 009
Order book	18 300	17 661	18 665	20 884
Employees	50 000	48 000	47 000	46 000

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

**Adjusted segment operating income

***Net income attributable to shareholders

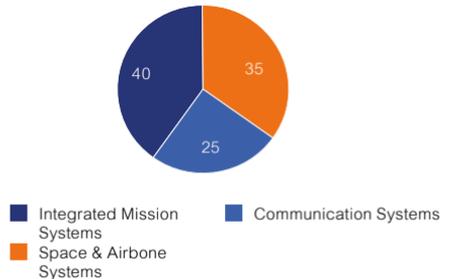
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	LHX
Listed on	NYSE
Market Cap (\$m)	35 450

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	8,84%
Capital Research & Management Co. (World Investors)	5,85%
T. Rowe Price Associates, Inc. (IM)	2,77%
Wellington Management Co. LLP	2,05%

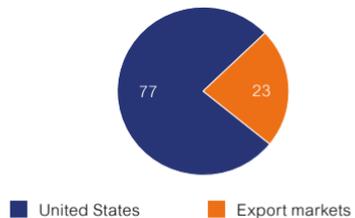
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Aviation Communication & Surveillance Systems (ACSS)	70%	United States
SAMI L3Harris Technologies	49%	Saudi Arabia
Harris Atlas Systems	N/A	UAE

REVENUE BY REGION (%)



L3HARRIS TECHNOLOGIES

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

- L3 Technologies
- Harris Corporation

	Air Tractor	Airbus	General Dynamics	Hij***	BAE Systems	Boeing	Lockheed Martin	Inmarsat
ISR systems								
■ OA-1K Sky Warden light armed ISR aircraft (weapon systems, sensors, etc.)*	●							
■ FVR-90 tactical unmanned aircraft system								
■ MX-15 optronical and infrared sensors		●						
■ Submarine Universal Modular Mast (UMM)			●	●				
■ AN/SPS-48G surveillance radar								
Communication systems								
■ Tactical SATCOM terminals (Panther, Hawkeye, Cheetah)							●	
■ Enhanced Night Vision Google - Binocular (ENVG-B)								
■ Falcon IV family of tactical radios (AN/PRC-158, 163, 167 and 171)								
Electronic warfare systems								
■ Integration of the EC-37B Compass Call** aircraft's mission system		●		●				
■ AN/ALQ-214 IDECM F/A-18 countermeasure system					●			
■ Advanced Integrated Defensive Electronic Warfare Suite (AIDEWS)							●	
Avionics								
■ F/A-18 and F-35 avionics						●	●	
■ US Air Force's C-130 Avionics Modernization Program (AMP)							●	
Space								
■ Xenon ion propulsion system (702SP satellites)						●		
■ Navigation payloads for GPS III satellites							●	

*Based on the Air Tractor AT-802 **Based on the Gulfstream G550 business jet (General Dynamics) ***Huntington Ingalls Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ L3Harris Technologies revenues fell by 4.2% in local currency to \$17.1bn (€16.2bn) in 2022. Two of the group's three divisions reported lower sales, including the Integrated Mission Systems division which suffered from a drop in sales of ISR and optronic systems. On the other hand, growth in the Space & Airborne Systems division was driven by satellite programmes, in particular the Tracking Layer programme for a constellation of anti-missile warning satellites for the U.S. Space Development Agency.
- ▶ In January 2023, the group acquired Viasat's tactical data link business (Link 16 range) for \$1.96bn (€1.83bn). Around 20,000 Link 16 solutions are installed on military aircraft, land vehicles, surface ships, missiles and operational bases in the United States and allied countries. The acquired business is based in Carlsbad, California, and employs 450 people.
- ▶ In July 2023, L3Harris Technologies completed the acquisition of U.S. rocket engine manufacturer Aerojet Rocketdyne, which is involved in a number of missile programmes (RIM-161 SM-3, RIM-174 SM-6, LGM-35 Sentinel, Patriot, PAC-3, THAAD, etc.) and space programmes (SLS, Orion, etc.), for \$4.7bn (€4.4bn). Aerojet Rocketdyne, which will be integrated as the group's fourth division, reached sales of \$2.24bn (€2.13bn) in 2022 with more than 5,000 employees.

Home market

- ▶ The U.S. market is crucial for the group's business (77% of revenues in 2022). The U.S. Department of Defense accounted for 74% of revenues (including Foreign Military Sales).
- ▶ Lockheed Martin awarded L3Harris Technologies a contract in March 2023 to supply its AN/ALQ-254(V)1 Viper Shield electronic warfare system for the F-16 Fighting Falcon Block 70/72 fighter aircraft.
- ▶ In May 2023, L3Harris Technologies won two contracts worth a combined \$160m (€148m) from the U.S. Marine Corps for the production of AN/PRC-163 tactical radios for infantrymen.
- ▶ MAG Aerospace and L3Harris Technologies were selected by the U.S. Army in August 2023 to produce two ISR mission aircraft based on the Bombardier Global 6500 business jet for the Army's Theater-Level, High-Altitude Expeditionary Next Airborne ISR-Radar (ATHENA-R) programme.
- ▶ In September 2023, BAE Systems and L3Harris Technologies handed over the first of ten EC-37B Compass Call aircraft ordered by the U.S. Air Force in 2017 for electromagnetic attack jamming missions. L3Harris Technologies integrated the system, developed by BAE Systems, on a General Dynamics Gulfstream G550 business jet.

Export markets

- ▶ 23% of the group's revenues came from exports in 2022, mainly from Australia, Canada and the UK.
- ▶ The U.S. Department of Defense awarded L3Harris Technologies a contract worth \$40m (€37m) in January 2023 for the delivery of 14 VAMPIRE kits to the Ukrainian Armed Forces during the year. The kits, including a Wescam MX-10 RSTA target acquisition system and a weapons system, are meant to be installed on ground vehicles for the detection and destruction of UAVs.
- ▶ The group won a \$30m (€28m) contract from the Australian Defence Force to produce up to 80 T4 and T7 mine-clearing robots, to be delivered from the end of 2023 onwards (LAND 154 programme).

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$603m (€573m) in 2022, representing 3.5% of revenues.



LEIDOS

Among the leading providers of digital systems and services in the United States, major supplier to the DoD, major partner of DARPA and 16th-largest defence contractor

BUSINESS AREAS

Digital services supplier and systems integrator

- ▶ Cybersecurity
- ▶ IT systems operation, maintenance and modernisation services
- ▶ Logistic support, aeronautical and training services
- ▶ Airborne platforms and unmanned marine systems

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	9 905	10 768	11 612	13 671
Δ (%) [\$]*	8,83%	10,84%	11,71%	4,80%
Defence (%)**	57%	60%	58%	57%
Export (%)	8%	8%	8%	8%
Operating profit/loss	814	874	974	1 033
Operating margin	8,22%	8,12%	8,39%	7,56%
Net income***	596	550	637	651
Order book	21 451	26 008	30 410	33 535
Employees	34 000	39 000	43 000	45 000

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

**Defense Solutions division only

***Net income attributable to shareholders

GOVERNANCE

Chairman and CEO	Tom Bell
Co-president, Defense Solutions division	Gerry Fasano
Co-president, Defense Solutions division	Roy Stevens

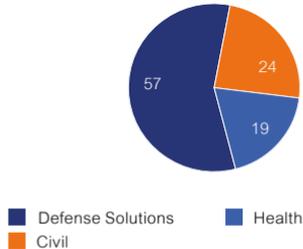
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	LDOS
Listed on	NYSE
Market Cap (\$m)	14 444

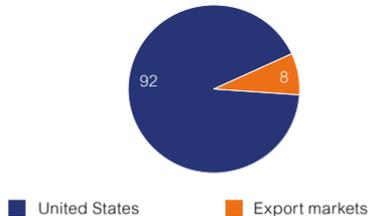
Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	11,00%
BlackRock Investment Management LLC	3,71%
Victory Capital Management, Inc. (IM)	2,93%
Pzena Investment Management LLC	2,65%

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



Name	%	Country
Hanford Mission Integration Solutions	53%	United States
Cardno Tec-Leidos	N/A	United States
Integrated ICBM Support Services (i2S2)	N/A	United States

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Beechcraft**	Bombardier	L3Harris Technologies***	IBM	Verizon	SAIC	TVS Supply Chain Solutions	Kuehne + Nagel	Agility	Prolinx
IT Systems operation, maintenance and modernisation services										
GSM-O II programme (support services for the DoD's information networks)										
U.S. Navy's NGEN-R SMIT programme			●	●	●					
NASA End-User Services & Technologies (NEST) programme										
Cybersecurity										
Proven, Analytic-Centric Kill Chain Implementation and Transformation (PACKIT) cyber defense solution										
Logistic support services										
Logistics Commodities and Services Transformation (LCST) programme (UK MoD)							●	●	●	●
ISS Cargo Mission Contract (engineering and logistic support services)										
Airborne platforms										
Leidos Multi-Mission Aircraft (LMMA) programme	●									
Leidos Special Mission Aircraft (LSMA) programme										
Unmanned marine systems										
Viperfish future UUV			●							
Sea Hunter / Seahawk USVs										
Training										
Common Driver Trainer (CDT) virtual training system										
Aeronautical services										
Airborne surveillance of the Australian exclusive economic zone*		●								

*Subcontracting from the Australian Border Force **Textron group ***Merger of L3 Technologies and Harris Corporation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Leidos posted revenues of \$14.4bn (€13.7bn) in 2022, up 4.8% year-on-year in local currency, mainly driven by growth in the Civil (+9.7%) and Health (+5.5%) divisions. The Defense Solutions division also recorded an increase in revenues (+2.6%), thanks in particular to the integration of activities acquired in 2021 (1901 Group and Gibbs & Cox) and 2022 (Cobham Aviation Services Australia's Special Mission division).
- ▶ In April 2023, the Dynetics subsidiary entered into a partnership with American company NASCAR to develop a rover able to travel on the Moon (Lunar Terrain Vehicle) with two people on board, for NASA's Artemis missions. However, in May 2023 NASA awarded the Sustaining Lunar Development (SLD) contract, for which Dynetics had applied in partnership with Northrop Grumman, to Blue Origin.
- ▶ In July 2023, Leidos teamed up with L3Harris Technologies to compete in the ATHENA-S (Army's Theater Level High-Altitude Expeditionary Next Airborne - Signals Intelligence) U.S. Army tender, by offering Bombardier Global 6500 business jets adapted for ISR missions. However, Sierra Nevada Corp's rival bid was selected in October 2023.

Home market

- ▶ Leidos is the U.S. government's leading provider of digital and telecom services according to Washington Technology's 2023 rankings, ahead of Lockheed Martin and Booz Allen Hamilton.
- ▶ In December 2022, the group won a \$334m (€312m) contract to assist the U.S. Air Force Research Laboratory (AFRL) in developing an air-breathing hypersonic system. Nicknamed Mayhem, the Expendable Hypersonic Multi-mission ISR and Strike programme will span a 51-month period.
- ▶ Leidos was chosen in April 2023 to develop an uncrewed aircraft system (UAS) capable of autonomously resupplying ground forces (weighing up to 600 pounds, or 272 kg). The contract calls for a prototype to be delivered to the U.S. Marine Corps within 18 months. The group will submit its SeaOnyx cargo drone, developed in partnership with U.S. company Phenix Solutions.
- ▶ In August 2023, Leidos was also selected to manage, operate and maintain the U.S. Navy's medium unmanned surface vessels (USVs), under a contract worth up to \$95m (€89m) over three years (including two years of options).
- ▶ In September 2023, Dynetics signed a \$125m (€117m) cybersecurity contract, known as CEMA (Cyber Electromagnetic Activities). The Leidos subsidiary is tasked with improving the security of operations for the U.S. Army Missile and Space Program Executive Office, by carrying out simulations (Survivability and Resiliency Exercises) and combating cyber attacks.
- ▶ In September 2023, Leidos was also awarded the Common Hardware Systems 6th Generation (CHS-6) contract, worth up to \$7.9bn (€7.4bn) over ten years (including six years of options). The group will provide a solution, based on artificial intelligence and predictive analytics, to support the rapid procurement of a variety of IT hardware equipment for more than 120 offices and agencies of the U.S. Army, the U.S. Department of Defense and the U.S. federal government.

Export markets

- ▶ Leidos generated 8% of its revenues from exports in 2022. In defence, Australia and the UK are the group's main international customers.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$116m (€110m) in 2022, representing 0.8% of revenues.
- ▶ Dynetics carried out a large-scale test in June 2023 for its MACH-TB (Multi-Service Advanced Capability Hypersonic Test Bed) programme, which aims to provide test infrastructures for hypersonic systems.



LEONARDO

Group with civil and military activities, leading Italian defence contractor and 11th-largest worldwide, operating in the U.S. market through Leonardo DRS and Leonardo US Aircraft

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft and UAVs
- ▶ Military and commercial helicopters
- ▶ Weapon systems and torpedoes
- ▶ Communication systems
- ▶ Defence electronics
- ▶ Space (see also Thales Alenia Space)

GOVERNANCE

Chairman	Stefano Pontecorvo
CEO and General Manager	Roberto Cingolani
Co-General Manager	Lorenzo Mariano

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	LDO
Listed on	Borsa Italiana
Market Cap (€m)	8 325

Major shareholders (as of 14.11.2023)

Italian State	30,20%
The Vanguard Group, Inc.	2,35%
Norges Bank Investment Management	1,96%
Dimensional Fund Advisors LP	1,92%

MAIN JOINT VENTURES AND ASSOCIATES

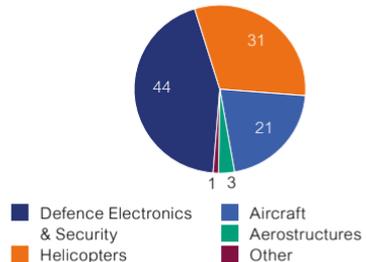
Name	%	Country
Telespazio	67%	Italy
Orizzonte Sistemi Navali	49%	Italy
Thales Alenia Space	33%	France
NHIndustries	32%	France
Elettronica	31,33%	Italy
Avio	29,63%	Italy
Hensoldt	25,1%	Germany
MBDA	25%	France
Eurofighter Jagdflugzeug	21%	Germany

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	13 784	13 410	14 135	14 713
Δ (%)	12,61%	-2,71%	5,41%	4,09%
Defence (%)	72%	73%	83%	83%
Export (%)	84%	83%	83%	86%
Operating profit/loss	1 153	517	911	961
Operating margin	8,36%	3,86%	6,44%	6,53%
Net income*	821	241	586	927
Order book	36 513	35 516	35 534	37 506
Employees	49 530	49 882	50 413	51 392

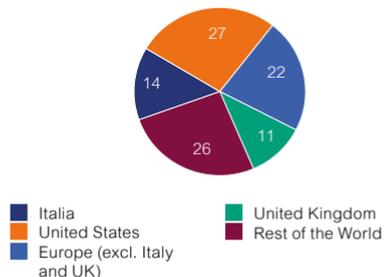
*Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Excluding Space division (Telespazio and Thales Alenia Space)

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	MHI****	Airbus	BAE Systems	Lockheed Martin	Northrop Grumman	Dassault Aviation	Boeing	GKN Aerospace	KHI****	Electronica	Naval Group	Saab
Military aircraft and UAVs												
GCAP (Global Combat Air Program) future fighter aircraft* (sensors, electronics, avionics)	●		●							●		
F-35 Lightning II fighter aircraft (wings, assembly** and MRO)				●								
Eurofighter Typhoon fighter aircraft		●	●							●		
M-345 and M-346*** advanced trainer aircraft												
C-27J Spartan and MC-27J Praetorian tactical transport aircraft				●								
nEUROn UCAV demonstrator (smart integrated weapon bay, internal EO/IR sensors, electrical system, etc.)						●						
European MALE RPAS future UAV (Eurodrone programme)		●				●						
Falco Explorer MALE UAV												
Military helicopters												
AW159 twin-engine multirole helicopter (6 t)			●									
AW139M/MH-139 twin-engine multirole helicopter (6 t)						●						
AW249 future twin-engine attack helicopter (8 t)												
NH90 twin-engine multirole helicopter (11 t)	●						●		●			
AW101/MCH-101 three-engine transport helicopter (16 t)				●				●				
Weapon systems and torpedoes												
127/64 LW Vulcano naval gun												
Black Shark heavyweight torpedo and MU90 lightweight torpedo											●	
Defence electronics												
Raven ES-05 (Gripen) and ECRS Mk2 (British Typhoon) radars												●

*Formerly Tempest **Produced for the Italian Air Force and the Royal Netherlands Air Force ***Based on the Yakovlev Yak-130 (United Aircraft Corporation) ****Mitsubishi Heavy Industries *****Kawasaki Heavy Industries

Business trends

- ▶ Leonardo revenues increased 4.1% to €14.7bn in 2022. The Aircraft division was the only one to record a decline in revenues (-5.9% year-on-year), as some export orders were postponed. Revenues in the Helicopters division rose by 9.4%, thanks to increased deliveries of military and civil helicopters (149 units in 2022, compared with 128 in 2021).
- ▶ In December 2022, the UK, Italy and Japan agreed to merge their 6th generation fighter aircraft projects, Tempest (UK Ministry of Defence, BAE Systems, MBDA, Rolls-Royce, Leonardo, Avio Aero, Elettronica, etc.) and F-X (Mitsubishi Heavy Industries, Mitsubishi Electric, IHI Corporation, etc.), into the Global Combat Air Program (GCAP). The aircraft is intended to replace the Typhoon and F-2 fighter jets in service in these three countries by 2040.
- ▶ The Italian government renewed Leonardo's governance in spring 2023. Stefano Pontecorvo, former Italian ambassador to Pakistan, succeeded Luciano Carta as Chairman of the Board of Directors, and Roberto Cingolani became Chief Executive Officer, replacing Alessandro Profumo.

Home market

- ▶ Leonardo is one of the main suppliers to the Italian Armed Forces. It is involved in the design and production of Italian military aircraft and helicopters and is a partner of Fincantieri in many naval defence programmes, in particular through their joint subsidiary Orizzonte Sistemi Navali. In 2021, the group generated 14% of its turnover on its domestic market.
- ▶ In March 2023, Leonardo won several contracts to modernise the avionics for the C-27J Spartan transport aircraft fleets of the Italian, Romanian and Australian Air Forces, the U.S. Special Operations Command (SOCOM) and the U.S. Coast Guard.
- ▶ In July 2023, Orizzonte Sistemi Navali signed a €925m contract with the Italian Navy (of which €255m for Leonardo), for the construction of three new-generation offshore patrol vessels. The contract includes an option for three additional units.

Export markets

- ▶ The group generated 86% of its revenues from exports in 2022, mainly to the United States and the United Kingdom (combined share of 38% of turnover), through its subsidiaries Leonardo DRS and Leonardo US Aircraft on the one hand and Leonardo UK on the other.
- ▶ The U.S. Air Force awarded Boeing and Leonardo a \$285m (€266m) contract in March 2023 to begin production of the MH-139 Grey Wolf helicopter (13 units ordered, with deliveries scheduled from 2024).
- ▶ In May 2023, Leonardo signed a contract with the Malaysian Ministry of Defence for the production of two ATR 72 MPA maritime patrol aircraft with anti-ship and anti-submarine warfare capabilities.
- ▶ The Italian and Azerbaijani Ministries of Defence signed a contract in June 2023 for the supply of four Leonardo C-27J Spartan transport aircraft to the Azerbaijani Air Force.
- ▶ In June 2023, the Japan Maritime Self-Defense Force ordered an unspecified number of new MCH-101 underwater mine countermeasures helicopters from Leonardo and Kawasaki Heavy Industries (jointly in charge of this programme since 2003), and launched a mid-life modernisation programme for its existing fleet of 14 aircraft.
- ▶ In July 2023, the Royal Air Force awarded Leonardo UK a contract for the integration of the new ECRS Mk2 airborne radar on its fleet of Typhoon fighter aircraft. The first flight tests are scheduled for 2024.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to €2.0bn in 2022, representing 13.6% of revenues, compared to €1.8bn in 2021 (12.8% of revenues).



LOCKHEED MARTIN

World's leading defence contractor, prime contractor for the F-35 fighter aircraft and largest supplier to the U.S. Department of Defense

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aeronautics (aircraft, helicopters, unmanned aircraft systems)
- ▶ Missile and air defence systems
- ▶ Naval platforms and systems
- ▶ Defence electronics
- ▶ Cybersecurity
- ▶ Space (satellites, launchers)

GOVERNANCE

Chairman and CEO	James D. Taiclet
Chief Operating Officer	Frank A. St. John
Vice President Aeronautics	Gregory M. Ulmer

KEY FIGURES (Fiscal year ended: December 31st)

M Euros	2019	2020	2021	2022
Revenue	53 404	57 266	56 673	62 663
Δ (%) [€]*	11,25%	9,34%	2,52%	-1,58%
Defence (%)	95%	96%	96%	96%
Export (%)	28%	25%	28%	26%
Operating profit/loss	7 629	7 569	7 712	7 928
Operating margin	14,29%	13,22%	13,61%	12,65%
Net income	5 563	5 983	5 338	5 443
Order book	128 211	119 911	119 466	140 579
Employees	110 000	114 000	114 000	116 000

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

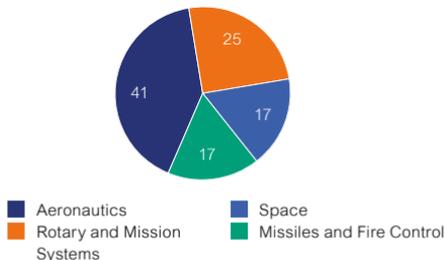
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	LMT
Listed on	NYSE
Market Cap (\$m)	110 210

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	8,57%
Capital Research & Management Co. (World Investors)	2,43%
Fidelity Management & Research Co.	1,67%
Geode Capital Management LLC	1,64%

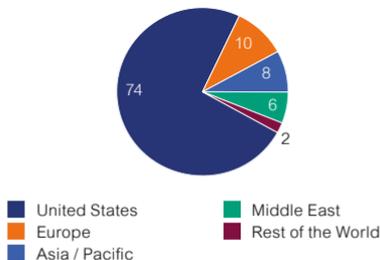
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
MEADS International	58%	United States
AWE	51%	United Kingdom
Longbow	50%	United States
Raytheon-Lockheed Martin Javelin JV	50%	United States
Tata Lockheed Martin Aerostructures	50%	India
United Launch Alliance	50%	United States

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	TASL***	Northrop Grumman	BAE Systems	Leonardo	MHI****	PGZ	GE Aerospace*****	Raytheon Technologies*****	Rolls-Royce	Fincantieri	Boeing
Military aircraft											
F-35 Lightning II fighter aircraft		●	●	●	●		●	●			
F-16 Fighting Falcon fighter aircraft	●						●	●			
C-130J Super Hercules tactical transport aircraft									●		
CH-53K King Stallion three-engine heavy-lift transport helicopter							●	●			
Black Hawk (UH-60/S-70A) and Sea Hawk (SH-60/S-70B) twin-engine multirole helicopters							●				
VH-92A Patriot twin-engine transport helicopter							●				
Missiles and weapon systems											
Hellfire and Javelin anti-tank missiles		●						●			
Joint Air-to-Surface Standoff Missile (JASSM)			●								
UGM-133 Trident II Submarine-Launched Ballistic Missile (SLBM)											
PAC-3 and PAC-3 MSE interceptors								●			
THAAD missile defence system			●					●			
M142 HIMARS and M270 MLRS rocket launchers						●					
Naval platforms and systems											
Multi-Mission Surface Combatant (MMSC) future frigate* (design)								●	●		
Canadian Surface Combatant (CSC) future frigate** (design)			●				●	●			
AEGIS combat system			●		●					●	
Space											
Vulcan Centaur future launcher		●									●

*Based on Freedom-class LCS frigate **Based on BAE Systems' Type 26 frigate ***Tata Advanced Systems Ltd
 ****Mitsubishi Heavy Industries *****Formerly GE Aviation *****Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Lockheed Martin revenues reached \$66.0bn (€62.7bn) in 2022, down 1.6% year-on-year in local currency. Three of the group's divisions recorded a decline in revenues, including the Rotary and Mission Systems division (-3.8%), which only delivered 95 military helicopters in 2022 (compared with 107 in 2021). On the other hand, revenues in the Aeronautics division slightly increased (+0.9%), with deliveries remaining at a high level (141 F-35 Lightning II fighter aircraft and 24 C-130J Super Hercules tactical transport aircraft).
- ▶ Javelin JV (a joint venture between Lockheed Martin and Raytheon Technologies) signed a letter of intent with PGZ in September 2023 for the production of FGM-148 Javelin anti-tank missiles in Poland.
- ▶ In September 2023, Lockheed Martin UK entered into a partnership with StandardAero UK to offer its S-70M Black Hawk helicopter for the UK Ministry of Defence's New Medium Helicopter (NMH) programme. Should the helicopter be selected, approximately 40% of production and assembly activities would take place in the UK.

Home market

- ▶ The group is highly dependent on the U.S. market (74% of its revenue in 2022). The U.S. Department of Defense, its largest customer, accounted for 64% of sales, excluding Foreign Military Sales.
- ▶ The U.S. Army awarded two contracts worth a combined \$5.41bn (€5.05bn) in April 2023 to Lockheed Martin for the production of M142 HIMARS rocket launchers and batches 18 and 19 of GMLRS guided rockets for both the U.S. and export markets.
- ▶ In May 2023, Javelin JV secured a \$7.2bn (€6.7bn) contract from the U.S. Army to supply FGM-148 Javelin anti-tank missiles until 2026, and to adapt its production facilities to increase capacity to 3,960 units a year.
- ▶ In August 2023, the U.S. Navy ordered 35 CH-53K King Stallion heavy-lift helicopters from the Sikorsky subsidiary for \$2.7bn (€2.5bn), including 12 from batch 7 and 15 from batch 8 for the U.S. Marine Corps, and 8 for Israel, with the first deliveries scheduled for 2026.

Export markets

- ▶ In 2023, three new countries showed their intent to acquire F-35 fighter aircraft: the Czech Republic (24 units), Romania (32) and Canada (88). The U.S. authorities also approved the sale of 25 aircraft to South Korea for \$5.06bn (€4.73bn).
- ▶ In January 2023, the Royal Jordanian Air Force ordered 12 F-16 Fighting Falcon Block 70 fighter aircraft from Lockheed Martin for \$4.21bn (€3.93bn).
- ▶ Australia ordered 40 UH-60M Black Hawk utility and assault helicopters from Sikorsky in January 2023 for \$1.95bn (€1.82bn) under the FMS programme.
- ▶ In February 2023, Indonesia received the first of the five C-130J-30 Super Hercules tactical transport aircraft ordered in September 2021.
- ▶ In September 2023, The Polish Ministry of National Defence signed a framework agreement with Lockheed Martin for the procurement of 486 M142 HIMARS rocket launchers, including 468 in HOMAR-A configuration with the HIMARS rocket launcher system mounted on the chassis of the 6x6 663.45 truck manufactured by Jelcz (a PGZ subsidiary). Other PGZ subsidiaries (Huta Stalowa Wola, Mesko, etc.) will be involved in the local production of ammunition for the HIMARS system under technology transfer.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$1.7bn (€1.6bn) in 2022, representing 2.6% of revenues.
- ▶ In February 2023, the U.S. Navy awarded Lockheed Martin a \$1.2bn (€1.1bn) contract to develop hypersonic missiles for the Zumwalt-class destroyers (Conventional Prompt Strike programme).



MBDA

European leader in missile systems (MDCN naval cruise missile, AKERON MP anti-tank missile, METEOR air-to-air missile, EXOCET anti-ship missile), 32nd defence contractor worldwide*

*SIPRI rankings (2022 data)

BUSINESS AREAS

Missile manufacturer

- ▶ Air dominance
- ▶ Battlefield engagement
- ▶ Ground based air defence
- ▶ Maritime superiority

GOVERNANCE

Chief Executive Officer Éric Béranger

Executive Group
Director Programmes
and CEO of MBDA France Stéphane Reb

Chief Financial Officer Peter Bols

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	3 703	3 592	4 234	4 210
Δ (%)	17,04%	-3,00%	17,87%	-0,57%
Defence (%)	100%	100%	100%	100%
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 income*	189	122	610	702
Order book	17 500	16 600	17 800	22 300
Employees	11 500	> 12 000	13 000	> 14 000

*Total comprehensive income

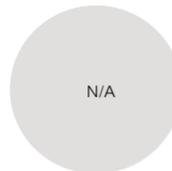
OWNERSHIP STRUCTURE

Symbol	Unlisted group
Listed on	
Market Cap	

Major shareholders (as of 14.11.2023)

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

REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
GDI	100%	France
Eurosam	66,6%	France
TAURUS Systems	66,6%	Germany
CILAS*	63%	France
PARSYS	50%	Germany
RAM-System	50%	Germany
Roxel	50%	France
L&T MBDA Missile Systems	49%	India
SMMS	49%	Saudi Arabia
Inmize	40%	Spain

REVENUE BY REGION (%)



*Acquisition of a majority stake through a MBDA / Safran joint venture

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Safran	Roxel*	Avio	Leonardo	Diehl Defence	Hensoldt	Indra Sistemas	Saab	PGZ
Long-range and deep strike										
SCALP EG / STORM SHADOW air-launched cruise missiles	●	●			●					
TAURUS air-launched cruise missile						●			●	
MDCN naval cruise missile	●	●	●		●					
EXOCET AM / MM / SM anti-ship missiles and mobile coastal defence systems	●	●	●							
MARTE / MARTE ER / TESEO Italian anti-ship missiles			●	●	●					
Tactical strike										
ANL / Sea Venom lightweight anti-ship missile	●	●	●		●					
BRIMSTONE and SPEAR Family air-to-ground missiles			●							●
Battlefield engagement										
AKERON MP and LP anti-tank and air-to-ground missiles	●	●	●						●	
PARS 3 and ENFORCER anti-tank missiles					●					
Maritime protection and Armed Forces protection										
Sea Ceptor / Land Ceptor / CAMM / CAMM-ER air defence systems	●		●	●						●
ASTER and SAMP/T NG air defence systems	●		●	●	●					
VL MICA / VL MICA NG air defence systems	●	●	●							
MISTRAL (MANPADS, SIMBAD, SIMBAD-RC) air defence systems	●	●	●							
SKYWARDEN anti-drone system										
Air dominance										
METEOR beyond-visual-range air-to-air missile	●		●		●		●	●		
MICA / MICA-NG (EM, IR) medium-range air-to-air missiles	●	●	●			●				
ASRAAM short-range air-to-air missile	●		●		●					
DDM-NG missile warning system										

*Joint venture between MBDA and Safran

STRATEGIC HIGHLIGHTS

Business trends

- ▶ MBDA revenues reached €4,210m in 2022, remaining almost stable year-on-year. The group's activity is partly correlated with that of Dassault Aviation, since MBDA's missiles equip the French aircraft manufacturer's Rafale fighter aircraft. Only 13 Rafale aircraft were delivered in 2022, compared with 25 in 2021.
- ▶ In 2022, new order intake reached €9bn (compared to €5.1bn in 2021), thanks in particular to several export contracts, including for the armament of Rafale aircraft currently being procured by the United Arab Emirates (Mica NG air-to-air missiles and Black Shaheen cruise missiles) and Greece. The order book stood at €22.3bn at the end of the year (representing more than 5 years of sales), a record level.

Home markets (France, Germany, United Kingdom, Italy, Spain)

- ▶ In December 2022, MBDA and BAE Systems Hägglunds jointly participated in firing exercises using the AKERON MP missile, developed by the group and fired from the CV90 infantry fighting vehicle designed by the British company. The combination of the two pieces of equipment provides the capability to engage targets in complex environments (forest, urban, etc.).
- ▶ In December 2022, France and Italy ordered nearly 700 Aster surface-to-air missiles from GIE Eurosam, jointly owned by MBDA and Thales. This order does not include production of the SAMPT NG systems, which is currently under negotiation. The contract covers several versions of the missiles: Aster 15, Aster 30 B1 and Aster 30 B1NT.
- ▶ In accordance with the 2019-2025 French military programming law, the DGA notified MBDA of the order for 200 Akeron MP medium-range missiles in December 2022. The group delivered 200 such missiles during the year.
- ▶ In March 2023, a French Navy FREMM multimission frigate successfully fired an Aster 30 air defence missile, which has a range of 100 km.
- ▶ Italy signed a letter of intent with France and the UK in June 2023 to join the Franco-British Future Cruise / Anti Ship Weapon (FC/ASW) programme, for which MBDA is the prime contractor.

Export markets

- ▶ In addition to the Rafale armament contracts, MBDA won naval missile contracts in 2022 for Greece (32 Aster 30 B1 air defence missiles and 8 Exocet MM40 Block 3C anti-ship missiles for its FDI frigates), Bulgaria (VL Mica air defence missile systems), Croatia (Mistral 3 air defence missile systems) and Luxembourg (MMP / Akeron MP medium-range missiles).
- ▶ MBDA is collaborating with TAWAZUN (United Arab Emirates), as part of its partnership for the first regional missile engineering centre to be set up in this location, to develop a new-generation saturation weapon (SMART family) as part of the Rafale F5 roadmap.
- ▶ In April 2023, MBDA was awarded a contract by the Polish Ministry of National Defence to supply CAMM radar-guided short-range missiles and iLaunchers as part of the modernisation of the PILICA+ air defence system (developed by PGZ).
- ▶ The Armed Forces Ministries of France, Belgium, Cyprus, Estonia and Hungary signed a letter of intent in June 2023 for the joint procurement of the Mistral 3 ground-based air defence system.
- ▶ In November 2023, MBDA finalised a technology transfer agreement with PGZ, worth more than €4.6bn, to produce more than 1,000 CAMM-ER missiles and 100 launchers in Poland (Narew programme).

Technology and Innovation

- ▶ MBDA is involved in major future European programmes: European MALE RPAS (which French version will be equipped with the future AKERON LP missile), FCAS, MGCS, etc.



MTU AERO ENGINES

Aircraft engine manufacturer specialised in the production of aeronautical propulsion parts and subsystems and a major player in aeronautical maintenance

BUSINESS AREAS

Engine manufacturer and equipment supplier

- ▶ Aircraft propulsion systems and subsystems
- ▶ Equipment and components
- ▶ Engine and gas turbines MRO

GOVERNANCE

Chairman of the Supervisory Board	Gordon Riske
Chief Executive Officer	Lars Wagner
Chief program Officer	Michael Schreyögg

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	4 628	3 977	4 188	5 330
Δ (%)	1,34%	-14,07%	5,31%	27,27%
Defence (%)*	10%	12%	12%	9%
Export (%)	89%	85%	85%	86%
Operating profit/loss	706	262	355	508
Operating margin	15,25%	6,59%	8,48%	9,53%
Net income**	478	139	222	331
Order book	19 820	18 608	22 237	22 273
Employees	10 660	10 313	10 508	11 273

*Military engines division only

**Net income attributable to shareholders

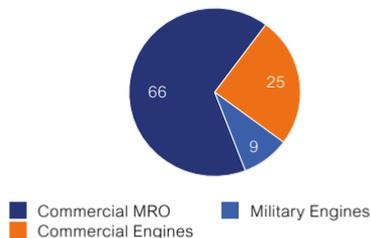
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	MTX
Listed on	XETRA
Market Cap (€m)	9 879

Major shareholders (as of 14.11.2023)

Capital Research & Management Co. (World Investors)	5,85%
BlackRock Investment Management (UK) Ltd.	4,79%
Union Investment Privatfonds GmbH	4,60%
The Vanguard Group, Inc.	3,48%

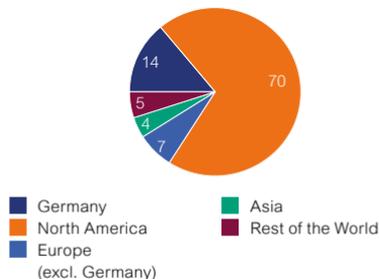
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
EUMET	50%	Germany
Turbo Union	39,98%	Germany
MTU Turbomeca Rolls-Royce	33,33%	Germany
EUROJET Turbo	33%	Germany
EPI Europrop International	28%	Germany
MTU Turbomeca Rolls-Royce ITP	25%	Germany

REVENUE BY REGION (%)



MTU AERO ENGINES

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Safran	ITP Aero	Rolls-Royce	Avio Aero*	GE Aerospace**	Pratt & Whitney***	GKN Aerospace****	JAEC*****
Fighter aircraft engine parts								
NEFE (Next European Fighter Engine, FCAS programme)	●	●						
EJ200 (Eurofighter Typhoon)		●	●	●				
F414 (F/A-18E/F, EA-18G, JAS-39E/F)					●		●	
F110 (F-15, F-16)	●			●	●		●	
Transport aircraft engine parts								
TP400-D6 (A400M)	●	●	●					
PW2000 (C-17)				●		●	●	
V2500 (C-390)						●		●
Helicopter turbine parts								
T408 (CH-53K)					●			
MTR390-2C/E (Tiger)	●	●	●					
Gas turbine parts								
LM5000 and LM6000					●			
LM2500 series					●			
ASE series								
TF series								
MRO and spare parts								
Larzac 04 engine (Alpha Jet)	●		●					
CF6-50C2 engine (KC-10)	●			●	●		●	
Tyne Mk 21/22 engine (C-160, Br 1150 Atlantic)	●		●					
T64 turbine (CH-53G)					●			

*Subsidiary of GE Aerospace **Formerly GE Aviation ***Raytheon Technologies group (merger of Raytheon and UTC)

****Japanese Aero Engine Corporation, consortium between IHI Corporation, Kawasaki Heavy Industries and Mitsubishi Heavy Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ MTU Aero Engines revenues grew 27.3% in 2022 to €5,330m, driven by solid growth in the Commercial MRO division (+31.9%).
- ▶ Sales in the Military Engines division, whose main source of revenue is the EJ200 engine for the Typhoon fighter aircraft (within the EuroJet Turbo consortium), rose only 3.1% year-on-year. The share of military activities declined further to 9.1% of the group's total revenue, compared to 17.8% in 2010.
- ▶ In October 2022, MTU Aero Engines and Pratt & Whitney Canada signed an agreement enabling the group to participate in the aftermarket for the PW800 turbojet engine (powering Dassault Aviation and Gulfstream business jets). Thanks to this agreement, MTU Aero Engines obtained the ability to carry out complete overhaul programmes for PW800 engines.
- ▶ In April 2023, MTU Aero Engines acquired the German company eMoSys, which specialises in the development of electric motors and the manufacture of small series parts, and employs some thirty people. Through this operation, the group is expecting to strengthen its expertise in the electrification of engines.

Home market

- ▶ MTU Aero Engines generated 14.3% of its turnover in Germany in 2022, a share that has decreased by 0.4 percentage point year-on-year and by 3.7 percentage points since 2010.
- ▶ As a major partner of the German Air Force, the group is notably responsible for the maintenance of the EJ200 (Typhoon) and RB199 (Tornado) turbojet engines and of the MTR390-2C turboshaft engine (Tiger helicopter). MTU Aero Engines also ambitions to be selected for the maintenance of the F135 turbojet engine powering the F-35 Lightning II fighter aircraft due to enter service with the German Air Force in 2026.
- ▶ MTU Aero Engines is involved in the development of the Next European Fighter Engine (NEFE) for the future NGF European fighter aircraft, in partnership with Safran within the EUMET (European Military Engine Team) 50-50 joint venture. The two groups have since been joined by ITP Aero and the industrial load for the development of the NEFE engine will be shared equally between Germany, France and Spain. The contract for phase 1B of the FCAS programme (which covers the development of a demonstrator by 2030) was awarded by the DGA in December 2022.

Export markets

- ▶ Export sales rose by 27.9% to €4,568m in 2022, representing 85.7% of the group's total revenues.
- ▶ The U.S. Naval Air Systems Command awarded GE Aerospace a contract worth \$684m (€639m) in April 2023 for the production of T408 turboshaft engines for the CH-53K King Stallion heavy-lift helicopter. This contract benefits MTU Aero Engines, which is involved in the production of an engine module.
- ▶ MTU Aero Engines continues to invest in China through the construction of a training centre on the site of the MTU Maintenance Zhuhai joint venture. Operational in September 2023, the centre can accommodate around one hundred mechanics per year.

Technology and Innovation

- ▶ Total R&D expenditure amounted to €265m in 2022, up 15.4% from the previous year, of which 76% was self-financed. Total R&D spending represented 5.0% of the group's revenue, down from 5.5% in 2021.
- ▶ At the Paris Air Show in June 2023, MTU Aero Engines and Safran signed a letter of intent to create a 50-50 joint venture to develop a new turboshaft engine for military helicopters by 2040, as part of the ENGRT (European Next Generation Rotorcraft Technologies) project.



NAMMO

Ammunition provider equally controlled by the Norwegian State (50%) and Finnish defence company Patria (50%), and 90th-largest defence contractor worldwide

BUSINESS AREAS

Ammunition provider, systems integrator/
equipment supplier

- ▶ Ammunition (all calibre)
- ▶ Weapon systems (shoulder fired systems, warheads and fuzes)
- ▶ Explosives and pyrotechnics (hand grenades, initiation systems)
- ▶ Propulsion systems (solid rocket motors for tactical missiles, booster rockets, hybrid rockets)
- ▶ Demilitarisation and services (conventional ammunition)

GOVERNANCE

Chairman Dag Schjerven

Chief Executive Officer Morten Brandtzæg

President, Aerospace Propulsion Stein Erik Nodeland

OWNERSHIP STRUCTURE

Symbol
Listed on Unlisted group
Market Cap

Major shareholders (as of 14.11.2023)

Norwegian State	50%
Patria	50%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SN Technologies	50%	Switzerland
Sintef Raufoss Manufacturing	14%	Norway
Nordic Additive Manufacturing	12%	Norway
Komm-In	8%	Norway
Raufoss Industripark Holding	2%	Norway

KEY FIGURES (Fiscal year ended: December 31st)

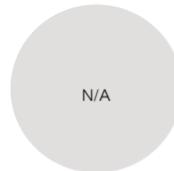
€ millions	2019	2020	2021	2022
Revenue	515	563	687	738
Δ (%) [INOK]*	3,11%	18,98%	15,61%	6,79%
Defence (%)	≈ 80%	≈ 80%	79%	77%
Export (%) **	77%	76%	69%	70%
Operating profit/loss	36	53	66	73
Operating margin	6,94%	9,34%	9,67%	9,88%
Net income***	19	39	45	50
Order book	755	876	1 028	1 410
Employees	2 377	2 523	2 648	2 679

*Variation based on revenue in local currency. See €INOK, p.7

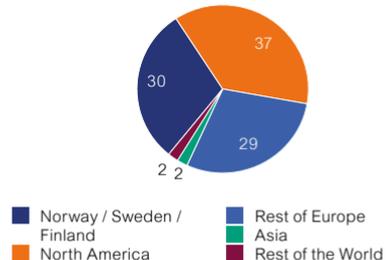
**Revenue excluding Norway / Sweden / Finland

***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Saab	PGZ	Boeing	General Dynamics	Raytheon Technologies*	ArianeGroup	Avio	Bertin Technologies	Thales	Diehl Defence	Kongsberg	MBDA
Ammunition												
Small calibre ammunition (4.6 mm - 12.7 mm)												
Medium calibre ammunition (20 mm - 57 mm)					●							
Large calibre ammunition (120 mm and 155 mm)			●	●	●							
Mortar rounds (60 mm, 81 mm and 120 mm)												
Weapon systems												
Shoulder-fired systems (M72 LAW, BDM, SMAW and SMAW-T)		●			●							
Warheads (M282) and fuzes (D652, Jupiter, Mercury, Venus)												
Explosives and pyrotechnics												
Hand grenades (fragmentation and smoke grenades)												
Hystrix grenade launch system												
Initiation systems												
Propulsion systems												
Solid propellant rocket motors (AIM-120 AMRAAM, RIM-162 ESSM, IRIS-T/IRIS-T SLM)					●			●	●	●		
Auxiliary boost rocket motors (Exocet MM40, NSM)										●	●	
A6 DR_SR separation rocket motors (Ariane 6 launcher)							●					
Hybrid rocket motors	●						●					
Altair air-launched system (demonstrator)								●				
Demilitarisation and services												
Demilitarisation and thermal treatment												●

*Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Nammo revenues reached NOK 7,452m (€738m) in 2022, up 6.8% year-on-year in local currency. Growth was driven by strong sales of commercial ammunition in the United States and by the Aerospace Propulsion branch (solid propellant rocket motors for tactical missiles, rocket motors for space vehicles, etc.).
- ▶ The group's order book stood at NOK 14,8bn (€1.4bn) at the end of 2022, its highest level ever. It increased significantly (+43.9% year-on-year in local currency), thanks in particular to the signing of several contracts in the ammunition sector, as many countries mean to replenish their stocks following Russia's invasion of Ukraine. However, the group's order book remains relatively limited, representing less than two years of sales.

Home markets (Norway, Sweden, Finland)

- ▶ The merger of three Nordic defence companies, Nammo continues to have a strong presence in its domestic markets (Norway, Sweden, Finland), where it generated 30% of its sales in 2022.
- ▶ The Finnish Defence Forces awarded Nammo a contract worth €13m in September 2022 to produce 155mm calibre artillery ammunition. A further order worth €103m was placed by the Finnish Defence Forces in March 2023.
- ▶ In January 2023, Nammo signed a contract with the Norwegian Defence Logistics Organization (NDLO) for the supply of artillery ammunition to the Norwegian Army for a value of NOK 2.6bn (€233m).

Export markets

- ▶ Nammo generated more than two thirds of its sales from exports in 2022. North America remains the group's largest international market with 37% of its sales during that year.
- ▶ In July 2022, the Polish Ministry of National Defence ordered several thousand 66 mm calibre M72 LAW EC Mk1 single-use shoulder-fired anti-tank systems as part of its Grot programme.
- ▶ In October 2022, Nammo secured a contract worth more than \$100m (€95m) from South Korea's Hyundai Rotem to develop and produce a new 120mm calibre artillery ammunition for its K2 Black Panther main battle tank.
- ▶ The Spanish Army's Logistic Support Command (MALE) awarded Nammo a €7.7m contract to replenish a future strategic reserve of 5.56mm calibre ammunition for HK-36 and HK-416 assault rifles, HK-MG4 light machine guns and Minimi machine guns. Two further contracts for the same type of ammunition were awarded in the first half of 2023, worth a total of €9.1m.
- ▶ General Dynamics Ordnance and Tactical Systems and Nammo were awarded a five-year \$489m (€457m) contract by the U.S. Army in September 2023 to produce M119A2 propellant charges for 155 mm howitzers.

Technology and Innovation

- ▶ Nammo aims to spend 10% of its annual revenues on R&D activities, which include long-range ammunition, medium-calibre ammunition (30 and 40 mm) and ammunition for the F-35 Lightning II.
- ▶ In August 2022, Nammo successfully completed two tests of a future solid fuel ramjet at the Andøya centre in Norway as part of the THOR-ER (Tactical High-speed Offensive Ramjet for Extended Range) programme, jointly led by the U.S. Naval Air Warfare Center Weapons Division, the Norwegian Defence Research Establishment and Nammo as an industrial partner. This technology could be integrated into air-to-air missiles, ground-based air defence systems and naval systems in the future.

NAVAL GROUP

Leading French and European military shipbuilding company with a solid export activity in first-class frigates and submarines, ranked 24th-largest defence contractor

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Surface ships
- ▶ Submarines (conventionally and nuclear-powered)
- ▶ Unmanned surface and underwater vehicles
- ▶ Underwater weapons
- ▶ Naval combat and platform systems and equipment
- ▶ Maintenance, modernisation and related services for naval bases
- ▶ Civil nuclear energy

GOVERNANCE

Chairman and CEO

Pierre Éric Pommellet

Executive VP, Surface Ships

Olivier de Bourdonnaye

Executive VP, Submarines

Laurent Espinasse

Executive VP, Services

Vincent Martinot-Lagarde

OWNERSHIP STRUCTURE

Symbol

Listed on

Unlisted group

Market Cap

Major shareholders (as of 14.11.2023)

French State	62,25%
Thales	35,00%
FCPE Actionnariat Naval Group	1,83%
Self-owned	0,92%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
MO Porte-Avions	65%	France
Naviris	50%	Italy
Kership	45%	France
Itaguaí Construções Navais	41%	Brazil
Boustead DCNS Naval Corporation (BDNC)	40%	Malaysia
TechnicAtome	20,32%	France
Chantiers de l'Atlantique	11,7%	France

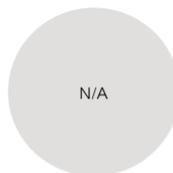
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020*	2021	2022
Revenue	3 712	3 320	4 053	4 353
Δ (%)	2,88%	-10,56%	22,08%	7,40%
Defence (%)	≈ 95%	≈ 95%	≈ 95%	≈ 95%
Export (%)	29%	30%	27%	37%
Operating profit/loss	282	86	294	427
Operating margin	7,60%	2,59%	7,25%	9,81%
Net income**	188	62	197	339
Order book	15 062	15 153	14 069	15 277
Employees	14 561	15 464	16 028	16 029

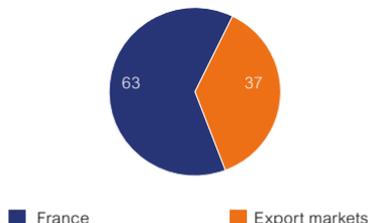
*Figures restated

**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



NAVAL GROUP

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	TechnicAtome	Fincantieri	Chantiers de l'Atlantique	Leonardo	Mazagon	Boustead Dock Shipbuilders	Alexandria Shipyards	Atlas Elektronik*	Novonor**	Pirou	Exail
Surface ships												
PA-NG future new generation aircraft carrier		●		●								
FREMM ASW / FREMM AAW multipurpose frigate	●		●		●							
FDI/Belharra defence and intervention frigate	●											
MMPC future European corvette (Modular and Multirole Patrol Corvette)			●									
Corvettes and patrol vessels (Gowind 2500, OPV 87, OPV 58, MPV 80, BSAOM, etc.)	●					●	●				●	
Mine warfare vessels (BE-NL and SLAMF)	●										●	●
BRF logistic support and refuelling ship (FlotLog programme)***	●		●	●								
Submarines												
SNLE 3G future third-generation nuclear-powered ballistic missile submarine (SSBN)	●	●										
Le Triomphant-class nuclear-powered ballistic missile submarine (SSBN)	●	●										
Suffren-class nuclear-powered attack submarine (SSN) (Barracuda programme)	●	●										
Scorpène-class conventionally-powered attack submarine (SSK)	●					●	●			●		
Underwater weapons												
Torpedoes (F21, MU90)	●				●					●		
Canto countermeasures												
Systems and equipment												
POLARIS, SETIS and SUBTICS combat systems	●					●	●	●		●	●	
Sylver vertical launching system			●									
Shipmaster automated steering system												
Services												
MRO of the French Navy's ships and submarines	●	●										
Horizon-class air defence frigates mid-life upgrade	●		●									
Training / Simulations, Infrastructure												

*tkMS, thyssenkrupp group **Formerly Odebrecht, through ICN (Itaguaí Construções Navais) ***Based on Italian Navy's Vulcano-class LSS

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Naval Group revenues increased 7.4% in 2022, to €4,353m. Growth was driven by the achievement of several major milestones for the French Navy: delivery of the eighth and last FREMM frigate with enhanced air defence capability (Lorraine), and launch of the first defence and intervention frigate (FDI, Amiral Ronarch) and the second SSN in the Barracuda programme (Duguay-Trouin). The group also delivered ships abroad, including two Gowind 2500 corvettes (Al Moez and Al Ismailia) to Egypt and the fourth and last offshore patrol vessel OPV 87 (Contraalmirante Cordero) to Argentina.
- ▶ Naval group reorganised its activities on 1 January 2023. The group now has five product and service divisions: Surface Ships; Submarines; Systems, Equipment and Propulsion; Drones, Autonomous Systems and Underwater Weapons; and Services.
- ▶ The group launched its Greek subsidiary, Naval Group Hellas, in May 2023. The company is responsible for managing relations with local manufacturers (more than 60 partners) as part of Greece's programme to procure FDI frigates (three units ordered in March 2022, with an extra one as an option), providing support services for various ships and developing R&D projects.

Home market

- ▶ Naval Group is the prime contractor for the French Navy's main construction and modernisation programmes: the future new generation aircraft carrier (PA-NG), FREMM, FDI and Horizon frigates, the future third-generation nuclear-powered ballistic missile submarine (SNLE 3G in French), Suffren-class SSNs, etc.
- ▶ In April 2023, the French Ministry of Armed Forces announced that construction of the future nuclear-powered aircraft carrier (PA-NG), to replace the Charles de Gaulle, would begin in late 2025 or early 2026. The first sea trials are scheduled for 2036-2037.
- ▶ In May 2023, the DGA awarded Naval group a 9-month design contract for an Unmanned Combat Underwater Vehicle (UCUV).
- ▶ The group launched construction of the second FDI frigate (Amiral Louzeau) and delivered the SSN Perle.
- ▶ In July 2023, the DGA received the first BRF logistic support and refuelling ship (FlotLog programme), named Jacques Chevallier, and the second Suffren-class SSN, named Duguay-Trouin.
- ▶ In July 2023, OCCAR awarded a €1.5bn contract to Naviris (a joint venture between Naval Group and Fincantieri) and Eurosam (a consortium including Thales and MBDA) for the mid-life upgrade of the Horizon-class frigates in service with the French and Italian Navies (two units each). This contract mainly covers the installation of the new Principal Anti Air Missile System (PAAMS) and a long-range AESA radar.

Export markets

- ▶ The fifth Kalvari-class submarine (Vagir), based on the Scorpene-class and built in India by Mazagon Dock Shipbuilders, entered into service with the Indian Navy in January 2023. The sixth and final unit (Vagsheer) is currently undergoing sea trials and is due for delivery in 2024.
- ▶ The second Gowind corvette for the United Arab Emirates was launched in May 2022, the first Scorpene submarine for Brazil entered service in September 2022, the first two mine warfare vessels for Belgium and the Netherlands were launched in March and October 2023, and the second FDI frigate for Greece was launched in October 2023.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €93m in 2022, representing 2.1% of revenues.
- ▶ Naval Group carried out the first sea trial of controlled decision-making autonomy on an underwater drone demonstrator in November 2022.
- ▶ The CEA, Framatome and Naval Group signed three new R&D agreements in May 2023 to pool their expertise in the simulation of materials used in nuclear propulsion.



NAVANTIA

Leading Spanish defence contractor, 100% state-owned, mainly operating in shipbuilding (military and civil), and 69th-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military shipbuilding (Landing Helicopter Dock, frigates, corvettes, patrol vessels, submarines)
- ▶ Commercial shipbuilding
- ▶ Naval systems and equipment
- ▶ Propulsion systems
- ▶ MRO and modernisation services
- ▶ Offshore energy

GOVERNANCE

Chairman and CEO

R. Domínguez
García-Baquero

Vice President Shipbuilding

A. Álvarez Blanco

Chief Financial Officer

J. Bagüés Oliver

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021*	2022
Revenue	1 213	1 089	1 333	1 342
Δ (%)	12,00%	-10,22%	N/A	0,68%
Defence (%)	N/A	80%	75%	79%
Export (%)	61%	62%	51%	52%
Operating profit/loss	-124	-156	-105	-98
Operating margin	-10,22%	-14,33%	-7,88%	-7,30%
Net income**	-146	-145	-83	-97
Order book	8 257	7 816	7 053	7 408
Employees	3 865	3 869	4 305	4 547

*Figures restated

**Net income attributable to shareholders in 2021 and 2022

OWNERSHIP STRUCTURE

Symbol

Listed on

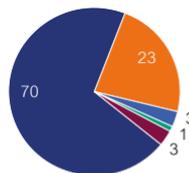
Unlisted group

Market Cap

Major shareholders (as of 14.11.2023)

Spanish State (through SEPI) | 100%

REVENUE BY BUSINESS SEGMENT (%)

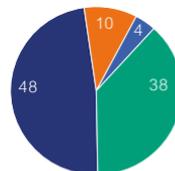


- Shipbuilding
- MRO & Modernisation
- Propulsion & Energy
- Systems
- Other

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SAES Capital	51%	Spain
Sociber	50%	Chile
SAMI Navantia Naval Industries	49%	Saudi Arabia
Inmize Capital	20%	Spain
Surveillance Maritime	10%	Spain

REVENUE BY REGION (%)



- Spain
- Americas
- Europe (excl. Spain)
- Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	SAMI*	Sedef	Fincantieri	Naval Group	General Dynamics	Indra Sistemas	BAE Systems	Lockheed Martin	Raytheon Technologies**	GE Aerospace***	MTUF****	Avio Aero*****	ASC
Surface ships													
Juan Carlos I/Canberra-class Landing Helicopter Dock (LHD)		●			●	●			●				
Bonifaz-class future multimission frigate (F-110)					●	●	●		●	●			
Hobart-class air warfare destroyer				●		●	●	●	●				●
MMPIC future European corvette (Modular and Multirole Patrol Corvette)			●	●									
Avante-class family of corvettes and patrol boats	●									●			
Meteoro-class multipurpose offshore patrol vessel (BAM)					●					●			
Cantabria/Supply-class auxiliary logistic support and refuelling ship													
LCM-1E-class amphibious landing craft													
Submarine													
Isaac Peral-class conventionally-powered attack submarine (S-80 Plus)					●	●		●					●
Systems and equipments													
SCOMBA naval combat system (Juan Carlos I LHD, F-110 frigates, BAM patrol vessels, S-80 Plus submarines)							●						
DORNA fire control system							●						
Propulsion systems													
MTU series 396, 956, 1163 and 4000 marine engines (sublicensed production)										●			
MRO and modernisation services													
MRO for Spanish F-100 and Norwegian F-310 frigates and Australian Hobart-class destroyers													

*Saudi Arabian Military Industries **Merger of Raytheon and UTC ***Formerly GE Aviation
 ****MTU Friedrichshafen, Rolls-Royce group *****Subsidiary of GE Aerospace

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Navantia revenues slightly increased (+0.7%) to €1,342m in 2022. Shipbuilding, the group's main division, recorded a 8.2% drop in sales, but this decline was offset by better performance in the other divisions, particularly MRO & Modernisation (+24.4%). However, despite the launching of a restructuring plan in 2017, Navantia still recorded losses of €97m in 2022 (a loss ratio of -7.2%), due in particular to an estimated cost overrun of between €1.5bn and €1.8bn on the Spanish Navy's Isaac Peral-class submarine programme.
- ▶ In January 2023, the group announced a €43m investment in its Puerto Real shipyard (Cadiz) to boost its competitiveness and production capacity in naval defence and civil offshore wind energy. These activities should bring the shipyard up to full capacity by 2025.
- ▶ Navantia and Kongsberg signed a letter of intent in September 2023 to integrate Kongsberg's NSM anti-ship missile on the Spanish Navy's F-100 frigates currently in service and future F-110 frigates.

Home market

- ▶ The group remains heavily dependent on orders from the Spanish Navy, with two programmes running until the end of the decade (five Bonifaz-class frigates and four Isaac Peral-class submarines). Its domestic revenues decreased 0.5% in 2022 and accounted for 48% of total sales.
- ▶ The first Isaac Peral-class submarine (S-81) underwent its first dive tests in March 2023. Delivery to the Spanish Navy is scheduled for the end of 2023, with the other three units to be delivered between 2024 and 2028.
- ▶ In July 2023, Navantia started construction of a BAM-IS vessel (Maritime Action Ship for Underwater Intervention) named Poseidón (A-21) at the Puerto Real shipyard (Cadiz). Configured for salvage and submarine rescue support, it is due to enter service in 2026.
- ▶ Navantia laid the keel for the first F-110 frigate (F-111, named Bonifaz) at the Ferrol shipyard in August 2023. The ship is scheduled to enter service in 2028.

Export markets

- ▶ Export sales increased 1.8% in 2022 and accounted for 52% of the group's revenue. However, this share fell by 9 percentage points compared with 2019, mainly as a result of the delivery of the third and last Hobart-class destroyer to the Royal Australian Navy in 2020.
- ▶ The Team Resolute consortium, which includes Navantia and British companies BMT and Harland & Wolff, was selected in November 2022 by the Royal Navy for the Fleet Solid Support (FSS) programme, for the supply of three logistic support and refuelling ships (with a budget of £1.6bn, or €1.8bn). The three groups unveiled the design of the ships in September 2023 at the DSEI exhibition in London (UK). These ships will be built in Belfast (Northern Ireland) by Harland & Wolff.
- ▶ In May 2023, Navantia delivered the fourth of the five Al Jubail-class corvettes (based on the Avante 2200 family) ordered in 2018 by Saudi Arabia. Construction of the last unit is under way at the San Fernando shipyard (Cadiz), with delivery scheduled for 2024. Following the signing of a letter of intent with the Saudi government in November 2022, five additional multimission combat ships could be ordered in 2024.
- ▶ In July 2023, Navantia started building an offshore patrol vessel of the Avante 1800 family for the Royal Moroccan Navy at the San Fernando shipyard (Cadiz). The contract value is estimated at between €130m and €150m.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to €69m in 2022, representing 5.1% of revenues.



NORTHROP GRUMMAN

Aerospace and defence company with a diversified defence portfolio (mainly aeronautics and space), 3rd-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer, systems integrator/
equipment supplier

- ▶ Military aircraft and UAVs
- ▶ Missiles, weapon systems and ammunition
- ▶ Defence electronics and C4ISR systems
- ▶ Cybersecurity
- ▶ Modernisation and logistic services
- ▶ Space (equipment, payloads)

GOVERNANCE

Chairwoman and CEO Kathy J. Warden

Chief Operating Officer Matthew Bromberg

President Aeronautics
Systems Thomas H. Jones

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	30 215	32 223	30 150	34 760
Δ (%) [\$]*	12,45%	8,74%	-3,08%	2,62%
Defence (%)	85%	85%	88%	89%
Export (%)	15%	14%	14%	13%
Operating profit/loss	3 544	3 560	4 777	3 420
Operating margin	11,73%	11,05%	15,84%	9,84%
Net income	2 007	2 792	5 921	4 650
Order book	57 738	65 989	67 119	73 799
Employees	90 000	97 000	88 000	95 000

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

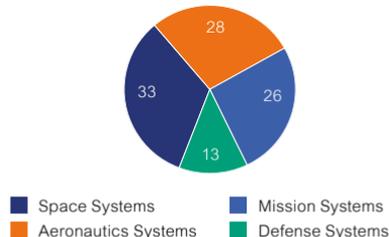
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	NOC
Listed on	NYSE
Market Cap (\$m)	70 188

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	7,79%
Capital Research & Management Co. (World Investors)	7,28%
Wellington Management Co. LLP	3,52%
Capital Research & Management Co. (Global Investors)	2,70%

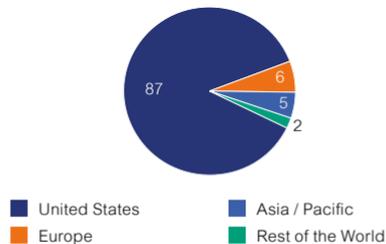
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Deep Space Transport	50%	United States
Longbow	50%	United States

REVENUE BY REGION (%)



NORTHROP GRUMMAN

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	GE Aerospace*	Rolls-Royce	Firefly Aerospace	L3Harris Technologies**	Lockheed Martin	Raytheon Technologies***	BAE Systems	KHI****	General Dynamics	MBDA	PGZ
Military aircraft												
B-21 Raider future strategic bomber						●	●					
B-2 Spirit strategic bomber	●	●				●						
E-2C/D Hawkeye surveillance aircraft			●	●	●	●	●	●				
F/A-18E/F Super Hornet (fuselage, avionics, etc.) and F-35 Lightning II (fuselage, radar, etc.) fighter aircraft	●			●								
Unmanned aircraft systems												
MQ-4C Triton HALE UAS			●	●	●	●						
RQ-4 Global Hawk HALE UAS			●	●	●							
Missiles and weapon systems												
LGM-35A Sentinel future intercontinental ballistic missile (GBSD programme)												
AGM-88E AARGM and AARGM-ER air-to-surface anti-radiation missile										●		
Bushmaster cannons (M242, Mk44, M230)	●				●		●		●			●
Defence electronics and C4ISR systems												
Integrated Air and Missile Defense Battle Command System (IBCS) command and control (C2) system	●				●					●		●
Electronic warfare suite (F-16 Fighting Falcon, EA-18G Growler, etc.)	●				●							
Battlefield Airborne Communications Node (BACN) system				●		●						
Space												
Minotaur, Pegasus XL and Antares launchers			●									
Rocket boosters for the SLS and Vulcan Centaur launchers	●				●							
Next-Generation Overhead Persistent Infrared (OPIR) payload					●							

*Formerly GE Aviation **Merger of L3 Technologies and Harris Corporation ***Merger of Raytheon and UTC ****Kawasaki Heavy Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Northrop Grumman revenues grew 2.6% in local currency to \$36.6bn (€34.8bn) in 2022. Growth was mainly driven by the Space division, which recorded a 16.1% increase in sales thanks to several programmes: the LGM-35A Sentinel future intercontinental ballistic missile, the Next Generation Interceptor (NGI) ballistic missile protection system, GEM 63 rocket boosters (for the future Vulcan Centaur launcher), Tracking Layer Tranche 1 anti-missile warning satellites, and so on. On the other hand, the Aeronautics Systems and Defense Systems divisions reported a decline in activity (-7.0% and -4.3% respectively).
- ▶ In April 2023, Northrop Grumman carried out an ignition test on the first-stage engine of the future LGM-35A Sentinel intercontinental ballistic missile at its Promontory site in Utah, as part of the Ground Based Strategic Deterrent programme.

Home market

- ▶ The U.S. are the group's main market (87% of revenues in 2022). Northrop Grumman is one of the main manufacturers of surveillance aircraft (E-2C/D Hawkeye) and UAS (MQ-4C Triton). It also supplies fuselage parts for Boeing and Lockheed Martin fighter aircraft.
- ▶ Northrop Grumman signed a \$236m (€220m) contract with the U.S. Navy in April 2023 to produce new anti-ship missile protection systems for surface ships by the end of 2025 as part of the Surface Electronic Warfare Improvement Program (SEWIP) Block 3.
- ▶ In June 2023, the group handed over to the U.S. Navy the first E-6B Mercury airborne command post (Boeing), upgraded with new C2 and secure communications functions to connect the National Command Authority and the nuclear-armed components of the U.S. Armed Forces (bombers, submarines and land-based intercontinental ballistic missile launch centres).
- ▶ In September 2023, Northrop Grumman won the U.S. Air Force's Stand-in Attack Weapon (SiAW) programme for an air-to-ground missile that can be fired by Lockheed Martin's F-35 Lightning II fighter aircraft, beating out L3Harris Technologies and Lockheed Martin. The group was awarded a \$705m (€657m) contract to develop the missile and conduct four tests by 2026.

Export markets

- ▶ The group generated 13% of its revenues from exports in 2022, a share that has decreased by 2 percentage points since 2019.
- ▶ In March 2023, the U.S. State Department approved a possible sale to Japan, under the FMS programme, of five Northrop Grumman E-2D Advanced Hawkeye surveillance aircraft for \$1.38bn (€1.29bn).
- ▶ In May 2023, Northrop Grumman delivered new components of its C2 Integrated Air and Missile Defense Battle Command System (IBCS), including the Integrated Fire Control Network, to the Polish Armed Forces for their Wisla air and missile defence system.
- ▶ In September 2023, the Royal Australian Air Force ordered a fourth MQ-4C Triton HALE UAS from Northrop Grumman, which was also tasked with maintaining the fleet. Production of the first three UAS should be completed by the end of 2023, with deliveries scheduled for 2024.

Technology and Innovation

- ▶ The group's self-funded R&D expenditure reached \$1.2bn (€1.1bn) in 2022, representing 3.3% of revenues.
- ▶ In October 2023, the U.S. Navy awarded Northrop Grumman a contract to develop a 57 mm calibre high explosive guided munition for the Mk 110 naval gun (BAE Systems).



NVL GROUP (FORMERLY LÜRSSEN DEFENCE)

Group created in 2021 that bundles the military shipbuilding activities of Lürssen's former Defence division, key supplier of warships and patrol boats to the German Navy

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military shipbuilding (offshore patrol vessels, frigates, corvettes, mine-hunting vessels, etc.)
- ▶ Repair, retrofit and modernisation
- ▶ Training services
- ▶ Maritime infrastructures

GOVERNANCE

Chief Executive Officer

Tim Wagner

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	N/A	N/A	N/A	N/A
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 income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	N/A	N/A	N/A	N/A

OWNERSHIP STRUCTURE

Symbol

Listed on

Market Cap

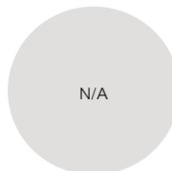
Unlisted group

Major shareholders (as of 14.11.2023)

Lürssen family

100%

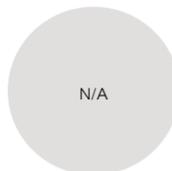
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
AMSEG	N/A	Australia
Muara Maritime Services	N/A	Brunei

REVENUE BY REGION (%)



NVL GROUP (FORMERLY LÜRSSEN DEFENCE)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Thales	Saab	L3Harris Technologies***	Rheinmetall	Damen	tkMS****	German Naval Yards Kiel*****	MTG Dolphin	Abeking & Rasmussen	Istanbul Naval Shipyard	Meyer Werft	Darussalam Shipyard	Civmec	ASC
Combat ships														
F126 future multipurpose frigate (MKS 180 programme)	●		●	●										
F125 Baden-Württemberg-class heavy frigate			●		●									
K130 Braunschweig-class corvette*	●		●		●	●								
Patrol ships														
Hrabri-class future multipurpose offshore patrol vessel	●		●				●							
Arafura-class future offshore patrol vessel (SEA 1180 programme)	●	●										●	●	
Darussalam-class offshore patrol vessel			●											
Ijtihad-class patrol boat			●											
Mine warfare ships														
MJ 332 Frankenthal-class mine-hunting vessel			●				●							
MHV 54 Alanya-class mine-hunting vessel**							●	●						
Auxilliary ships														
Type 424 AGI-class future surveillance and reconnaissance vessel														
Type 707-class future replenishment tanker									●					
Repair, refit and modernisation														
Full service support for the entire Royal Brunei Navy's fleet												●		

*Based on tkMS' MEKO 100 ship, which can be used as a frigate, corvette or offshore patrol vessel

**Turkish derivative of the MJ 332 Frankenthal-class

***Merger of L3 Technologies and Harris Corporation

****thyssenkrupp Marine Systems, thyssenkrupp group

*****Prininvest group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ In 2021, the former Lürssen Group split its military and civil activities into two independent entities. Naval Vessels Lürssen Group (NVL Group) now combines all defence activities (formerly included in the Lürssen Defence division), while the construction of luxury yachts continues under the Lürssen brand.
- ▶ As part of its creation, NVL Group took over the shipbuilding and maintenance / upgrading activities of naval vessels at four shipyards in Germany: Blohm+Voss (Hamburg) and Peene-Werft (Wolgast) for new construction, and Neue Jadewerft (Wilhelmshaven) and Norderwerft (Hamburg) for services. Operations in Australia, Bulgaria and Brunei are also affected.
- ▶ In April 2022, NVL Group announced the launch of modernisation works at its Wolgast shipyard. The works, which represent an investment of €15m, include the installation of a 135 m long hangar, equipped with two overhead travelling cranes and dedicated to shipbuilding and repair. The infrastructure will be used in particular for the construction of the German Navy's future F126 multimission frigates.

Home market

- ▶ NVL Group is a subcontractor to Dutch shipbuilder Damen for the construction of four F126 multimission frigates for the German Navy (MKS 180 programme, €5.5bn contract). The four ships are due to be delivered by 2031, including the mothership in 2027. Alongside tkMS and German Naval Yards Kiel, the group is also part of the ARGE K130 consortium, which is in charge of building five new K130 Braunschweig-class corvettes for the German Navy. These five ships are currently under construction and are scheduled for delivery from 2025 onwards.
- ▶ The group was also selected in 2021 to supply the German Navy with three Type 424 AGI (Auxiliary, General Intelligence) surveillance and reconnaissance vessels, due to enter service between 2029 and 2031 (contract estimated at €3.3bn), and two Type 707 refuelling tankers (cargo capacity of 12,000 m³ of fuel), built under subcontract by Meyer Werft and due for delivery from 2024 onwards.
- ▶ The fourth and last F125 Baden-Württemberg-class heavy frigate was handed over to the German Navy by tkMS in January 2022. The ship was built by the ARGE F125 consortium, consisting of tkMS and NVL Group, which was in charge of the production of the bow and stern sections and assembly. The first three frigates were commissioned between 2019 and 2021.
- ▶ In March 2022, the Blohm + Voss subsidiary started building the fifth and last K130 Braunschweig-class corvette. Blohm + Voss is responsible for production of the stern section and final assembly, while the bow section is supplied by German Naval Yards Kiel.

Export markets

- ▶ In August 2022, the Luerssen Australia subsidiary and its partner Cvmec started building the sixth Arafura-class offshore patrol vessel, named Carpentaria, ordered by the Royal Australian Navy as part of the SEA 1180 programme for the supply of twelve vessels. The first two units are being built by ASC and the next four by Cvmec in Australia.
- ▶ NVL Group and its partner MTG Dolphin started building the two multimission patrol boats ordered by the Bulgarian Navy in 2020 for a total of BGN 984m (€503m) at the Varna shipyard, the first (Hrabri) in December 2021 and the second (Smeli) in December 2022. The ships are scheduled for delivery in 2025 and 2026 respectively.

Technology and Innovation

- ▶ In February 2023, NVL Group signed a memorandum of understanding with Danish company SH Defence for the joint development of multimission bridges for the group's naval platforms. These will be based on the Cube system (modular equipment solution for ships) developed by SH Defence.



OHB

Leading German and third-largest European company in the space industry, in charge of the SAR-Lupe/SARah satellite systems and supplier to the Ariane 6 programme

BUSINESS AREAS

Platform manufacturer, systems integrator/
equipment supplier

- ▶ Space systems (development and production of satellites and payloads)
- ▶ Production of structures, components and propulsion systems

GOVERNANCE

Chairman of the Supervisory Board	Robert Wethmar
Chief Executive Officer	Marco R. Fuchs
Head of Business Development and Strategy	Markus Moeller

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	OHB
Listed on	XETRA
Market Cap (€m)	728

Major shareholders (as of 14.11.2023)

Marco Romed Fuchs*	34,62%
VOLPAIA Beteiligungs-GmbH*	21,35%
Christa Fuchs*	8,03%
Mayrhofer Romana Fuchs*	7,89%

*Fuchs family

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
MT Aerospace Holding	70%	Germany
COSMOS Space Systems	66,7%	Germany
Rocket Factory Augsburg*	56,6%	Germany
Antares	24%	Italy
Arianespace Participation	5,8%	France

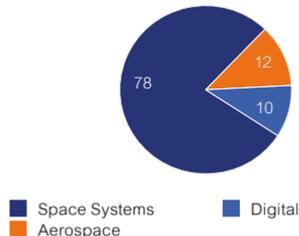
*Share as of 31.12.2022

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	1 030	901	917	1 001
Δ (%)	3,00%	-12,52%	1,78%	9,16%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	62%	62%	67%	64%
Operating profit/loss	49	42	47	63
Operating margin	4,76%	4,66%	5,13%	6,29%
Net income*	26	21	27	32
Order book	1 840	2 632	2 121	1 875
Employees	2 933	3 029	2 962	3 025

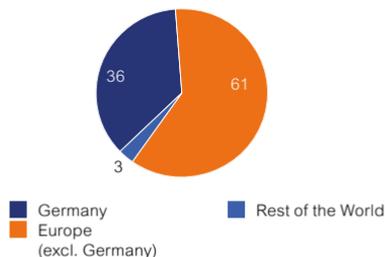
*Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Revenue distribution based on total sales excluding eliminations

REVENUE BY REGION (%)*



*Distribution based on sales by geographical areas. The difference between sales by geographical areas and revenue reached €56m in 2022.

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Tesat-Spacecom*	Airio	ArianeGroup	Surrey Satellite Technology*	Collins Aerospace**	Thales Alenia Space**	Beyond Gravity***	Stemme	Leonardo	Boeing
Space launch											
RFA One small-lift launch vehicle project (Rocket Factory Augsburg subsidiary)											
Satellites											
SARah satellite-based reconnaissance system	●										
SAR-Lupe satellite-based reconnaissance system	●	●				●	●				
National Advanced Optical System (NAOS) reconnaissance satellite											
European Data Relay System (EDRS-C)	●	●	●								
Electra communications satellite	●					●					
Heinrich Hertz communications satellite (H2Sat)		●									
Sentinel Earth observation satellites (Copernicus programme)	●						●				
PRISMA Earth observation satellite										●	
Galileo European global navigation satellite system	●			●		●					
Structures, components and propulsion systems											
Structures, parts and components for launchers (Ariane 6, SLS)				●	●						●
Propulsion systems (cold-gas, electrical, monopropellant and bipropellant)			●								●
Antennas and mechatronics (ALMA programme)							●				
Components for aircraft (A400M)	●										
Airborne systems											
OMCoSS multimission communication and surveillance system								●			
Aerial Reconnaissance Data System (ARDS)	●										

*Subsidiary of Airbus **Raytheon Technologies group (merger of Raytheon and UTC) *** Formerly RUAG Space

STRATEGIC HIGHLIGHTS

Business trends

- ▶ OHB revenues increased by more than 9% in 2022, to exceed €1bn. Growth in the Space Systems division was driven by the Galileo (34 satellites supplied by OHB for a total of approximately €1.3bn), SAR-Lupe / SARah and Meteosat Third Generation (MTG) satellites programmes. The Aerospace division also recorded an increase in sales, despite further delays in the Ariane 6 programme (which first flight is now scheduled for June or July 2024), as did the Digital division, thanks to the development of services (satellite and ground segment operation, data analysis, etc.).
- ▶ OHB is a key supplier to the European Space Agency (ESA), its largest customer, and to Germany, through its two main subsidiaries OHB System and MT Aerospace.
- ▶ The group is responsible for several satellite programmes for the German Space Agency (DLR) and the German Armed Forces (SAR-Lupe / SARah, Heinrich Hertz, EnMAP, etc.). OHB also supplies the satellites for the European Galileo positioning system as well as around 10% of the structures and components of the Ariane 6 launcher (second-largest industrial supplier behind ArianeGroup).
- ▶ In August 2023, the American investment firm KKR announced the launch of a tender offer for all of OHB's outstanding shares (just under 30% of the capital), which will lead to the group's delisting. OHB, in which the Fuchs family will remain the majority shareholder, also signed an agreement for a 10% capital increase. KKR also invested €30m in the Rocket Factory Augsburg (RFA) subsidiary, becoming one of its main shareholders alongside OHB, which wanted to reduce its stake.

Home market

- ▶ OHB System was awarded a contract at the end of 2022 to produce the first two payloads for the constellation of High-Resolution Vegetation microsatellites developed by the German start-up constellr.
- ▶ OHB is part of the European consortia shortlisted in Q1 2023 for two projects: METASAT (Modular Model-Based Design and Testing for Applications in Satellites) and IIMEO (Instantaneous Infrastructure Monitoring by Earth Observation).
- ▶ The OHB Digital Connect subsidiary signed a €28.7m contract in June 2023 with the German Aerospace Centre (DLR) for operations related to the Heinrich Hertz mission until mid-2025 (supply of the satellite and ground segment equipment). The satellite was launched in July 2023 by the last Ariane 5 rocket.
- ▶ The Antwerp Space subsidiary signed a contract with Airbus Defence and Space in July 2023 to develop the communications subsystem for ESA's ARIEL (Atmospheric Remote-sensing Infrared Exoplanet Large-survey) mission.

Export markets

- ▶ The group's export sales amounted to €606m in 2022 (64% of total revenue).
- ▶ In December 2022, OHB Italia and ESA signed a contract to develop twelve satellites which will be part of the Italian IRIDE constellation. OHB Italia was also selected by ESA as prime contractor for the Comet Interceptor mission (€117m contract). OHB System and OHB Sweden are involved in the mission, due to be launched in 2028.
- ▶ OHB Sweden signed a contract with Thales Alenia Space in June 2023 to supply propulsion subsystems for the European CHIME (Copernicus Hyperspectral Imaging Mission for the Environment) and ROSE-L (Radar Observing System for Europe - L-Band) missions, each comprising two satellites (with an option for a third).

Technology and Innovation

- ▶ The group's total R&D expenditure reached €15.8m in 2022, representing 1.6% of revenues.



OTOKAR

Industrial group with civil and military activities, one of Turkey's leading producers of armoured vehicles and weapon systems

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Tracked armoured vehicles
- ▶ Wheeled armoured vehicles
- ▶ Turrets and remote controlled weapon stations
- ▶ Unmanned ground vehicles
- ▶ Special vehicles (anti-riot coaches, prisoner transport coaches, etc.)
- ▶ Bus and coaches

GOVERNANCE

Chairman	Yıldırım Ali Koç
Chief Executive Officer	Ahmet Serdar Görgüç
General Manager, Military Vehicles	Ugur Sedef Vehbi

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	382	361	429	552
Δ (%)*	44,80%	19,67%	55,01%	113,00%
Defence (%)**	43%	47%	45%	29%
Export (%)	80%	76%	73%	73%
Operating profit/loss	79	91	113	108
Operating margin	20,74%	25,26%	26,25%	19,61%
Net income	55	77	99	71
Order book	266	264	142	108
Employees	1 957	2 258	2 286	2 942

*Variation based on revenue in local currency. See €(TRY, p.7

**Military vehicles division only

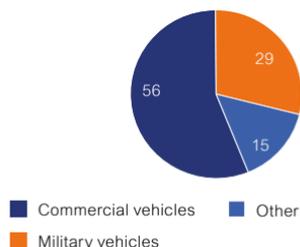
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	OTKAR
Listed on	Borsa İstanbul
Market Cap (TRYm)	51 030

Major shareholders (as of 14.11.2023)

Koç Holding	44,68%
Ünver Holding	24,81%
The Vanguard Group, Inc.	0,97%
Dimensional Fund Advisors LP	0,32%

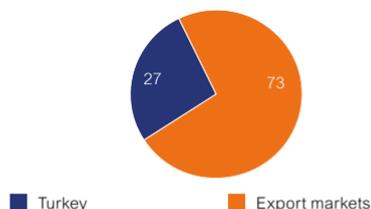
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Al Jasoor Heavy Vehicle Industry	49%	United Arab Emirates

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Aselsan	John Cockerill	Rafael	Tawazun Holdings	Daimler Truck	SAPA	Rocketsan
Tracked armoured vehicles							
Tulpar heavy infantry fighting vehicle (28 to 45 t)	●	●				●	
Tulpar S / Safa light amphibious infantry fighting vehicle (17 t)						●	
Wheeled armoured vehicles							
6x6 and 8x8 Arma and Rabdan vehicles	●		●				
4x4 Cobra and Cobra II multimission vehicles		●	●				
4x4 Akrep II infantry mobility vehicle		●					
4x4 Cobra II MRAP, Kaya II and Ural personnel carriers					●		
4x4 ISV public security missions vehicle							
Weapon systems							
Mızrak 30 and Mızrak-S 30 turrets (30 mm calibre)							●
Basok manual turret (7,6 mm calibre)							
Keskin and Üçok remote controlled weapon stations (7,62 mm, 12,7 mm and 14,5 mm calibres)							
Unmanned ground vehicle							
Alpar future multimission unmanned ground vehicle	●						

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Otokar revenues reached TRY 9,604m (€552m) in 2022, up 113% year-on-year in local currency, but up only 28.6% in euros, due to the sharp depreciation of the Turkish lira during the year.
- ▶ Growth was driven by higher deliveries of civil vehicles, including city buses and coaches (2,479 in 2022 compared with 1,619 in 2021) and light trucks (776 compared with 524). On the other hand, deliveries of military vehicles slightly declined (214 in 2022 compared with 216 in 2021). As a result, the Military Vehicles division only accounted for 28.9% of total sales in 2022, down 15.7 percentage points year-on-year.

Home market

- ▶ Otokar generated 27.1% of its revenues in Turkey in 2022, mainly through sales of civil vehicles. This share was only 1% for the Military vehicles division.
- ▶ Otokar suffered two major setbacks with the Turkish Armed Forces in recent years, losing out to two other Turkish groups. The Ministry of National Defense awarded BMC the contract to mass-produce the future Altay main battle tank, which was designed by Otokar in partnership with Hyundai Rotem. The Pars wheeled armoured vehicle supplied by FNSS was also chosen over Otokar's Arma to equip the Turkish Army.

Export markets

- ▶ Export sales accounted for 72.9% of the group's revenues in 2022, and 99% in the Military vehicles division. Deliveries identified in the military sector during the year include 20 Cobra II multimission armoured vehicles received by Côte d'Ivoire in February 2022.
- ▶ Otokar signed two contracts with Côte d'Ivoire in December 2022 for the supply of additional Cobra II multimission armoured vehicles for the Army and Gendarmerie.
- ▶ In February 2023, the group signed a contract worth around \$54m (€51m) with an unspecified export customer for the supply of 4x4 armoured vehicles and spare parts, as well as maintenance, training and logistic support services, with deliveries through to December 2023.
- ▶ The group was awarded a €130m contract by the Estonian Defence Forces in October 2023 for the supply of an unspecified number of 6x6 Arma armoured personnel carriers, including maintenance and training services. Deliveries are due to start in mid-2024 and to be completed during 2025.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to TRY 159m (€9.1m) in 2022, representing 1.7% of revenues.
- ▶ In February 2023, Otokar announced that it was working on new variants of the 8x8 Rabdan wheeled armoured vehicle: ambulance, command post and recovery vehicle. In 2021, the group finalised the delivery of 400 units of the infantry combat version to the United Arab Emirates, in partnership with local operator Tawazun Holding (through the Al Jasoor joint venture). Otokar also carried out tests on a 6x6 Rabdan vehicle with amphibious capabilities.
- ▶ In July 2023, Otokar unveiled the Alpar, a future tracked unmanned ground vehicle. Weighing 15 tonnes (including a 3-tonne payload), this hybrid-electric vehicle can operate autonomously or be guided up to a distance of 5 km. It could be used for several types of mission, including air defence, anti-tank, fire support, reconnaissance, surveillance, logistics, etc.



PATRIA

Group majority-owned by the Finnish State (50.1%), mainly involved in the production of wheeled armoured vehicles and weapons systems, and 91st-largest defence contractor

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Wheeled armoured vehicles
- ▶ Weapon systems (remote controlled weapon stations, mortar systems)
- ▶ Aeronautics (assembly, aerostructures)
- ▶ C4I/STAR systems (ELINT systems, network management systems)
- ▶ Training, MRO and logistics support

GOVERNANCE

Chairman	Panu Routila
Chief Executive Officer	Esa Rautalinko
Chief Program Officer, F-35	Petri Hepola

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

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

MAIN JOINT VENTURES AND ASSOCIATES

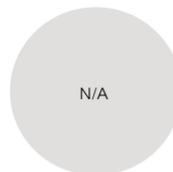
Name	%	Country
Defence Partnership Latvia	70%	Latvia
Millog	61,8%	Finland
Senop	61,8%	Finland
Milworks	60%	Estonia
Nammo	50%	Norway
Kongsberg Aviation Maintenance Services	49,9%	Norway

KEY FIGURES (Fiscal year ended: December 31st)

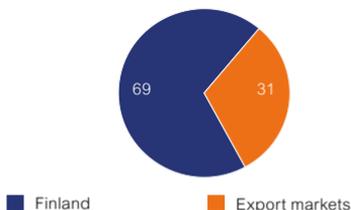
€ millions	2019	2020	2021	2022
Revenue	508	534	548	627
Δ (%)	6,60%	5,24%	2,55%	14,50%
Defence (%)	92%	93%	92%	90%
Export (%)	26%	25%	28%	31%
Operating profit/loss	8	40	61	54
Operating margin	1,54%	7,55%	11,17%	8,58%
Net income*	-0,4	27	45	38
Order book	649	1 508	1 550	1 751
Employees	3 055	2 939	3 097	3 311

*Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS
AND EXPORT PARTNERSHIPS

	PGZ	Denel	Djuro Djakovic	Konstrukta Defenca	Japan Steel Works	Saab	Kongsberg	Swede Ship Marine	BAE Systems	Lockheed Martin	Bell	Leonardo	Airbus	NHI
Wheeled armoured vehicles														
8x8 AMV and AMVXP armoured vehicles	●	●	●	●	●	●						●		
6x6 armoured vehicle (Common Armoured Vehicle System programme)														
Weapon systems														
NEMO turreted remote-controlled 120 mm mortar system							●	●						
Advanced MOrtar System (AMOS) turreted 120 mm mortar system								●						
Aeronautics														
Forward fuselage assembly (F-35 Lightning II fighter aircraft)									●					
Composite components (A400M, 2000 AEW&C, NH90)						●						●	●	
C4ISTAR														
Compact Airborne Networking Data Link (CANDL)														
Sonac DTS anti-submarine warfare sonar						●								
Training, MRO and logistics support														
Military pilot training														
MRO for aircraft (F/A-18C/D, Hawk Mk51/51A/66, Grob 115 E/EA) and helicopters (NH90, 412, AW101, AW169)							●		●		●	●	●	●
Aircraft engine MRO (F100, F135, F404, RTM322)														
Military vehicles MRO (XA-108, AMV, CV90, Bv 206)								●						
Hamina-class fast attack craft MRO						●								

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Patria revenues increased 14.5% to €627m in 2022. Growth was mainly driven by the 8x8 AMVXP and 6x6 CAVS (Common Armoured Vehicle System) armoured vehicles programmes, ordered by Slovakia and Latvia respectively. The group also benefitted from its numerous contracts in services (modernisation of XA-180 armoured vehicles and Finnish Hamina-class fast attack crafts, modification of Finnish G 115E training aircraft, retrofit of Swedish NH90 helicopters, etc.). In addition to its activities in armoured vehicles, turrets, C41STAR systems, pilot training and MRO services, Patria also operates in the ammunition segment through Nammo, in which it holds a 50% stake alongside the Norwegian State.
- ▶ Patria and Lockheed Martin signed an agreement in June 2023 to define the group's participation in the HX Fighter programme for the procurement of 64 F-35 Lightning II fighter aircraft by the Finnish Defence Forces. In particular, Patria will assemble 400 forward fuselages for the aircraft intended for Finland and other international customers.

Home market

- ▶ With more than two thirds of its sales generated in Finland in 2022, Patria remains highly dependent on its domestic market.
- ▶ In November 2022, the group completed the modernisation of the Finnish Defence Forces' 6x6 XA-180 armoured personnel carriers, which began in 2013. The vehicles can remain in service until the 2040s, to gradually be replaced by the 6x6 vehicles from the CAVS programme.
- ▶ The Senop subsidiary signed a €30m contract with the Finnish Defence Forces in May 2023 to produce EVA 40 night vision goggles and LISA target acquisition systems, to be delivered by 2025.
- ▶ Following an initial order for three pre-production 6x6 armoured vehicles under the CAVS programme in January 2022, the Finnish Defence Forces signed a contract with Patria in June 2023 for the supply of a further 161 vehicles, including 70 as options. The contract value is estimated at €208m.

Export markets

- ▶ The group's export markets mainly include European countries (Norway, Sweden, Estonia, Latvia, Poland, Belgium and the Netherlands), the United Arab Emirates, South Africa and Japan.
- ▶ In December 2022, Japan's Ministry of Defense selected Patria's 8x8 AMVXP armoured vehicle for its Wheeled Armored Personnel Carrier (WAPC) programme to replace its fleet of Type 96 vehicles (Komatsu). 29 units were ordered at a cost of JPY 23.2bn (€168m), with deliveries scheduled until 2026, and a total of 140 vehicles could be ordered within five years. Vehicles will be assembled locally under licence from Japan Steel Works.
- ▶ In March 2023, Croatia's Ministry of Defence announced plans to procure thirty 8x8 AMVXP armoured vehicles from Patria for €158m, to be delivered by 2028.
- ▶ Patria won two contracts in Sweden in spring 2023: one for the delivery of twenty 6x6 armoured vehicles from the CAVS programme (under the name Pansarterrängbil 300) by the end of 2023, and one for the supply of eight NEMO 120 mm mortar systems to be installed on the eight mobile artillery ships currently being built by Swede Ship Marine.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €12m in 2022, representing 2.0% of revenues.
- ▶ Patria is leading the FAMOUS (European Future Highly Mobile Augmented Armoured Systems) programme, in partnership with 18 other European defence groups (including Arqus, Diehl Defence, Indra Sistemas, John Cockerill Defense, KNDS, etc.), to develop the next generation of armoured vehicles.



POLSKA GRUPA ZBROJENIOWA (PGZ)

Holding company encompassing more than 30 Polish companies operating in various fields of the defence industry, and 62nd-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Tracked and wheeled armoured vehicles
- ▶ Weapon and artillery systems, ammunition
- ▶ Missile systems
- ▶ Aeronautics (JAS, components for helicopters, MRO and modernisation)
- ▶ Military shipbuilding and naval MRO
- ▶ Defence electronics
- ▶ Energy and offshore (platform modules and metallic structures)

GOVERNANCE

President
of the Supervisory Board
President
of the Management Board
Vice President
of the Management Board

Wojciech Dabrowski

Sebastian Chwalek

Krzysztof Sola

OWNERSHIP STRUCTURE

Symbol

Listed on

Market Cap

Unlisted group

Major shareholders (as of 14.11.2023)

Polish Department of the Treasury	50,29%
Polski Holding Obronny	25,71%
Polish Agency for industrial development	24,00%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Zakłady Mechaniczne Bumar - Labedy	93,69%	Poland
Mesko	88,9%	Poland
Huta Stalowa Wola	86,09%	Poland
Cenzin	72,7%	Poland

KEY FIGURES (Fiscal year ended: December 31st)

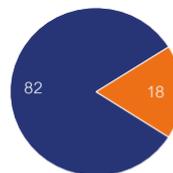
€ millions	2019	2020	2021	2022
Revenue	1 377	1 452	1 392	1 783
Δ (%) [PLN]*	6,94%	8,99%	-1,47%	31,46%
Defence (%)	N/A	N/A	73%	74%
Export (%)	13%	11%	11%	18%
Operating profit/loss	N/A	N/A	121	134
Operating margin	N/A	N/A	8,67%	7,51%
Net income	-142	43	96	93
Order book	N/A	N/A	N/A	N/A
Employees	N/A	N/A	17 810	18 270

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

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



■ Poland

■ Export markets

POLSKA GRUPA ZBROJENIOWA (PGZ)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Patria	Rheinmetall	Hanwha Aerospace***	Raytheon Technologies***	Lockheed Martin	Northrop Grumman	Remontowa Shipbuilding	WB Electronics	Kongsberg	Babcock	Rafael
Armoured vehicles											
Borsuk future infantry fighting vehicle							●				
KTO Rosomak 8x8 wheeled armoured vehicle (under Patria licence)	●						●				
Armoured vehicles MRO and modernisation (Leopard 2A4/2A5, T-72, BWP-1 Puma, Tumak-4)		●									
Weapon and artillery systems											
Krab 155 mm self-propelled tracked howitzer		●	●				●				
Rak 120 mm self-propelled mortar system							●				
Missile systems											
Spike-LR anti-tank missile (under Rafael licence)											●
Grom-M/Piorun man-portable air defence system											
Wisla air defence system* (including PAC-3 MSE interceptors)			●	●	●						
NSM (Naval Strike Missile) Coastal Defence System MRO							●				
Aeronautics											
PGZ-19RA Orlik tactical UAV											
Aircraft (MiG-29, F-16, C-130) and turbofan engine (F100) MRO and modernisation			●	●							
Naval shipbuilding											
Miecznik-class future coastal defence frigate**							●			●	
Kormoran II-class mine warfare vessel (électronics and weapon systems)							●				
Defence electronics											
TRS-15 Odra 3D surveillance radar											

*Based on Raytheon Technologies's Patriot system **Based on Babcock's Type 31 frigate
 Hanwha group *Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ PGZ revenues reached PLN 8,354m (€1,783m) in 2022, 74% of which from defence activities. Growth was driven by exports, in particular arms deliveries to Ukraine. By 2030, PGZ aims to achieve sales of around PLN 12bn (€2.6bn), thanks in particular to the expected rise in Polish military spending (4% of GDP in 2024).
- ▶ In March 2023, PGZ, its subsidiary WZ Motoryzacyjne and South Korea's Hyundai Rotem formed a consortium to produce up to 820 K2PL Black Panther main battle tanks in Poland for the Polish Army. Poland already ordered 180 tanks from Hyundai Rotem in July 2022 at a cost of \$3.4bn (€3.2bn), to be produced in South Korea.
- ▶ In November 2023, MBDA finalised a technology transfer agreement with PGZ, worth more than €4.6bn, to produce more than 1,000 CAMM-ER missiles and 100 launchers in Poland (Narew programme).

Home market

- ▶ PGZ remains highly dependent on its domestic market (more than 80% of revenues). The group is a key partner for foreign players wishing to enter the Polish defence market.
- ▶ The Polish Armament Agency signed a framework agreement with the Huta Stalowa Wola subsidiary in February 2023 to supply up to 1,400 Borsuk tracked armoured infantry fighting vehicles for an estimated value of €8.5bn. First deliveries are scheduled for 2024-2025.
- ▶ In March 2023, the PGZ-Wisla consortium completed the subcontracted production of 16 M903 launchers and 9 support vehicles for the Wisla missile defence system, allowing the first PAC-3 MSE interceptors to be delivered by Lockheed Martin.
- ▶ The PGZ-PILICA+ consortium signed a contract worth PLN 1.11bn (€238m) in March 2023 with the Polish Armament Agency for the supply of 22 BYSTRA deployable radars by October 2028.
- ▶ In June 2023, the PGZ-AMUNICJA consortium, consisting of five of the group's companies specialising in ammunition, signed a framework agreement with the Polish Armament Agency for the supply of hundreds of thousands of 155 mm calibre artillery munitions for the Polish Armed Forces until 2029.
- ▶ The Polish Armament Agency awarded PGZ three contracts in August 2023: two to the Rosomak subsidiary for the supply of 400 4x4 light reconnaissance vehicles and for the development of a new armoured personnel carrier, the NKTO, and one to the Huta Stalowa Wola subsidiary for the production of several hundred CBWP heavy tracked armoured vehicles, some of which are equipped with the ZSSW 30 mm remote controlled weapon station.

Export markets

- ▶ The group generated 18% of its revenues from exports in 2022, in particular following several arms deliveries to Ukraine (including Krab 155 mm self-propelled howitzers). South America, the Middle East and South East Asia are also targets markets for the group.
- ▶ In April 2023, Ukraine ordered 100 KTO Rosomak 8x8 armoured vehicles from the Rosomak subsidiary. The order was financed by European funds granted to Poland and U.S. funds obtained by Ukraine. Deliveries started in July 2023.
- ▶ In August 2023, the Fabryka Broni „Łucznik” – Radom subsidiary won a contract from an unspecified Central and East African country to produce MSBS Grot assault rifles.

Technology and Innovation

- ▶ PGZ presented a 4x4 autonomous ground vehicle dedicated to reconnaissance and combat missions, called Perun, at the MSPO exhibition in Kielce (Poland) in September 2023.



RAFAEL ADVANCED DEFENSE SYSTEMS

Defence technology company mainly operating in the field of missiles and air defence systems (Iron Dome, Barak-8, Spike), 34th-largest defence company worldwide

BUSINESS AREAS

Systems integrator/equipment supplier

- ▶ Missile systems, air and naval defence systems
- ▶ ISR, communication and electronic warfare systems
- ▶ Land and naval weapon and protection systems
- ▶ Space (microsatellites, propulsion systems, structures)
- ▶ Cybersecurity

GOVERNANCE

Chairman Yuval Steinitz
 President and CEO Yoav Har-Even

OWNERSHIP STRUCTURE

Symbol
 Listed on Unlisted group
 Market Cap

Major shareholders (as of 14.11.2023)

Israeli State | 100%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Shilat Optronics	50%	Israel
Opgal Optronic Industries	49,9%	Israel
Kalyani Rafael Advanced Systems (KRAS)	49%	India
GESPI Defense Systems	40%	Brazil
EuroSpike	20%	Germany
Astra Rafael Comsys	N/A	India
EuroTrophy	N/A	Germany
Raytheon RAFAEL Area Protection Systems	N/A	United States
Varley Rafael Australia (VRA)	N/A	Australia

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
CA	2 433	2 408	2 599	3 278
Δ (%) [ILS]*	4,16%	-2,61%	5,05%	16,66%
Defence (%)	≈ 100%	≈ 100%	≈ 100%	≈ 100%
Export (%)	N/A	N/A	≈ 50%	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	99	82	113	142
Order book	6 381	5 800	8 180	9 490
Employees	7 848	7 806	8 000	8 000

*Variation based on revenue in local currency
 See €/ILS, p.7

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



RAFAEL ADVANCED DEFENSE SYSTEMS

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	IA [*]	Lockheed Martin	BAE Systems	Northrop Grumman	Raytheon Technologies ^{**}	Diehl Defence	Rheinmetall	Elbit Systems	General Dynamics	PGZ	Leonardo
Missile and defence systems											
Iron Beam future laser air defence system								●			
David's Sling air defence system and Stunner and SkyCeptor interceptors				●							
Iron Dome short-range air defence system	●			●							
Tamir and SkyHunter interceptors (Iron Dome)				●							
SPYDER family of air defence systems	●										
C-Dome naval defence system											
Spike family of missiles (Spike ER2/LR2/SR anti-tank missiles, Spike NLOS and Naval Spike NLOS/ER multipurpose missile systems)		●			●	●					
SPICE family of guided bombs (250 / 1000 / 2000)		●			●						
Trophy Active Protection System (APS)	●							●		●	
Drone Dome Counter Unmanned Aircraft System (C-UAS)											
C4ISR systems											
TopLite electro-optical system									●		
Litening advanced targeting pod				●							
Unmanned system											
Protector USV	●	●									
Weapon and artillery systems											
SAMSON family of remote controlled weapon stations								●			
Typhoon family of naval remote controlled weapon stations				●		●					

^{*}Israel Aerospace Industries ^{**}Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Rafael Advanced Defense Systems (Rafael) reported revenues of ILS 11.6bn (€3.3bn) in 2022, up 16.7% year-on-year in local currency. New order intake amounted to ILS 16.1bn (€4.6bn) during the year, allowing the order book to reach a record level of ILS 35.6bn (€9.5bn) at the end of 2022, or more than three years of sales.
- ▶ At the end of 2022, Rafael and Lockheed Martin signed an agreement for the joint development, testing and production in the United States and Israel of a high-energy laser weapon system (HELWS). Rafael aims to adapt the technologies developed for the Iron Beam project for the U.S. market and possibly other export markets.
- ▶ Rafael, Diehl Defence and Hensoldt teamed up in June 2023 to supply SPICE 250 ER bombs to the German Air Force, in particular for the future Eurofighter EK (Elektronischer Kampf) aircraft.

Home market

- ▶ A key partner of the Israeli Ministry of Defense, Rafael is the third-largest Israeli defence company, behind Elbit Systems and Israel Aerospace Industries (IAI).
- ▶ In March 2022, the Israeli Minister of Defense announced funding of an undisclosed amount (several hundred million shekels) for the development and production of Rafael's future Iron Beam laser air defence system (based on a high-energy laser), in partnership with Elbit Systems. According to Rafael, the system could be operational within two to three years and be integrated into the Iron Dome air defence system.
- ▶ In March 2023, the group signed a multi-year contract with the Israeli Ministry of Defense to provide maintenance and support services for Typhoon naval remote controlled weapon stations in service on Israeli Navy ships.

Export markets

- ▶ In February 2023, Greece confirmed the procurement of Spike NLOS missiles for a total of €335m (including €280m for the Army and €55m for the Navy).
- ▶ In August 2023, the United States authorised the sale of the David's Sling air defence system to Finland. Estimated at \$346m (€324m), the order was the first export contract for this system. Diehl Defence, IAI, Kongsberg and MBDA were among the contenders.
- ▶ In August 2023, the Polish Ministry of National Defence announced the procurement of several hundred Spike LR missiles, to be produced by Rafael's local partner, Mesko (a subsidiary of PGZ). The contract is worth an estimated \$100m (€94m).
- ▶ In August 2023, Rafael signed a multi-year contract worth around ILS 100m (€24m) with the Navy of an unspecified Asian country to provide maintenance and support services for various naval systems, including Typhoon and Mini-Typhoon naval remote controlled weapon stations, Naval Spike ER and NLOS missiles, and Integrated Decoy Systems (IDS).
- ▶ Rafael signed a £20m (€23m) contract with the UK Ministry of Defence in September 2023 to supply the Trophy Active Protection System (APS). The group is carrying out tests to integrate this system into future Challenger 3 main battle tanks. The Trophy system will also equip the new Leopard 2A8 MBTs supplied to Germany and Norway by KNDS Germany.

Technology and Innovation

- ▶ In June 2023, Rafael presented the Sky Spear long-range air-to-air missile and a hypersonic missile interceptor called Sky Sonic.



RAYTHEON TECHNOLOGIES (RTX)

Aerospace and defence company, among the world leaders in missiles, aeronautical equipment and engines, and the world's second-largest defence contractor

BUSINESS AREAS

Missile and engine manufacturer, systems integrator/equipment supplier

- ▶ Missiles and shells
- ▶ Integrated defence systems (radar, air defence systems)
- ▶ C5ISR systems
- ▶ Commercial and military aircraft propulsion systems
- ▶ Commercial and military aerostructures and aircraft equipment
- ▶ Space systems

GOVERNANCE

Chairman and CEO	Gregory J. Hayes
President, Raytheon	Wesley D. Kremer
President, Pratt & Whitney	Shane G. Eddy

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020**	2021	2022
Revenue	-	49 551	54 428	63 698
Δ (%) [\$/]*	-	N/A	13,79%	4,17%
Defence (%)	-	61%	65%	59%
Export (%)	-	39%	38%	39%
Operating profit/loss	-	-1 654	4 191	5 142
Operating margin	-	-3,34%	7,70%	8,07%
Net income***	-	-3 081	3 266	4 935
Order book	-	122 346	137 688	164 011
Employees	-	181 000	174 000	182 000

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

**12 months data of former UTC activities and 9 months data (April to December) of former Raytheon activities

***Net income attributable to shareholders

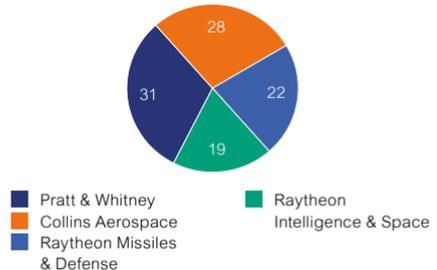
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	RTX
Listed on	NYSE
Market Cap (\$m)	116 179

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	8,37%
Capital Research & Management Co. (Global Investors)	5,59%
Wellington Management Co. LLP	2,51%
Capital Research & Management Co. (World Investors)	2,22%

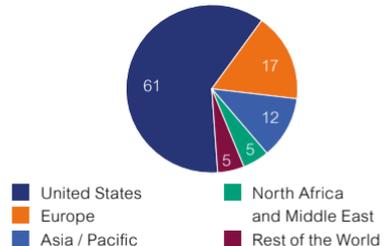
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Collins Elbit Vision Systems	50%	United States
Range Generation Next	50%	United States
Raytheon-Lockheed Martin Javelin JV	50%	United States
TRS AMDC2	50%	France

REVENUE BY REGION (%)



RAYTHEON TECHNOLOGIES (RTX)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	GKN Aerospace	Diehl Defence	MHI**	Kongsberg	L3Harris Technologies***	Northrop Grumman	Lockheed Martin	BAE Systems	Nammo	Thales	Rafael
Missiles and shells											
AGM-181 LRSO future nuclear ballistic missile (Long-Range Stand-Off Weapon programme)											
Tomahawk cruise missile											
AIM-9 Sidewinder family of air-to-air missiles		●	●								
AIM-120 AMRAAM air-to-air missile				●	●	●		●			
NSM / JSM anti-ship missiles			●								
FMG-148 Javelin anti-tank missile						●					
BGM-71 TOW anti-tank missile										●	
Excalibur M982 advanced precision guided artillery shell							●				
Integrated defence systems											
AN/SPY-6 (AEGIS) AESA naval radar					●	●					
AN/TPY-2 (THAAD) early warning radar						●					
Patriot air defence system (integrator)			●			●					
David's Sling long-range air defence system and Stunner interceptor											●
Military aircraft propulsion systems											
F135 turbofan engine (F-35)	●										
F100 turbofan engine (F-15, F-16, X-47B)	●										
PT6A turboprop engine (EMB 314, T-6, PC-21, HeronTP)											
Aircraft systems											
Landing gears (F-15, F-16, F-35, C-17, AH-64)											
Propeller systems* (A400M, C-130)											

*Produced by its French Ratier-Figeac subsidiary **Mitsubishi Heavy Industries ***Merger of L3 Technologies and Harris Corporation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Raytheon Technologies revenues reached \$67.1bn (€63.7bn) in 2022, 59% of which from defence activities, mainly through the Raytheon Missiles & Defense and Raytheon Intelligence & Space divisions. The group is the world's second-largest defence company by revenues, behind Lockheed Martin, and the third-largest aerospace company (civil and military) through its Collins Aerospace and Pratt & Whitney divisions, behind Boeing and Airbus.
- ▶ The Collins Aerospace division signed a letter of intent with Saudi company SRB Aerial Systems in February 2023 to develop UCAVs for the Royal Saudi Air Force. It will contribute its expertise in the integration of communication, imaging and sensor systems.
- ▶ In the summer of 2023, the group announced its intention to sell the Collins Aerospace division's activities in actuation and flight control systems for civil and military aircraft and helicopters to Safran for \$1.8bn (€1.7bn). The deal could be completed in the second half of 2024, pending approval by the antitrust authorities.

Home market

- ▶ Raytheon Technologies generated 61% of its revenue from the U.S. market in 2022. The group is a preferred partner of the U.S. Department of Defense, alongside Lockheed Martin and Boeing.
- ▶ The F-35 Joint Program Office ordered 278 F135 turbofan engines from Pratt & Whitney in March 2023, to power the Lockheed Martin F-35 Lightning II fighter aircraft from batches 15 and 16, for \$5.2bn (€4.9bn). The contract includes an option worth around \$2.8bn (€2.6bn) to produce an additional 140 units for the aircraft in batch 17.
- ▶ Raytheon Missiles & Defense signed a \$619m (€578m) contract in March 2023 with the U.S. Navy to produce AN/SPY-6 radars for several types of ships (Flight II and Flight III Arleigh Burke-class destroyers, aircraft carriers and amphibious ships). This is the third order since March 2022 for this programme, which has a budget of \$3bn (€2.8bn).
- ▶ Raytheon Missiles & Defense was awarded two contracts by the U.S. Air Force in June 2023 to produce air-to-air missiles: a \$264m (€247m) contract for 571 AIM-9X Sidewinder missiles and a \$1.15bn (€1.07bn) contract for AIM-120 AMRAAM missiles (D-3 and C-8 versions).
- ▶ The U.S. Air Force awarded Raytheon Intelligence & Space an 11-year, \$625m (€584m) contract to produce FAB-T nuclear radiation-resistant satellite communications terminals, for installation on Boeing's B-52 Stratofortress strategic bombers and RC-135 reconnaissance aircraft.

Export markets

- ▶ Export sales accounted for 39% of total revenues in 2022 and mostly concerned civil activities. In the military sector, the group is benefiting from international demand for Patriot and NASAMS air defence systems (the NASAMS system was developed in partnership with Kongsberg).
- ▶ The U.S. Department of Defense awarded Raytheon Missiles & Defense a contract worth \$1.2bn (€1.1bn) in March 2023 to supply five units of the Patriot system to Switzerland under the FMS programme.
- ▶ In May 2023, Raytheon Intelligence & Space was chosen by Korea Aerospace Industries to supply the PhantomStrike AESA radar for KAI's FA-50 Golden Eagle light fighter aircraft by 2025.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$2.7bn (€2.6bn) in 2022, representing 4.0% of revenues.
- ▶ In May 2023, Collins Aerospace unveiled a new oxygen supply system, called OXYJUMP NG, for use during high-altitude parachute jumps. This system is more compact and lighter than most existing systems.



RHEINMETALL

German industrial conglomerate, Germany's leading defence group, one of Europe's leading players in land systems, and 19th-largest defence contractor

BUSINESS AREAS

Platform manufacturer, systems integrator/
equipment supplier

- ▶ Military vehicles (tracked and wheeled armoured vehicles, military trucks, etc.)
- ▶ Cannons, turrets and weapon systems
- ▶ Ammunition
- ▶ Air defence systems
- ▶ Defence electronics and C4ISR systems
- ▶ Simulation and training solutions

GOVERNANCE

Chairman
of the Supervisory Board

Ulrich Grillo

Chief Executive Officer

Armin Papperger

Chief Financial Officer

Dagmar Steinert

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	RHM
Listed on	XETRA
Market Cap (€m)	12 140

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	3,44%
Fidelity Management & Research Co.	3,07%
Capital Research & Management Co. (World Investors)	2,80%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ARTEC	64%	Germany
Rheinmetall BAE Systems Land	55%	United Kingdom
Rheinmetall MAN Military Vehicles	51%	Germany
Projekt System & Management	50%	Germany
Supashock	49%	Australia
EuroSpike	40%	Germany

KEY FIGURES (Fiscal year ended: December 31st)

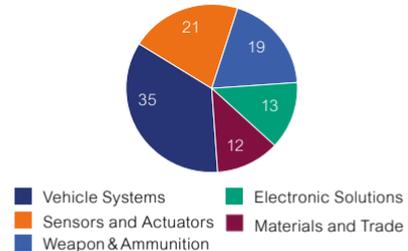
€ millions	2019	2020*	2021	2022
Revenue	6 255	5 405	5 658	6 410
Δ (%)	1,74%	N/A	4,68%	13,29%
Defence (%)**	56%	70%	67%	68%
Export (%)	69%	64%	66%	71%
Operating profit/loss	512	398	608	731
Operating margin	8,19%	7,36%	10,75%	11,40%
Net income***	335	-27	291	469
Order book****	10 399	12 942	13 930	15 089
Employees	23 780	23 268	23 945	25 486

*Figures restated **Since 2021, defence activities are no longer isolated in a Defence division

***Net income attributable to shareholders

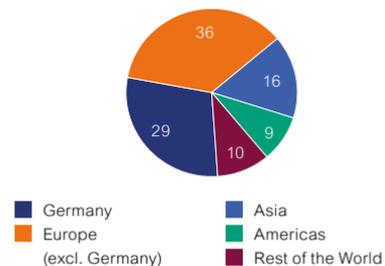
****Defence activities only

REVENUE BY BUSINESS SEGMENT (%)*



*Excluding Other division

REVENUE BY REGION (%)



RHEINMETALL

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	KNDS Germany	KNDS France	MAN	Supashock	Raytheon Technologies**	Textron	Supacat***	BAE Systems	General Dynamics	UVision Air	Airbus	Leonardo	Denel
Military vehicles													
Main Ground Combat System (MGCS) future French-German main battle tank*	●	●											
Lynx tracked armoured infantry fighting vehicle				●	●	●							
Puma tracked armoured infantry fighting vehicle	●												
8x8 Boxer armoured infantry fighting vehicle	●		●			●	●						
4x4 Caracal light armoured vehicle for Special Forces													
HX and TG-MIL high mobility logistic vehicles			●	●									
Cannons and turret systems													
L52 155 mm cannon (PzH 2000 self-propelled howitzer)	●												
L44 and L55 120 mm cannons (Leopard 2 and M1 Abrams tanks)	●							●					
LANCE and LANCE RC turret systems													
Ammunition													
Large calibre (120 mm and 155 mm) and medium calibre (20 mm, 25 mm, 27 mm and 30 mm) ammunition													●
Hero family of loitering munitions									●				
Air defence systems													
Skyshield / MANTIS and Skyranger air defence systems													
Simulation and training solutions													
Flight simulators (Typhoon, A400M, NH90, Tiger, etc.)							●		●	●			
Futur soldier systems													
Gladius 2.0 and IdZ-ES systems													

*The sharing of the industrial workload is still under discussion **Merger of Raytheon and UTC ***SC Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Rheinmetall revenues reached €6,410m in 2022, up 13.3% year-on-year. Of the three divisions encompassing the group's defence activities (68% of total sales in 2022), Vehicle Systems recorded the strongest growth (+20.5%), thanks in particular to the supply of Lynx KF41 and Boxer armoured vehicles, to Hungary and Australia respectively, as well as military trucks to Germany. The Weapon & Ammunition and Electronic Solutions divisions also recorded an increase in sales (+19.3% and +14.0% respectively).
- ▶ In August 2023, the group completed the acquisition of Spanish explosives and ammunition manufacturer Expal Systems from Maxam (owned by Rhone Capital) for €1.2bn. Rheinmetall intends to increase its ammunition production capacity, broaden its product range and gain access to the Spanish market.
- ▶ In August 2023, Rheinmetall launched construction of a plant in Weeze, Germany, to produce, in partnership with Northrop Grumman and Lockheed Martin, the centre fuselage for 400 F-35 Lightning II fighter aircraft for the German Air Force and export customers. The plant will be operational in 2025.

Home market

- ▶ Germany is an important market for Rheinmetall, accounting for 29% of total sales in 2022, and 35% for defence activities. The group is expected to benefit from the announced increase in German military spending (annual investment of more than 2% of GDP in defence from 2024).
- ▶ In May 2023, Germany's Federal Office of Bundeswehr Equipment (BAAINBw) ordered fifty Puma tracked infantry fighting vehicles from Projekt System & Management, a joint venture between KNDS Germany and Rheinmetall, for a total of €1.1bn, of which €501m for Rheinmetall. Deliveries are scheduled between December 2025 and early 2027.
- ▶ Rheinmetall signed a €1.9bn framework agreement in July 2023 with the German and Dutch Armed Forces for the supply of 3,058 4x4 Caracal light vehicles for Special Forces (2,054 and 1,004 units respectively) from 2025 onwards, in partnership with Mercedes-Benz and Armoured Car Systems.
- ▶ In July 2023, Rheinmetall was awarded two large-calibre ammunition contracts by the German Army: one worth €309m for 120mm tank ammunition and another worth €127m for 155mm artillery ammunition.

Export markets

- ▶ Rheinmetall has a strong international presence (71% of total sales and 65% of military sales in 2022).
- ▶ In early 2023, the group started assembling locally several armoured platforms: the Lynx KF41 in Hungary (172 units) and the Boxer in the UK (over 600 units) and Australia (around 180 units).
- ▶ Rheinmetall was selected in the first half of 2023 to compete in two U.S. Army programmes. The group partnered with GM Defense for the Common Tactical Truck (CTT) programme to acquire up to 40,000 logistics trucks, with Mack Defense, Navistar Defense and Oshkosh Defense as contenders. Rheinmetall is also offering its Lynx KF41 vehicle for the XM30 Mechanized Infantry Combat Vehicle (MICV, ex-OMFV) programme to replace nearly 3,800 M2 Bradley infantry fighting vehicles, and is competing with General Dynamics.
- ▶ In June 2023, the German, Danish and Dutch governments awarded Rheinmetall a contract worth several hundred million euros for the acquisition of 14 Leopard 2A4 main battle tanks, which were modernised and retained by the group for delivery to Ukraine from early 2024 onwards.

Technology and Innovation

- ▶ The group's total R&D expenditure amounted to €351m in 2022 (5.5% of revenues), of which €167m from defence activities (2.6%).



ROLLS-ROYCE

Aerospace and marine propulsion manufacturer, one of the world's top three producers of engines for civil and military aircraft, and the world's 22nd-largest defence company

BUSINESS AREAS

Engine manufacturer

- ▶ Aeronautics propulsion systems
- ▶ Naval propulsion systems (gas turbines, nuclear reactors, diesel engines)
- ▶ Distributed generation systems
- ▶ MRO and logistic support

GOVERNANCE

Chairwoman	Anita Frew
Chief Executive Officer	Tufan Erginbilgic
President, Defence	Adam Riddle

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	RR
Listed on	LSE
Market Cap (£m)	20 112

Major shareholders (as of 14.11.2023)

Capital Research & Management Co. (Global Investors)	4,91%
The Vanguard Group, Inc.	2,77%
Norges Bank Investment Management	1,98%
FIL Investment Advisors (UK) Ltd.	1,69%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
LHTEC	50%	United States
MTU Turbomeca Rolls-Royce ITP	50%	Germany
TAEC Ucak Motor Sanayi	49%	Turkey
EUROJET Turbo	46%	Germany
EuroProp International	44%	Germany
Airtanker Services	23,5%	United Kingdom

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020****	2021	2022
Revenue*	17 597	12 843	12 729	14 878
Δ (%) [£]**	2,54%	-26,02%	-4,23%	15,93%
Defence (%)	24%	32%	33%	31%
Export (%)	89%	90%	87%	88%
Operating profit/loss*	920	-2 256	481	764
Operating margin*	5,23%	-17,57%	3,78%	5,14%
Net income***	344	-3 562	140	-1 488
Order book	71 563	58 843	60 238	67 869
Employees	51 700	43 700	40 000	39 000

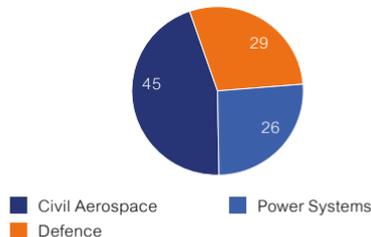
*Excluding investments and equity affiliates

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

***Net income attributable to shareholders

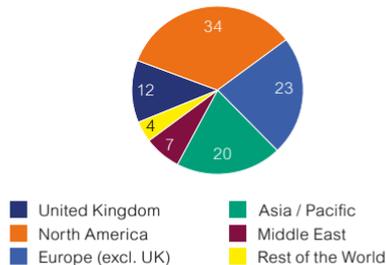
****Figures restated (ITP Aero divestment)

REVENUE BY BUSINESS SEGMENT (%)*



*Revenue distribution based on total sales excluding eliminations

REVENUE BY REGION (%)*



*Revenue distribution based on total sales excluding eliminations

ROLLS-ROYCE

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Safran	MTU Aero Engines	Avio Aero*	Pratt & Whitney**	ITP Aero	Honeywell	StandardAero	Reaction Engines	Turkish Aerospace	BAE Systems	HAL***
Aircraft engines											
EJ200 turbojet engine (Eurofighter Typhoon)		●	●								
LiftSystem for F-35B Lightning II fighter aircraft				●							
Adour turbojet engine (Jaguar, Hawk / T45)	●								●	●	
TP400-D6 turboprop engine (A400M)	●	●									
T56 and AE2100 turboprop engines (C-130)						●					
AE3007 turbojet engine (Embraer ERJ / Legacy)						●					
Trent 700 turbojet engine (A330 MRTT)											
Engine for the GCAP (formerly Tempest) future fighter aircraft									●		
Hypersonic propulsion systems project							●		●		
Helicopter engines											
MTR390-E turboshaft engine (Tiger)	●	●		●							
CTS800 turboshaft engine (Lynx / Super Lynx, AW159 Wildcat)					●			●			
AE1107 turboshaft engine (V-22 Osprey)						●					
M250 turboshaft engine (OH-58, AH-6, MQ-8 Fire Scout)						●					
UAS propulsion systems											
AE3007 turbojet engine (RQ-4 Global Hawk, MQ-4C Triton)											
Naval and submarine propulsion systems											
MT30 gas turbine (Queen Elizabeth-class aircraft carriers, T26-class frigates, Hunter-class frigates, Daegu-class frigates)										●	
PWR2 (Vanguard SSBN, Astute SSN) and PWR3 (Dreadnought SSBN) nuclear reactors									●		
MTU Series 4000 / 8000 diesel engines											

*Subsidiary of GE Aerospace (formerly GE Aviation) **Raytheon Technologies group (merger of Raytheon and UTC)
***Hindustan Aeronautics Ltd

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Rolls-Royce revenues grew almost 16% in local currency to €12.7bn (€14.9bn) in 2022. The Civil Aerospace division (+25.4%) benefited from increased engine deliveries (355 units compared with 309 in 2021) and higher demand for maintenance services. The Power Systems and Defence divisions (+21.8% and +8.7% respectively) also held up better, thanks in particular to the renewal of some military contracts.
- ▶ Rolls-Royce is pursuing its transformation plan launched in 2020, marked by major job cuts (more than 12,000 between 2019 and 2022) and the closure or restructuring of several sites, particularly in the United Kingdom and the United States. In October 2023, the group announced that it would be cutting a further 2,000 to 2,500 jobs worldwide.
- ▶ In October 2022, Rolls-Royce completed the expansion of its Pascagoula site in Mississippi, with the aim of increasing production capacity for propellers and engine parts for naval platforms to better support U.S. Navy programmes.

Home market

- ▶ Rolls-Royce generated only 12% of its revenues in its domestic market in 2022. However, the group is the leader in the naval engines and turbines segment in the UK, and has a monopoly position in submarine nuclear propulsion.
- ▶ Rolls-Royce is also responsible for developing the engines for the future GCAP (Global Combat Air Program, ex-Tempest) fighter aircraft, as part of the programme led by the UK, Italy and Japan. The first flight of a demonstrator is scheduled for 2026-2027.
- ▶ In August 2022, the British Army ordered 523 MTU 8V 199 engines from Rolls-Royce for the Boxer mechanised infantry vehicle (MIV), with deliveries scheduled between 2022 and 2030.
- ▶ Rolls-Royce Power Systems was awarded a contract by the UK Ministry of Defence in October 2022 for the preventive and corrective maintenance of more than ninety MTU generator sets powering the Royal Navy fleet for the next five years, with an option for a further two years.

Export markets

- ▶ The U.S., which accounted for 32% of revenues in 2022, remain the group's largest market. Rolls-Royce is a major supplier of propulsion systems for military aircraft and ships to the U.S. Department of Defense.
- ▶ Rolls-Royce was awarded two contracts by the U.S. Naval Air Systems Command in August 2022: one worth \$854m (€755m) over five years to maintain AE2100D3 turboprop engines on the C-130J transport aircraft and KC-130J tanker aircraft fleet of the U.S. Marine Corps and Kuwaiti Armed Forces, and the other worth \$1.01bn (€893m) over five years to maintain and provide logistics services for 210 F405-RR-401 Adour turbojet engines powering the T-45 Goshawk trainer aircraft.
- ▶ Under the AUKUS partnership between Australia, the United Kingdom and the United States, Rolls-Royce was selected in March 2023 to supply the reactors for Australia's future nuclear-powered submarines.
- ▶ Tests of the F130 engines for the U.S. Air Force's B-52J Stratofortress bombers are ongoing. The initial test phase is expected to be completed by the end of 2023 before the Critical Design Review phase takes place in Q1 2024.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to £928m (€1,088m) in 2022, representing 7,3% of revenues.
- ▶ In November 2022, the Royal Air Force's RAF Voyager tanker aircraft made a 100% sustainable fuel flight using a Trent 700 engine, a world first for a military aircraft of this size.



SAAB

Group mainly operating in the defence sector (Gripen fighter aircraft, A26 submarine), leading supplier to the Swedish Armed Forces and 33rd-largest defence contractor

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military aircraft
- ▶ Naval platforms and systems
- ▶ Missile and weapon systems
- ▶ C4ISR and early warning systems
- ▶ Defence electronics
- ▶ Information security and system integration
- ▶ Simulation solutions

GOVERNANCE

Chairman	M. Wallenberg
Chief Executive Officer	M. Johansson
Head of Aeronautics division	L. Tossman

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	SAAB B
Listed on	Nasdaq OMX Stockholm
Market Cap (SEKm)	74 685

Major shareholders (as of 14.11.2023)

Investor AB (Investment Company)	28,91%
Wallenberg Investments AB	8,87%
Swedbank Robur Fonder AB	4,93%
The Vanguard Group, Inc.	2,41%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
SN Technologies	50%	Switzerland
UMS SKELDAR	47%	Switzerland
Akaer Participações	42,2%	Brazil
TAURUS Systems	33%	Germany

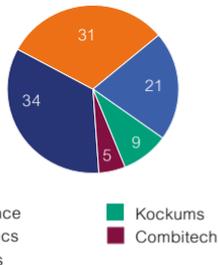
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
CA	3 346	3 266	3 859	3 952
Δ (%) [SEK]*	6,87%	-0,01%	10,51%	7,28%
Defence (%)	85%	88%	90%	89%
Export (%)	63%	64%	62%	58%
Operating profit/loss	277	121	285	308
Operating margin	8,29%	3,71%	7,38%	7,79%
Net income**	187	99	190	206
Order book	8 930	9 948	10 261	11 480
Employees	17 420	18 073	18 153	19 002

*Variation based on revenue in local currency. See €[SEK], p.7

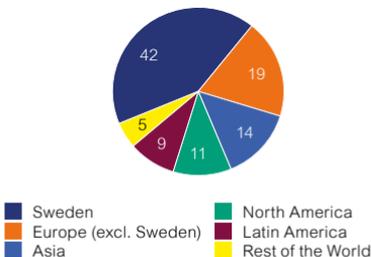
**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Revenue distribution based on total sales excluding Corporate division

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS
AND EXPORT PARTNERSHIPS

	Thales	MBDA	Embraer	Dassault Aviation	Bombardier	Leonardo	AEL Sistemas*	Military Technical Institute	BAE Systems	UMS Aero Group	Diehl Defence	Boeing
Military aircraft												
JAS 39 Gripen E/F fighter aircraft	●	●	●			●	●					
T-7A Red Hawk trainer aircraft (aft fuselage)												●
340 Erieye AEW&C and 2000 Erieye AEW&C surveillance aircraft			●									
GlobalEye surveillance aircraft (radar)					●							
Skeldar V-200 VTOL UAV									●			
nEUROn UCAV demonstrator (landing gear doors, main fuselage, avionics, etc.)						●						
Conventionally-powered submarine												
Future Blekinge-class attack submarine (A26)												
Missile systems and weapon systems												
AT4 and Carl-Gustaf M4 man-portable shoulder-fired systems												
NLAW Light Anti-tank Weapon missile system												
RBS 70 NG very short-range ground-based air defence system												
RBS 15 Mk3 anti-ship missile												●
IRIS-T short-range air-to-air missile												●
METEOR beyond visual range air-to-air missile		●										
TAURUS KEPD 350 cruise missile		●										
Early warning systems												
Giraffe and Sea Giraffe family of radars (75, AMB, 1X, 4A, 8A)							●					
Defence electronics												
IDAS (Integrated Defensive Aids System)												
BOL advanced countermeasure dispenser									●			

*Elbit Systems group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Saab revenues reached SEK 42.0bn (€3,952m) in 2022, up 7.3% year-on-year in local currency. Growth was driven by increased deliveries, notably on the Gripen fighter aircraft programme, and by support services for the Royal Swedish Navy's submarines. With the exception of the predominantly civil Combitech division, defence activities accounted for more than 80% of sales in all divisions (89% for the group as a whole in 2022).
- ▶ At the LAAD Defence & Security exhibition in Rio de Janeiro (Brazil) in April 2023, Embraer and Saab signed a letter of intent to integrate an avionics suite from Saab on Embraer's C-390 Millennium tactical airlifter to enable its sale to the Swedish Armed Forces.
- ▶ At the DSEI exhibition in London (UK) in September 2023, Saab signed a strategic cooperation agreement with Babcock to work on the design of a future 100 m long corvette. Saab will contribute its expertise in combat systems and composite materials.

Home market

- ▶ Saab generated 42% of its revenues in Sweden in 2022. The group is the preferred partner of the Swedish Defence Materiel Administration (FMV), particularly for combat aircraft and naval defence, and is to deliver sixty JAS 39 Gripen E aircraft and two Blekinge-class (A26) submarines ordered in 2014 and 2015 respectively.
- ▶ The group signed several contracts worth a total of SEK 530m (€50m) in early 2023 with the FMV for the maintenance of the Swedish Air Force's JAS 39 Gripen C/D fighter aircraft and the integration of the LDP 15 (Laser Guided Pod) target designator on the aircraft.
- ▶ Hägglunds (a Swedish subsidiary of BAE Systems) awarded Saab a contract worth around SEK 900m (€85m) in May 2023 to supply vision systems and fire control systems for the CV90 armoured infantry fighting vehicles ordered by Slovakia at the end of 2022. Deliveries are scheduled until 2029.
- ▶ The FMV ordered ammunition for the Carl-Gustaf rocket launcher, to be delivered between 2026 and 2030, for around SEK 3bn (€283m).

Export markets

- ▶ Saab's export sales amounted to SEK 24.5bn (€2.3bn) in 2022, accounting for 58% of total sales.
- ▶ Saab signed a contract with the Australian Department of Defence in July 2023 for the production of additional Carl-Gustaf M4 rocket launchers equipped with the new FCD 558 fire control system, estimated at SEK 400m (€38m). Deliveries are scheduled until 2025.
- ▶ In July 2023, Saab, in partnership with Damen, submitted its A26 submarine for the Dutch programme to procure four submarines to replace the Walrus-class, in service since 1990. Naval Group and tkMS are the other contenders on this programme.
- ▶ Saab signed a contract, valued at SEK 600m (€56m), with the Polish Ministry of National Defence in July 2023 to supply two 340 Erieye AEW&C surveillance aircraft by 2025.
- ▶ The U.S. Department of Defense awarded Saab a \$105m (€98m) contract in September 2023 for the supply of AT4 rocket launchers and HE 441E ammunition for Carl-Gustaf M4 rocket launchers, to be delivered over the 2024-2026 period.
- ▶ Boeing and Saab delivered their first production T-7A Red Hawk trainer aircraft to the U.S. Air Force in September 2023.

Technology and Innovation

- ▶ Saab's total R&D expenditure amounted to SEK 7.6bn (€718m) in 2022, representing 18.2% of revenues. Self-financed R&D expenditure represented 4.2% of group revenues.

BUSINESS AREAS

Engine manufacturer, systems integrator/
equipment supplier

- ▶ Aircraft and helicopter engines, satellite and missile propulsion systems
- ▶ Aircraft systems and equipment
- ▶ Optronics, avionics, navigation systems, defence electronics and critical software
- ▶ Unmanned systems
- ▶ Security systems

GOVERNANCE

Chairman	Ross McInnes
Chief Executive Officer	Olivier Andriès
President, Safran Electronics & Defense	Franck Saudo
President, Safran Aircraft Engines	Jean-Paul Alary

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	SAF
Listed on	Euronext Paris
Market Cap (€m)	67 242

Major shareholders (as of 14.11.2023)

French State	11,23%
Employees	5,73%
Capital Research & Management Co. (World Investors)	5,31%
TCI Fund Management Ltd.	5,20%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ArianeGroup	50%	France
Initium Aerospace	50%	United States
Lynred (ex-Sofradir)	50%	France
Roxel	50%	France
Aubert & Duval	33,33%	France
EuroProp International	32,2%	Germany
CILAS	31,5%	France

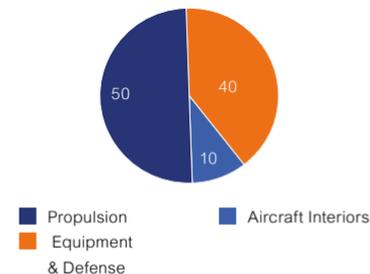
KEY FIGURES* (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	24 640	16 498	15 257	19 035
Δ (%)	17,05%	-33,04%	-7,52%	24,76%
Defence (%)	16%	25%	28%	21%
Export (%)	80%	77%	78%	79%
Operating profit/loss	3 833	1 220	1 400	1 958
Operating margin	15,56%	7,39%	9,18%	10,29%
Net income**	2 665	844	760	1 178
Order book	N/A	N/A	N/A	N/A
Employees	95 443	78 892	76 765	83 276

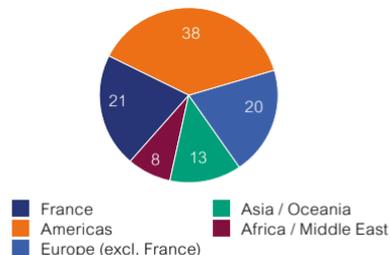
*Figures adjusted

**Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	ITP Aero	Rolls-Royce	MBDA	Diehl Defence	Ecarys*	MTU Aero Engines	Hensoldt	Madtes	KNDS France	HAL**
Aircraft engines										
Work on motorisation as part of the NGWS programme (Next Generation Weapon System)	●					●				
M88 afterburning turbofan engine (Rafale)										
TP400 turboprop engine (A400M)	●	●				●				
RTM322 turboshaft family (NH90, AW101, Apache AH Mk 1)										
Ardiden turboshaft family (Druhv, LCH, LUH, Ka-62, AC352)										●
MTR390-2C (Tiger HAP, ARH, UHT) and MTR390-E (Tiger HAD) turboshaft engines	●	●				●				
Arrano 1A turboshaft engine (H160M)										
Space propulsion systems										
Plasma propulsion (PPS 1350-G, PPS 1350-E, PPS 5000, PPS X00)										
Missile propulsion systems										
TR 60-30 (Apache, STORM SHADOW / SCALP EG) and TR 50 (MdCN / SCALP Naval) turbojet engines				●						
Weapon systems and missile systems										
Missile seekers (AKERON-LP, MICA IR, Mistral, MMP)		●								
HUSSAR future air-to-ground missile			●							
Navigation and optronics systems										
Geonyx M inertial navigation system for armoured vehicles										●
Series 30 MOA and Series 30 MOV optronic masts for submarines										
Euroflir 610 future gyrostabilised electro-optical system						●	●			
Unmanned systems										
Patroller tactical unmanned air vehicle					●					

*Subsidiary of Stemme **Hindustan Aeronautics Ltd

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Safran adjusted revenues reached €19bn in 2022, up 24.8% year-on-year. Growth was mainly driven by civil activities, which recorded a sharp increase in sales after being heavily impacted by the global health crisis in 2020 and 2021. On the other hand, defence activities were affected by the drop in M88 turbofan engine deliveries for Dassault Aviation's Rafale fighter aircraft (51 units delivered in 2022, compared with 64 in 2021).
- ▶ Safran, Airbus and Tikehau Ace Capital, through an equally-owned holding company, finalised the acquisition of Eramet's subsidiary Aubert & Duval (€500m sales, 3,600 employees) in April 2023. Aubert & Duval is a supplier of critical metals and parts, in particular to the aerospace, defence and nuclear industries.
- ▶ In July 2023, Safran and Hindustan Aeronautics Ltd (HAL) announced the creation of a new, yet unnamed, joint venture in India. Based in Bangalore, it will be dedicated to the development, production and support of helicopter engines, in particular for the future Indian Multi-Role Helicopter (IMRH) and its onboard version, the Deck-Based Multi-Role Helicopter (DBMRH), currently being developed by HAL.
- ▶ In the summer of 2023, Safran announced its intention to acquire activities from Collins Aerospace (a division of Raytheon Technologies) in actuation and flight control systems for civil and military aircraft and helicopters, for \$1.8bn (€1.7bn). These activities employ around 3,700 people at seven sites in Europe (Saint-Ouen-l'Aumône and Vernon in France, Italy and the UK) and one in Indonesia, and generate sales of around \$1.5bn (€1.4bn). The deal could be finalised in the second half of 2024, pending approval from the competition authorities.
- ▶ In October 2023, Safran acquired activities in aeronautical electrical systems from Thales (600 employees, €145m in sales in 2022). In France, the deal concerns the Thales Avionics Electrical Systems and Thales Avionics Electrical Motors companies, based in Chatou / Conflans-Sainte-Honorine (Yvelines) and Meru (Oise).

Home market

- ▶ Safran indirectly benefits from several orders placed since 2020 as part of various French defence programmes, including 12 Rafale fighter aircraft for the French Air Force, 7 Falcon 2000 LXS Albatros aircraft for the French Navy, 10 NH90 helicopters for the French Special Forces, and 356 Griffon VBMR and 88 Jaguar EBRC vehicles for the French Army.
- ▶ Safran Landing Systems signed a contract with Airbus in April 2023 to supply the braking system (including wheels and brakes) for the future European MALE RPAS reconnaissance UAV (Eurodrone). Production of the prototype is due to start in 2024, with the first delivery scheduled for the end of the decade.

Export markets

- ▶ Safran generated 79% of its revenue from exports in 2022, in particular through CFM International (its joint venture with GE Aerospace, specialising in passenger aircraft engines).
- ▶ In December 2022, the Australian Defence Force ordered more than a hundred JIM Compact multifunction infrared binoculars from Safran Electronics & Defense Australasia, to equip a sniper system as part of the LAND 159 programme.
- ▶ Safran and Hindustan Aeronautics Ltd (HAL) started building an MRO centre in Goa, India, dedicated to the TM333 and Shakti engines powering HAL's helicopters. This project is part of the Helicopter Engines MRO (HE-MRO) joint venture, scheduled to be operational by the end of 2023.
- ▶ The group won its first export contract for the Patroller tactical UAV, following the signature in June 2023 of a contract with the NATO Support and Procurement Agency for the supply of four systems and three ground control stations to Greece.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €1,019m in 2022, representing 5.4% of revenues.

SOPRA STERIA

French digital services company, among the top five players in Europe and the top three players in the French cybersecurity market

BUSINESS AREAS

Digital services supplier and systems integrator

- ▶ Cybersecurity
- ▶ Digital transformation
- ▶ Information systems integration
- ▶ Development of technology-specific solutions
- ▶ IT and cloud infrastructure management

GOVERNANCE

Chairman Pierre Pasquier

Chief Executive Officer Cyril Malargé

Deputy CEO,
Commercial Strategy,
Defence & Security Laurent Giovachini

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	SOP
Listed on	Euronext Paris
Market Cap (€m)	3 754

Major shareholders (as of 14.11.2023)

Sopra GMT	19,64%
Amundi Asset Management SA	5,19%
Fidelity Management & Research Co.	2,72%
The Vanguard Group, Inc.	2,51%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Shared Services Connected Ltd (SSCL)	75%	United Kingdom
Axway Software	31,96%	France

KEY FIGURES (Fiscal year ended: December 31st)

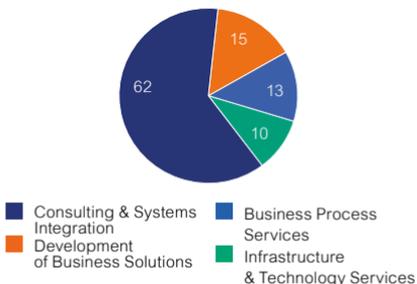
€ millions	2019	2020	2021	2022
Revenue*	4 434	4 263	4 683	5 101
Δ (%)	8,28%	-3,86%	9,85%	8,93%
Defence (%)**	17%	16%	16%	20%
Export (%)	51%	52%	53%	53%
Operating profit/loss	283	202	303	361
Operating margin	6,38%	4,74%	6,47%	7,08%
Net income***	160	107	188	248
Order book	N/A	N/A	N/A	N/A
Employees	46 245	45 960	47 437	49 690

*Excluding cybersecurity activities

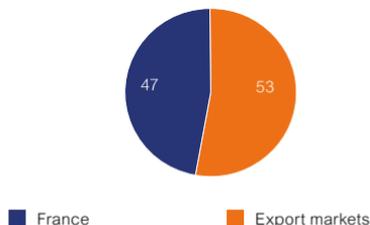
**Aerospace, Defence & Security activities

***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Atos	Capgemini	Dassault Aviation	Naval Group	Thales	Safran
Cyber Defence Systems and Intelligence							
Defensive computer warfare software	●	●				●	
Metropolitan intelligence information system		●					
Sovereign security monitoring software suite							
Command systems							
Joint software for digital operations command, intelligence and logistics	●	●	●	●		●	
Simulation and numerical modelling software							
Physical simulation and testing software							
Support for the experiments of the Technico-Operational Laboratory							
Support for experimentation and development of laboratory software tools for OICS*							
Support systems							
Pay information system for military and civilian personnel							
Unified support calling platform							
Logistics systems and MRO							
Software for aeronautical maintenance				●			
Information system for land systems MRO activities							
Information systems for health product supply, commissioning logistics management and oil logistics management							
Artificial Intelligence and Big Data							
Artemis programme (Architecture for processing and massive exploitation of multi-source information)	●	●	●			●	
Confiance.ai programme	●	●			●		●

*Operational Information and Communication Systems

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Sopra Steria revenues reached €5,101m in 2022, up 8.9% year-on-year (+7.6% at constant scope and exchange rates).
- ▶ The Cyber Campus, dedicated to cybersecurity, was inaugurated at La Défense (Hauts-de-Seine) in early 2022. The building brings together companies (including Sopra Steria, Airbus CyberSecurity, Atos, Orange Cyberdefense and Safran), government departments (including the French Ministry of the Armed Forces), training organisations, research bodies and associations to work on innovation projects. The Cyber Campus aims to unite the French cybersecurity community and create synergies between the various players.
- ▶ Sopra Steria finalised two acquisitions in March 2023: Tobania, a Belgian consulting and digital services company, and Ordina, a Dutch consulting and IT services company active in defence and security, whose acquisition is valued at €518m.
- ▶ In the spring of 2023, the group completed a takeover bid for the French company CS Group, in which it now holds a 100% stake. CS Group is active in defence, space, aeronautics, nuclear and cybersecurity, with sales of around €250m in 2022 and a workforce of 2,100 employees.

Home market

- ▶ France is the group's largest market (47% of revenues in 2022).
- ▶ Sopra Steria has been working since February 2021 with the DGA and the French Aerospace Maintenance Agency (DMAé, Direction de la Maintenance Aéronautique) to implement a new single information system for aerospace in-service support, called Brasidas. This system aims to improve the availability of aircraft, helicopters and UAVs in service with the French Armed Forces by gathering all the information on maintenance activities of the various aircraft fleets in a single digital tool.
- ▶ Sopra Steria is one of the 13 French industrial and academic players involved in the Confiance.ai programme since July 2021. Led by the SystemX technological research institute and with a €45m budget over the 2021-2024 period, this programme aims to ensure the reliability of artificial intelligence algorithms used in critical industrial applications in various sectors (defence, aerospace, automotive, energy, maritime, etc.).
- ▶ Sopra Steria, through its subsidiary CS Group, is involved alongside Thales in the DGA's PARADE programme for the deployment of protection systems for military sites, major events (such as the Rugby World Cup in 2023 or the Paris 2024 Olympic and Paralympic Games) and civilian infrastructures against micro and mini-UAVs weighing between 100g and 25kg.

Export markets

- ▶ Sopra Steria generated 53% of its revenues from exports in 2022.
- ▶ The group has a strong presence in the United Kingdom, where it was awarded a £300m (€340m) seven-year contract by the Ministry of Defence, through its 75%-owned subsidiary Shared Services Connected Ltd (SSCL), to integrate a new management information system designed to improve the British Armed Forces' access to administrative, payroll, pension and human resources services. In addition, SSCL operates cloud services to better structure data and offer new services based on artificial intelligence.

Technology and Innovation

- ▶ The group's self-financed R&D expenditure amounted to €114m in 2022, representing 2.2% of revenues.



ST ENGINEERING

Group resulting from the consolidation of Singapore's defence industry, majority-owned by the Singaporean State through the Temasek fund, and 45-th largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Aeronautics
- ▶ Naval platforms and systems (surface ships, USVs, AUJVs, research vessels)
- ▶ Land platforms and systems (armoured vehicles, weapon systems, ammunition)
- ▶ Electronics and space systems (communication systems, cybersecurity, satellites)
- ▶ Maintenance repair and operations

GOVERNANCE

Chairman	Teo Ming Kian
Chief Executive Officer	Vincent Chong
President Defence & Public Security	Ravinder Singh

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	S63
Listed on	SGX
Market Cap (SGDm)	11 772

Major shareholders (as of 14.11.2023)

Temasek Holdings Pte Ltd.	49,79%
Capital Research & Management Co. (Global Investors)	2,68%
The Vanguard Group, Inc.	1,71%
Temasek Capital Pte Ltd.	0,91%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Elbe Flugzeugwerke (EFW)	55%	Germany
Proteus Advanced Systems	50%	Singapour

KEY FIGURES (Fiscal year ended: December 31st)

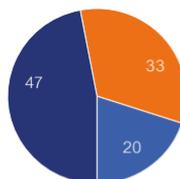
€ millions	2019	2020	2021	2022
Revenue	5 153	4 548	4 841	6 227
Δ (%) [SGD]*	17,47%	-9,02%	7,47%	17,44%
Defence (%)	29%	36%	38%	33%
Export (%)**	45%	46%	42%	50%
Operating profit/loss	479	379	424	507
Operating margin	9,30%	8,33%	8,76%	8,14%
Net income***	379	332	359	369
Order book	10 126	9 494	12 631	16 084
Employees	22 494	23 103	22 405	23 420

*Variation based on revenue in local currency. See €/SGD, p.7

**Revenue excluding Asia

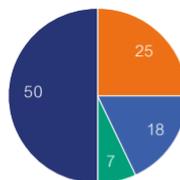
***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)



■ Defence & Public Security ■ Urban Solutions & Satcom
 ■ Commercial Aerospace

REVENUE BY REGION (%)



■ Asia ■ Europe
 ■ United States ■ Rest of the World

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Saab	DSO/DSTA*	Lockheed Martin	OTO Melara**	Otokar	Timoney	General Dynamics	Thales	Paramount Group	Rafael
Aéronautics										
Skyblade and USTAR families of UAVs	●									
MRO and modernisation (F-16 fighter aircraft, C-130 transport aircraft)		●								
Naval platforms and systems										
Endurance-class Landing Platform Dock (LPD)			●							●
Independence-class frigate	●		●					●		●
Vanguard family of surface vessels										
Swift / Super Swift family of fast patrol boats										
Venus USV								●		
Mercury AUV								●		
Land platforms and systems										
Hunter tracked armoured fighting vehicle	●									●
Bronco high mobility tracked armoured carrier	●									
8x8 Terrex family of wheeled armoured vehicles				●	●					
4x4 Belrex family of wheeled armoured vehicles	●							●		
Spider New Gen light strike vehicle										●
Pegasus lightweight towed howitzer	●									
40 mm ammunition							●	●		
Electronics and space systems										
DigiSAFE cybersecurity solution										
TeLEOS-1 and TeLEOS-2 Earth observation satellites	●									

*Singapore government agencies **Subsidiary of Leonardo

STRATEGIC HIGHLIGHTS

Business trends

- ▶ ST Engineering revenues increased 17.4% in local currency to SGD 9.0bn (€6.2bn) in 2022. All divisions reported higher sales, especially the Urban Solutions & SATCOM division (mainly civil-oriented, but also including the group's space activities, +48.8%). Revenues in the Defence & Public Security division (encompassing most of the group's defence activities, as well as public security and commercial shipbuilding activities) grew at a slower pace (+5.8%).
- ▶ In December 2022, the group sold its unprofitable U.S. subsidiaries VT Halter Marine and ST Engineering Halter Marine and Offshore to competitor Bollinger Shipyards for \$15m (€14m). The subsidiaries were involved in the construction of icebreakers for the Polar Security Cutter programme, Pathfinder-class oceanographic research vessels and accommodation barges for the U.S. NAVSEA.
- ▶ ST Engineering signed an agreement with tkMS in December 2022 to provide maintenance and technical support services for the Republic of Singapore Navy's four Invincible-class (Type 218SG) submarines currently undergoing sea trials or being built by tkMS.
- ▶ In May 2023, the group signed a letter of intent with Boeing to provide systems integration, training, spare parts management, maintenance and other services for the worldwide fleet of P-8A Poseidon maritime patrol aircraft.

Home market

- ▶ The result of the consolidation of Singapore's defence industry, ST Engineering is the leading supplier to the Singapore Ministry of Defence.
- ▶ As a partner of Lockheed Martin, ST Engineering is participating in the modernisation programme of the Republic of Singapore Air Force's fleet of sixty F-16 Fighting Falcon fighter aircraft, launched in 2015. The first updated aircraft was delivered in February 2022.
- ▶ ST Engineering was awarded a contract by the Republic of Singapore Navy in March 2023 for the detailed design and construction of six Multi-Role Combat Vessels (MRCV), based on the Iver Huitfeldt-class and Absalon-class frigates concept developed by Danish company Odense Maritime Technology. These ships are due for delivery from 2028 and will replace the Victory-class missile corvettes currently in service.

Export markets

- ▶ The group is struggling to win international contracts. In recent years, it submitted (with local partners) its Bronco, Hunter and Terrex land vehicles for the Cold Weather All-Terrain Vehicle (U.S. Army), Mobile Protected Firepower (U.S. Army) and Land 400 Phase 2 (Australian Army) programmes respectively, but was not selected.
- ▶ In October 2022, the U.S. subsidiary VT MAK was selected by the Pakistan Air Force to supply training systems and simulation software for air, land, surface naval and submarine combat (MAK One solution).

Technology and Innovation

- ▶ Total R&D expenditure amounted to SGD 131m (€90m) in 2022, representing 1.4% of revenues. The group's R&D activities are mainly focused on autonomous vehicles and robotics (including UAVs), cybersecurity, as well as the use of artificial intelligence for civil and military applications.
- ▶ In November 2022, ST Engineering unveiled a version of its Hunter tracked armoured vehicle equipped with a crossing system, the Hunter Armoured Vehicle-Launched Bridge (HT-AVLB). This version was developed in partnership with Singapore's Defence Science and Technology Agency (DSTA) and could replace the SM-1 AMX-13 vehicles (KNDS France) currently in service.

TECHNICATOME

A major player in naval nuclear propulsion, also active in civil nuclear energy (including SMRs), resulting from the nationalisation of Areva TA in 2017

BUSINESS AREAS

Compact nuclear reactors designer

- ▶ Naval nuclear propulsion
- ▶ Support engineering for defence infrastructure
- ▶ Design and production engineering
- ▶ Reactors simulation and modelisation of physical phenomena
- ▶ MRO and services
- ▶ Civil nuclear energy

GOVERNANCE

Chairman and CEO Loïc Rocard

Deputy CEO Olivier Huet

Director of Defence Reactors Bernard Gauducheau

OWNERSHIP STRUCTURE

Symbol

Listed on Unlisted group

Market Cap

Major shareholders (as of 14.11.2023)

French State Holdings Agency (APE)	50,32%
Naval Group	20,32%
CEA	20,32%
EDF	9,03%

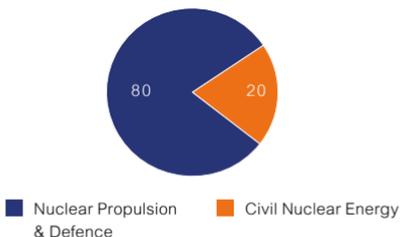
MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Arcys	51%	France

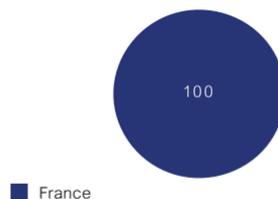
KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	420	400	452	498
Δ (%)	5,53%	-4,76%	13,00%	10,18%
Defence (%)	≈ 75%	≈ 80%	≈ 80%	≈ 80%
Export (%)	0%	0%	0%	0%
Operating profit/loss	72	76	88	N/A
Operating margin	17,14%	19,00%	19,47%	N/A
Net income	51	57	65	≈ 55
Order book	≈ 1 000	1 049	1 621	≈ 1 500
Employees	1 702	1 756	1 845	1 900

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	CEA*	Framatome	Naval Group	Thales	Safran	MBDA	Chantiers de l'Atlantique	ArianeGroup	Exalto**	EDF
Naval nuclear propulsion										
PA-NG future new generation aircraft carrier	●	●	●	●		●	●			
SNLE 3G future third-generation nuclear-powered ballistic missile submarine (SSBN)	●	●	●	●			●	●		
Suffren-class nuclear-powered attack submarine (SSN) (Barracuda programme)	●		●	●	●	●				
RES programme (shore-based nuclear test reactor for French naval propulsion and its related facilities construction and operation)	●									
MRO and services										
Operational maintenance for steam supply systems on nuclear-powered vessels			●							
Support engineering for defence infrastructure										
Assistance with the infrastructure transformation of Toulon and Brest naval bases										
Operational maintenance of the infrastructure of Brest and Île Longue naval bases										
Assistance with the engineering and operation of Laser MegaJoule (Simulation programme)	●									
Civil nuclear energy										
Small Modular Reactor (SMR, NUWARD project)	●	●								●
Jules Horowitz research Reactor (JHR)	●									

*Alternative Energies and Atomic Energy Commission

**Formerly ECA Group

STRATEGIC HIGHLIGHTS

Business trends

- ▶ TechnicAtome revenues reached €498m in 2022 (+10.1% year-on-year), of which approximately 80% from defence activities. During the year, TechnicAtome and Naval group carried out the divergence operation on the nuclear reactor of the Duguay-Trouin SSN (the second submarine in the Barracuda programme), a step that marked the prelude to the first tests of the submarine's nuclear propulsion system. The group recorded a profitability level of 11% in 2022 and had an order book of €1.5bn at the end of the year, representing three years of sales.
- ▶ The group is a major player in nuclear marine propulsion (submarines and Charles de Gaulle and planned new-generation PA-NG aircraft carriers for the French Navy).
- ▶ TechnicAtome is involved in the Nuward Small Modular Reactor (SMR) project, in partnership with the French Alternative Energies and Atomic Energy Commission (CEA), EDF, Framatome and Naval Group. This project plans for series production of SMRs from 2030 onwards for use in both the civil and military logistics sectors (energy production for isolated sites, for example).
- ▶ TechnicAtome plans to expand its engineering centre in Aix-en-Provence, with the construction of a new 4,000 to 5,000 m² building, and to renew facilities at the Cadarache site (Bouches-du-Rhône).

Home market

- ▶ The group is involved in the Barracuda programme for the construction of six new-generation Suffren-class nuclear-powered attack submarines (SSNs) by 2030. TechnicAtome is in charge of the design, production and maintenance of the nuclear boiler rooms, their support system and their fuel. The first two submarines in the programme, named Suffren and Duguay-Trouin, entered active service with the French Navy in June 2022 and July 2023 respectively.
- ▶ TechnicAtome is also involved in project management assistance for the infrastructures of the Brest and Toulon naval bases. In particular, the group conceives the programme to adapt the ports' basins.
- ▶ In March 2021, the French Ministry of Armed Forces launched the construction phase of the programme for four third-generation nuclear-powered ballistic missile submarines (SNLE 3G in French), to replace the fleet of Le Triomphant-class SSBNs from 2035. Naval Group is the prime contractor for the overall construction of the submarines, in partnership with TechnicAtome, which will build the nuclear boilers. A first contract, covering in particular the development studies, was awarded in 2021.
- ▶ In April 2023, the French Ministry of Armed Forces announced that construction of the future nuclear-powered aircraft carrier (PA-NG), to replace the Charles de Gaulle, would begin in late 2025 or early 2026. The first sea trials are scheduled for 2036-2037.

Technology and Innovation

- ▶ The ARQANE research project (Actions for realisation and qualification in additives for nuclear power) was officially launched in April 2022. Led by EDF, this project aims to demonstrate the level of industrial maturity of additive manufacturing for the nuclear industry. TechnicAtome is involved in the project by carrying out process validation tests.
- ▶ TechnicAtome and Arcys (a company owned 51% by TechnicAtome and 49% by Framatome) signed an agreement in October 2022 for the development of a command and control platform for the nuclear boilers of future SSBNs, including some forty safety-related electronic boards and modules. This platform, to be developed over five years, will also equip the nuclear boiler rooms of the future new-generation aircraft carrier (PA-NG).



TELEDYNE TECHNOLOGIES

Equipment manufacturer and supplier of subsystems and components, 71st-largest defence contractor with an expanded portfolio of sensor and unmanned systems thanks to FLIR

BUSINESS AREAS

Systems integrator and components supplier

- ▶ Aerospace systems and components
- ▶ Subsystems and components for missile, defence and combat systems
- ▶ Naval systems
- ▶ Unmanned systems

GOVERNANCE

Chairman and CEO

R. Mehrabian

President, Aerospace & Defense Electronics

G. C. Bobb III

President, Digital Imaging

Edwin Rokx

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	2 825	2 702	3 901	5 184
Δ (%) [€]*	9,02%	-2,45%	49,51%	18,30%
Defence (%)**	17%	19%	19%	20%
Export (%)	44%	45%	47%	47%
Operating profit/loss	439	420	528	923
Operating margin	15,54%	15,56%	13,53%	17,81%
Net income	359	352	376	749
Order book	1 513	1 386	N/A	N/A
Employees	11 790	10 670	14 500	14 700

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

**Sales to the U.S. Department of Defense only

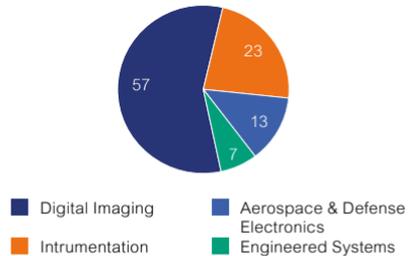
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	TDY
Listed on	NYSE
Market Cap (\$m)	18 545

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	11,28%
T. Rowe Price Associates, Inc. (IM)	7,57%
T. Rowe Price IM, Inc.	5,43%
Janus Henderson Investors US LLC	2,84%

REVENUE BY BUSINESS SEGMENT (%)

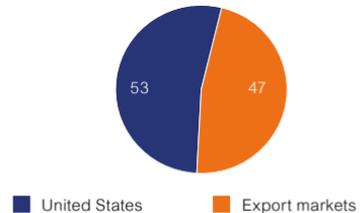


MAIN JOINT VENTURES AND ASSOCIATES*

Name	%	Country
*No information available		

*No information available

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Elbit Systems	Raytheon Technologies*	L3Harris Technologies**	Lockheed Martin	Martin-Baker	United Launch Alliance***	Northrop Grumman	Thales Alenia Space	Boeing
Military aircraft systems and components									
Subsystems and components of the Joint Helmet-Mounted Cueing System (JHMCS) (F-15, F-16, F/A-18)	●	●							
Fiber optic quad transceiver products for the F-35 fighter aircraft			●						
Ejection seat sequencers for fighter aircraft (F15, F16, F/A-18, F22, F-35)		●			●				
Subsystems and components for missile, defence and combat systems									
Surface-to-Surface Missile Module (SSMM) (LCS-class frigates)		●							
Cooling Equipment Units (CEU) of the AN/TPY-2 early warning radar system		●							
Zombie family of realistic-threat ballistic target missiles (TACRAM programme)		●							
Traveling Wave Tubes (TWT) of the AEGIS combat system				●					
Naval systems									
Slocum G3 autonomous underwater glider (LBS-G programme)									
Gavia, Osprey and SeaRaptor AUVs									
Mk11 Shallow Water Combat Submersible (SWCS) manned combat submersible vehicle									
Space									
Launch Vehicle Stage Adaptor (LVSA) of the Space Launch System (SLS)			●		●	●		●	
Image detectors for the Sentinel future observation satellites (Copernicus programme)							●		
Unmanned systems									
Black Hornet PRS / VRS nano-drone									
Reconnaissance and counter-IED operation UGVs (Centaur, PackBot)									

*Merger of Raytheon and UTC **Merger of L3 Technologies and Harris Corporation ***Joint venture between Boeing and Lockheed Martin

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Teledyne revenues reached \$5.5bn (€5.2bn) in 2022, up 18.3% year-on-year in local currency. Growth in the Digital Imaging division (+28.9%) was driven by the integration of FLIR Systems (acquired in May 2021 and renamed Teledyne FLIR Defense) and by increased sales of sensors and cameras. The Aerospace and Defense Electronics division (+8.5%), the Instrumentation division (+7.5%) and, to a lesser extent, the Engineered Systems division (+1.4%) also reported higher sales.
- ▶ The Engineered Systems division generates nearly 90% of its revenues with the U.S. government (Department of Defense, NASA, etc.). The group's other defence activities are distributed among the other three divisions.
- ▶ Teledyne pursued its external growth strategy with the acquisition of the American company ETM-Electromatic (microwave and X-ray subsystems, particularly for defence) in October 2022, ChartWorld International (maritime navigation hardware and software) in January 2023 and the Danish company Xena Networks (solutions in the field of high-speed Internet services) in October 2023.

Home market

- ▶ The group generated 53% of its sales on the U.S. market in 2022. Sales to the U.S. Department of Defense, its largest customer, accounted for almost 20% revenues.
- ▶ Teledyne is involved in several major military aviation programmes. Among others, the group supplies components and subsystems for the Joint Helmet-Mounted Cueing System (JHMCS) for pilots of F-15, F-16 and F/A-18 fighter aircraft, as a subcontractor to Elbit Systems and Collins Aerospace (Raytheon Technologies). Teledyne is also involved in the F-35 programme, as a subcontractor to L3Harris Technologies, which is responsible for the aviation electronics and communication systems of the fighter aircraft.
- ▶ In September 2022, NASA awarded the Teledyne Brown Engineering subsidiary the Marshall Operations, Systems, Services and Integration II (MOSSI II) contract, worth a potential \$596m (€566m) over eight years (including six years of options). Teledyne will be responsible for providing a range of services (mission preparation, training, assistance, etc.) to support International Space Station (ISS) operations.
- ▶ In July 2023, the U.S. Army awarded Teledyne FLIR Defense a contract worth \$94m (€88m) over five years for the supply of Black Hornet nano-drones, control stations and spare parts.

Export markets

- ▶ Teledyne generated 47% of its revenues from exports in 2022. China, Germany, Japan, the United Kingdom and France are the group's main foreign markets and accounted for approximately 20% of total revenues. Most of the group's revenues in these markets come from the civil sector.
- ▶ At the end of 2022, the Polish Ministry of National Defence ordered three Gavia AUVs, to be used on future Kormoran II-class mine warfare vessels.
- ▶ In July 2023, the Norwegian Ministry of Defence tasked Teledyne FLIR Defense with supplying Ukraine with 1,000 Black Hornet nano-drones, as well as maintenance and training services. Norway already donated nearly 300 Black Hornet UAVs to the International Fund for Ukraine.
- ▶ Teledyne FLIR Defense also signed a \$31m (€29m) contract with Kongsberg in August 2023 to supply Ukraine with Cerberus XL anti-UAV systems.

Technology and Innovation

- ▶ The group's areas of innovation in defence mainly include missile systems, naval systems and semi-conductors.
- ▶ Teledyne Marine and the U.S. Navy carried out a test launch of the Slocum G3 underwater glider from a helicopter in May 2023.



TEXTRON

Civil and military industrial conglomerate mainly operating in military aeronautics (tiltrotor aircraft, helicopters, ISR aircraft, UAS), and 40th-largest defence contractor worldwide

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Military and commercial helicopters
- ▶ Military aircraft and business jets
- ▶ Unmanned systems (UAS, USV, RCV)
- ▶ Weapon systems
- ▶ Training solutions
- ▶ Industrial sector (E-Z-GO, Greenlee, Jacobsen, Kautex)

GOVERNANCE

Chairman and CEO Scott C. Donnelly

President and CEO, Bell Lisa M. Atherton

President and CEO, Textron Aviation Ron Draper

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	12 170	10 202	10 467	12 221
Δ (%) [\$]*	-2,45%	-14,52%	6,27%	3,93%
Defence (%)**	24%	30%	26%	22%
Export (%)	34%	32%	31%	32%
Operating profit/loss	1 134	658	959	1 161
Operating margin	9,32%	6,45%	9,16%	9,50%
Net income	728	271	631	818
Order book	8 751	7 743	8 945	12 433
Employees	35 000	33 000	33 000	34 000

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

**Sales to the U.S. Government only

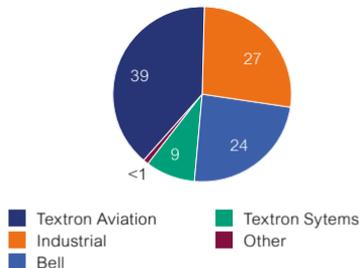
OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	TXT
Listed on	NYSE
Market Cap (\$m)	15 832

Major shareholders (as of 14.11.2023)

The Vanguard Group, Inc.	11,42%
T. Rowe Price IM, Inc.	6,65%
Boston Partners Global Investors, Inc.	2,65%
Victory Capital Management, Inc. (IM)	2,62%

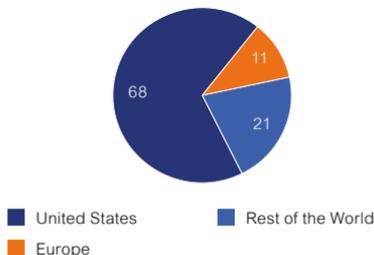
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Bell-Boeing	50%	United States
Textron Airland	50%	United States
Cessna-AVIC Aircraft (Shijiazhuang)	N/A	China
Cessna-AVIC Aircraft (Zhuhai)	N/A	China

REVENUE BY REGION (%)



TEXTRON

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Boeing	Lockheed Martin	AirLand Entreprises	Raytheon Technologies*	Northrop Grumman	L3Harris Technologies**	FLIR Systems***	Spirit AeroSystems***	GE AeroSystems****	Rolls-Royce****	Pilatus
Helicopters (Bell)											
V-280 Valor future utility tiltrotor		●					●	●			
V-22 Osprey transport tiltrotor	●								●		
UH-1Y Venom utility helicopter				●				●			
AH-1Z Viper attack helicopter	●		●	●				●			
Military aircraft (Textron Aviation)											
Scorpion future light attack/ISR aircraft		●									
AT-6 Wolverine light attack aircraft	●		●		●						●
T-6C Texan II trainer aircraft			●								●
King Air family of utility aircraft			●								
Citation Latitude ISR and flight inspection aircraft			●								
Unmanned systems (Textron Systems)											
RQ-7 Shadow tactical UAS											
Aerosonde HQ small UAS											
Common Unmanned Surface Vehicle (CUSV)											
Ship-to-Shore Connector (SSC)					●				●		
Ripsaw M5 robotic combat vehicle				●		●					
Training solutions and weapon systems (Textron Systems)											
U.S. Air Force's Adversary Air Services (ADAIR) pilot training programme											
6.8 MM Rifle and 6.8 MM Automatic Rifle											

*Merger of Raytheon and UTC **Merger of L3 Technologies and Harris Corporation ***Subsidiary of Teledyne ****Formerly GE Aviation

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Textron revenues increased 3.9% in local currency, to \$12.9bn (€12.2bn) in 2022. Growth was driven by the Textron Aviation and Industrial divisions (+11.1% and +10.7% respectively). The Textron Aviation division benefited in particular from increased deliveries of civil and military aircraft (notably the T-6C Texan II trainer). On the other hand, the Bell and Textron Systems divisions recorded a decline in sales (-8.1% and -7.9% respectively). The Bell division was affected by the drop in military helicopter deliveries to the U.S. government (28 helicopters, down 13 units compared with 2021).
- ▶ Textron is taking part in several tenders for U.S. Army programmes, including Future Attack Reconnaissance Aircraft (FARA), with its 360 Invictus helicopter competing against Sikorsky's Raider X; Future Tactical Unmanned Aircraft System (FTUAS) with its Aerosonde HQ SUAS against Griffon Aerospace; Robotic Combat Vehicle-Light (RCV-L) against General Dynamics, McQ and Oshkosh Defense; and Robotic Combat Vehicle-Medium (RCV-M) with its Ripsaw M3, in partnership with FLIR Systems, against QinetiQ. The group also submitted its Cottonmouth 6x6 amphibious reconnaissance vehicle, in partnership with Elbit Systems, for the U.S. Marine Corps' Advanced Reconnaissance Vehicle (ARV) programme, competing with General Dynamics and BAE Systems.

Home market

- ▶ The U.S. are Textron's largest market, accounting for 68% of revenues in 2022. The group is a key partner of the U.S. Armed Forces, in particular thanks to its monopoly in tiltrotor military aircraft with the V-22 Osprey (produced in partnership with Boeing) and the future V-280 Valor, selected in December 2022 by the U.S. Army for its Future Long-Range Assault Aircraft (FLRAA) utility helicopter programme.
- ▶ In February 2023, the U.S. Army exercised a \$76m (€71m) option to upgrade the RQ-7B Shadow Block I and II UAS in service to Block III standard and to provide logistical support, maintenance and engineering services.
- ▶ The U.S. Navy selected Textron Aviation's Beechcraft King Air 260 in February 2023 for its Multi-Engine Training System (METS) trainer aircraft programme, to replace the T-44C Pegasus (a variant of the King Air 90) currently used by the U.S. Navy, U.S. Marine Corps and U.S. Coast Guard. Textron Aviation will supply an initial batch of ten aircraft, known as the T-54A, for \$113m (€105m). The contract includes options for two further batches (up to 27 aircraft each) and could reach a total value of \$677m (€632m), with deliveries scheduled between 2024 and 2026.

Export markets

- ▶ Textron generated 32% of its revenues from exports in 2022, mainly in Europe and Asia-Pacific.
- ▶ In Q1 2023, Bell completed the AH-1Z Viper attack helicopter programme for Bahrain (12 units ordered in 2019 under the FMS programme) with the delivery of the last six aircraft. The division also delivered three 505 helicopters to the Royal Bahraini Air Force for pilot training.
- ▶ Textron Aviation handed over a Cessna 208B Grand Caravan EX aircraft, ordered under the FMS programme, to the Belize Ministry of National Defence and Border Security in March 2023.
- ▶ In May 2023, the Bell division signed a contract with the Argentine Ministry of Defense to supply six 407GX1 helicopters to the Air Force and Army for search and rescue missions.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to \$601m (€571m) in 2022, representing 4.7% of revenues.

BUSINESS AREAS

- Systems integrator/equipment supplier
- ▶ Aerospace equipment and systems
 - ▶ Contact drone systems
 - ▶ Sensors, systems and communications
 - ▶ Weapon systems and ammunition
 - ▶ Training and simulation
 - ▶ Space (see also Thales Alenia Space)
 - ▶ Cybersecurity

GOVERNANCE

Chairman and CEO	Patrice Caine
General Secretary	Isabelle Simon
Executive VP, Defence Mission Systems	Philippe Duhamel

OWNERSHIP STRUCTURE (as of 14.11.2023)

Symbol	HO
Listed on	Euronext Paris
Market Cap (€m)	28 977

Major shareholders (as of 14.11.2023)

French State	26,06%
Dassault Aviation	25,23%
Employees	3,01%
The Vanguard Group, Inc.	1,61%

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Thales Alenia Space	67%	France
Athea	50%	France
Lynred (ex-Sofradir)	50%	France
TRS AMDC2	50%	France
Diehl Aerospace	49%	Germany
UAV Tactical Systems (U-TacS)	49%	United Kingdom
Naval Group	35%	France
Elettronica	33,33%	Italy
Telespazio	33%	Italy

KEY FIGURES (Fiscal year ended: December 31st)

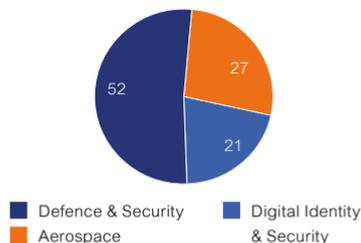
€ millions	2019	2020*	2021	2022
Revenue	18 401	15 371	16 192	17 569
Δ (%)	16,06%	-16,47%	5,34%	8,50%
Defence (%)**	45%	53%	51%	51%
Export (%)	76%	73%	72%	73%
Operating profit/loss	2 008	1 248	1 649	1 935
Operating margin	10,91%	8,12%	10,18%	11,01%
Net income***	1 405	937	1 361	1 556
Order book	33 839	30 512	34 744	40 957
Employees	82 605	72 757	73 268	76 776

*Figures restated

**Defence & Security division only

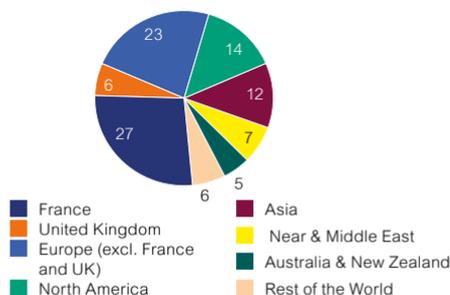
***Net income attributable to shareholders

REVENUE BY BUSINESS SEGMENT (%)*



*Excluding Others division, eliminations and non-allocated and excluding Transport division (being sold)

REVENUE BY REGION (%)



MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Elbit Systems	Airbus	Dassault Aviation	Raytheon Technologies**	Indra Sistemas	Hensoldt	Naval Group	KNDS France	Boeing	MBDA
Combat systems and embedded electronics										
SPECTRA electronic warfare suite		●								●
RBE-2 AESA radar		●								
Targeting Long-range Identification Optronic System (TALIOS)		●								
Defence electronics as part of the NGWS programme (Next Generation Weapon System)				●	●					
TopOwl and Scorpion helmet mounted displays	●	●								
Man Machine Teaming advanced study programme	●	●								
Mission and surveillance systems										
CONTACT and SYNAPS software defined radios										
Watchkeeper WK450 ISTAR UAV*	●									
Payload sensors for the Falcon 8X future intelligence aircraft (CUGE programme)		●								
Radar and sonar systems										
Ground Master and Ground Fire radar systems			●							
Sea Fire radar						●				
Missiles, weapon systems and ammunition										
RAPIDFire and RAPIDFire Naval air defence systems							●			
Missile guidance systems (Aster, MICA, EXOCET)										●
SAMP/T surface-to-air missile defence system										
Mortar and rocket systems										
Military vehicles										
4x4 Bushmaster armoured vehicle										
4x4 Hawkei light tactical vehicle									●	

*Based on Elbit Systems' Hermes 450 **Merger of Raytheon and UTC

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Thales revenues reached €17.6bn in 2022, up 8.5% year-on-year. Growth in the Defence & Security division (+6%) was driven by a sharp increase in sales of integrated airspace protection systems, surface radars, cyber defence solutions and networks and infrastructure systems, as well as increased activity in the Rafale fighter aircraft programme for France and export customers (including Greece, Egypt and the United Arab Emirates).
- ▶ In August 2021, Thales announced the sale of its Transport division (notably rail signalling solutions) to Japanese company Hitachi Rail. The deal, valued at €1.66bn, is expected to be completed in the first half of 2024.
- ▶ The group completed two acquisitions in the cybersecurity sector in the fourth quarter of 2023: Tesseract in Australia (sales of around €110m in 2022 and 500 employees) and Imperva in the United States, valued at \$3.6bn (€3.4bn).

Home market

- ▶ Thales is a key industrial partner of Dassault Aviation (Rafale fighter aircraft, Falcon 8X intelligence aircraft, etc.) and Naval Group (FDI and FREMM frigates, etc.).
- ▶ In January 2023, OCCAr awarded Thales a three-year service contract (with an option for a further two years) for the maintenance of the S1850M long-range air surveillance radar for the French, British and Italian navies.
- ▶ In January 2023, the DGA awarded a contract to Thales and Sabena Technics, as part of their temporary consortium of companies, for the renovation (mechanical and electrical modifications, integration of avionics equipment, etc.) of the French Air Force's fleet of CN-235 tactical transport and logistics aircraft. The first upgraded aircraft will be operational in 2027.

Export markets

- ▶ Thales generated 73% of its revenues from exports in 2022.
- ▶ In February 2023, Thales and Schiebel won a contract from the UK Ministry of Defence to supply an UAS to provide Royal Navy warships with a protective « eye in the sky » capability. Thales will supply high-precision sensors and systems for intelligence, surveillance and reconnaissance, while Schiebel will supply its Camcopter S-100 rotary wing UAS.
- ▶ In February 2023, the Ukrainian Ministry of Defence ordered a complete short-range air defence system from Thales, including a Ground Master 200 radar, a command and control centre, a radio communications system and air threat designation terminals.
- ▶ Thales and the UK Ministry of Defence signed a contract in May 2023 to supply the Royal Navy with a mission management system for the Type 31 frigates being built by Babcock.
- ▶ In May 2023, Thales was awarded a AUD 160m (€99m) contract by the Australian Department of Defence to produce an unspecified number of 4x4 Bushmaster armoured vehicles to replace the ninety units transferred to Ukraine in 2022.
- ▶ In June 2023, the COMMIT (Command Materiel and IT) Dutch government agency awarded Thales a contract for the supply of an Above Water Warfare System (AWWS) and a sensor suite to equip the four future anti-submarine warfare frigates being built by Damen for the Belgian and Dutch navies.

Technology and Innovation

- ▶ Self-financed R&D expenditure amounted to €1,064m in 2022, representing 6.1% of revenues.
- ▶ In April 2023, the DGA awarded tns-MARS, a joint venture between Thales, KNDS France and Safran, the 7-year Hyperion framework agreement (as part of the Scorpion programme) to develop algorithmic and artificial intelligence solutions to improve the future performance of land-based collaborative combat.



THALES ALENIA SPACE

French-Italian aerospace manufacturing company majority-owned by Thales, and a global leader in satellites, space infrastructure and space navigation systems

BUSINESS AREAS

Platform manufacturer, systems integrator/
equipment supplier

- ▶ Satellite platforms (satellite buses)
- ▶ Payloads
- ▶ Ground control segment
- ▶ Electronics, propulsion systems, recovery systems
- ▶ Manned space systems
- ▶ Space transport systems

KEY FIGURES (Fiscal year ended: December 31st)

€ millions	2019	2020	2021	2022
Revenue	≈ 2 150	1 850	2 150	2 150
Δ (%)	≈ -14%	≈ -14%	≈ +16%	≈ +0%
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 income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	7 700	7 700	7 929	8 550

GOVERNANCE

Chairman and CEO	Hervé Derrey
Chief Operating Officer	Bertrand Maureau
Chief Financial Officer	Éric Manzoni

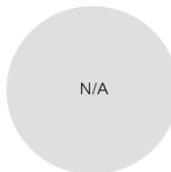
OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Thales	67%
Leonardo	33%

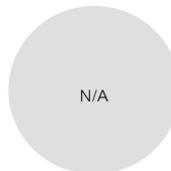
REVENUE BY BUSINESS SEGMENT (%)



MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
ALTEC	63,75%	Italy
LeoStella	50%	United States
Pyxalis	15,53%	France
NorthStar Earth and Space	12,5%	Canada
RascomStar	12,36%	Mauritius

REVENUE BY REGION (%)



THALES ALLENIA SPACE

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Safran	Turkish Aerospace	Indra Sistemas	Leonardo	Thales	OHB	Northrop Grumman	NanoXplore	ATR*
Satellite platforms (satellite buses)										
Spacebus NEO platform	●					●				
Proteus (Göktürk 1) and ELITeBus (Iridium-NEXT) low- and medium-Earth orbits platforms		●				●	●			
Stratobus future autonomous stratospheric airship										
Payloads										
Sensor electronics units (SAR-Lupe)							●			
Communications satellites										
Space Inspire flexible communications satellite									●	
Syracuse 4A and 4B military communications satellites	●									
Spainsat New Generation (NG) communications satellites	●		●							
SICRAL 3 secure satellite communication system					●					
Earth observation satellite systems										
Cosmo-SkyMed Second Generation (2G) Earth observation satellite system					●	●				
CSO Earth observation satellite programme	●									
Satellite navigation systems										
Galileo global navigation satellite system	●					●	●			
European Geostationary Navigation Overlay Service (EGNOS)			●	●	●	●				
Equipment for Dual frequency Galileo, GPS and EGNOS (EDG ² E) project						●				●
Propulsion system										
Xenon Propulsion System engine module	●									
Manned and transport space systems										
Cygnus Pressurized Cargo Module (PCM)								●		

*Joint venture between Airbus and Leonardo

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Thales Alenia Space revenues remained stable in 2022, at around €2.15bn. The year was marked by major commercial successes, including the next phases of the five missions of the European Copernicus programme (Earth observation satellites), the development, qualification and deployment of the new version of the EGNOS European satellite navigation system, the EROSS IOD programme (European Robotic Orbital Support Services In Orbit Demonstrator) dedicated to in-orbit services, and the next development phase of the Italian SICRAL 3 telecommunications satellite programme.
- ▶ In 2022, Thales Alenia Space was ranked as the world leader in the geostationary communication satellite market for the second year in a row, having won contracts for six of the ten satellites awarded on the open market (thanks to its Space Inspire product line).

Home markets (France, Italy)

- ▶ Thales Alenia Space is a key partner of the DGA and is involved in the French Ministry of Armed Forces' main space programmes (Syracuse 4, CSO, etc.).
- ▶ In January 2023, Thales Alenia Space signed a contract with the European Space Agency as prime contractor for the TeQuantS project, to develop the quantum technologies needed for cybersecurity applications and the future Quantum Internet network. Two laboratories and a consortium including Airbus Defence and Space and Bertin Technologies are also participating in this project, which is supported by France's CNES (National Centre for Space Studies) and the Austrian Space Agency.
- ▶ In January 2023, the group also signed a contract worth more than €100m with the European Union Agency for the Space Programme (EUSPA) to provide maintenance and support services for the EGNOS V2 European satellite navigation system over the 2023-2026 period.
- ▶ In March 2023, the Italian Space Agency awarded a contract worth around €200m to a temporary consortium of companies led by Thales Alenia Space for the development of an Earth observation constellation based on small optical and radar satellites. In May 2023, Thales Alenia Space was also awarded a €235m contract for the development of a vehicle that will carry out a service demonstration mission in low-Earth orbit by 2026.
- ▶ In July 2023, Thales Alenia Space signed contracts worth more than €300m to produce the mission ground segment and provide technical support for the Galileo Second Generation (G2G) programme. The programme includes twelve satellites, six of which will be produced by Thales Alenia Space and six by Airbus D&S.

Export markets

- ▶ The communications module for the SpainSat NG-I satellite (dedicated to secure telecommunications services provided to the Spanish Ministry of Defence and government agencies) left the group's Madrid plant in June 2023. It will be assembled and tested at the Airbus D&S site in Toulouse.
- ▶ Canadian telecoms operator Telesat, which had selected the group in 2021 to produce its future constellation of 298 Lightspeed low-Earth orbit satellites, cancelled the contract with Thales Alenia Space in August 2023 and chose its domestic peer MDA to produce 198 units for a lower price (CAD 3bn compared to CAD 5bn, or €2.1bn versus €3.4bn).

Technology and Innovation

- ▶ Thales Alenia Space signed a €43m contract with the European Commission in March 2023 to initiate the EuroHAPS project, a collaborative R&D project aimed at developing three stratospheric demonstrators dedicated to different missions and improving intelligence, surveillance and reconnaissance capabilities, and for which the group will contribute technology bricks from its StratoBus project. Thales Alenia Space is the coordinator of a European consortium comprising 21 partners and 18 subcontractors in 11 countries, including ONERA and CEA (France), Elettronica (Italy) and ESG (Germany).



THYSSENKRUPP MARINE SYSTEMS (TKMS)

Naval branch of the mainly civilian industrial conglomerate thyssenkrupp, world's largest exporter of submarines, and parent company of Atlas Elektronik

BUSINESS AREAS

Platform manufacturer and systems integrator

- ▶ Surface ships
- ▶ Submarines
- ▶ Ammunition
- ▶ Unmanned surface and underwater vehicles
- ▶ Combat systems and mine warfare systems
- ▶ Sonar and acoustic systems
- ▶ Equipment and MRO services

GOVERNANCE

Chief Executive Officer	Oliver Burkhard
Chief Operating Officer	Dirk Steinbrink
Chief Financial Officer	Paul Glaser

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted division
Market Cap	

Major shareholders (as of 14.11.2023)

thyssenkrupp	100%
--------------	------

MAIN JOINT VENTURES AND ASSOCIATES

Name	%	Country
Águas Azuis Construção Naval	75%	Brazil
Kta Naval Systems	50%	Norway
Atlas Elektronik - UAE	49%	UAE
MTG Marinetechnik	49%	Germany
Blohm + Voss German Naval Technology	40%	Qatar
CybiCOM Atlas Defence	40%	South Africa
Hellenic Shipyards	24,9%	Greece

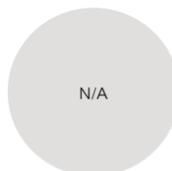
KEY FIGURES (Fiscal year ended: September 30th)

€ millions	2018-19	2019-20*	2020-21	2021-22
Revenue	1 800	1 760	2 022	1 831
Δ (%)	29,59%	-2,22%	14,89%	-9,45%
Defence (%)	N/A	N/A	N/A	N/A
Export (%)	71%	82%	82%	74%
Operating profit/loss**	1	20	26	32
Operating margin**	0,06%	1,14%	1,29%	1,75%
Net income	N/A	N/A	N/A	N/A
Order book	5 887	6 035	10 789	13 615
Employees	6 013	6 355	6 534	6 943

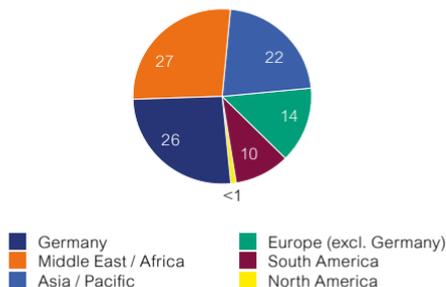
*Figures restated

**Adjusted operating profit/loss (EBIT)

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



THYSSENKRUPP MARINE SYSTEMS (TKMS)

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Fincantieri	Hanwha Ocean*	HHI**	Gölcük Naval Shipyard	Alexandria Shipyard	GNYK***	Embraer	NVL Group****	Kongsberg	ST Engineering	Diehl Defence	Nammo	Roketsan
Conventionally-powered attack submarines													
Type 212CD future submarine									●				
Type 212A/NFS submarine	●												
Type 214 submarine		●	●	●									
Dakar-class future submarine													
Invincible-class submarine (type 218SG)									●				
Dolphin-class submarine													
Surface ships													
MEKO frigates, corvettes and OPVS			●	●	●								
Tamandaré-class future guided-missile frigate							●						
F125 Baden-Württemberg-class frigate								●					
K130 Braunschweig-class corvette (6 to 10)					●		●						
Naval systems, equipment and ammunition													
IDAS missile system								●		●	●	●	
ORCCA submarine combat system								●					
ANCS/ANCS-SC ship combat system													
Active Towed Array Sonar (ACTAS) and Active Pulse Analysis System (APAS)													
SeaHake Mod4 heavyweight torpedo													
Unmanned surface and underwater vehicles													
ARCIMS minesweeper USV													
SeaFox mine disposal ROV													

*Hanwha group **Hyundai Heavy Industries (KSOE group) ***German Naval Yards Kiel (Privinvest group) ****Formerly Lürssen Defence

STRATEGIC HIGHLIGHTS

Business trends

- ▶ The naval branch of German conglomerate thyssenkrupp, thyssenkrupp Marine Systems (tkMS) generated revenues of €1,831m and had over 7,000 employees during fiscal year 2021-2022. tkMS accounted for 4.5% of the conglomerate's total turnover and 7.2% of its workforce.
- ▶ Down 9.4% year-on-year, the division's revenues were affected by lower deliveries, following a record level of six surface ships and submarines delivered in the previous fiscal year (four Sa'ar 6-class corvettes to the Israeli Navy, one F125-class frigate to the German Navy and one Type 209/1400mod submarine to the Egyptian Navy).
- ▶ tkMS has historically been involved in the design and construction of submarines and the design of surface vessels (construction being largely subcontracted). Since the integration of Atlas Elektronik in 2017, tkMS is also active in the design and production of naval equipment and systems.

Home market

- ▶ tkMS generated 26% of its revenues in its domestic market in 2022 (+8 percentage points year-on-year). The division is also expected to benefit from future German Navy programmes, in particular the supply of two additional Type 212CD submarines, a third batch of K130 corvettes and the future F127 air defence frigates.
- ▶ In September 2022, Thales Netherlands awarded the Atlas Elektronik subsidiary a contract to equip the German Navy's future F126 multimission frigates with anti-submarine warfare modules. The ships will be built by Damen, Blohm + Voss (a subsidiary of NVL group) and German Naval Yards Kiel.
- ▶ In September 2023, the division started building the first of six Type 212CD submarines (two for the German Navy and four for the Royal Norwegian Navy) at the Kiel shipyard under a €5.5bn contract awarded in July 2021. Deliveries are scheduled for 2029 for Norway (for the lead submarine) and for 2032 and 2034 for Germany.

Export markets

- ▶ tkMS is currently participating in several tenders, notably in the Netherlands (replacement of the four Walrus-class submarines, in competition with Naval Group and Saab/Damen) and in India (P-75I programme to supply six conventionally-powered attack submarines, in partnership with Mazagon Dock Shipbuilders, and competing with Navantia).
- ▶ At the end of 2022, tkMS launched the second and third Invincible-class submarines (type 218SG), ordered by the Singapore Navy in 2013 and 2017 (two batches of two units each), at the Kiel shipyard. The submarines, named Impeccable and Illustrious, went through a series of sea trials before their delivery in the second half of 2023.
- ▶ The Águas Azuis consortium, consisting of tkMS, Embraer and its subsidiary Atech, laid the keel of the first Tamandaré-class guided-missile frigate for the Brazilian Navy in March 2023 at the Itajai shipyard.
- ▶ tkMS delivered the first two of the four MEKO A-200EN-class frigates ordered in 2018 by the Egyptian Navy, namely Al-Aziz in October 2022 and Al-Qahhar in May 2023. The first three units were built under subcontract by Stahlbau Nord in Germany, and the fourth at the Alexandria shipyard in Egypt.
- ▶ The fourth and last Dolphin-class submarine in batch 2 for the Israeli Navy, named Drakon, was launched at the Kiel shipyard. In addition, tkMS has been under contract to the Israeli Navy since January 2022 to build three Dakar-class submarines worth €3bn, for delivery from 2030 onwards.

Technology and Innovation

- ▶ In May 2023, Atlas Elektronik and ELTA Systems (a subsidiary of Israel Aerospace Industries) started joint development of an unmanned anti-submarine warfare submarine based on the Israeli group's BlueWhale.



TURKISH AEROSPACE

Aerospace and defence company with civil and military activities, major aeronautics and space supplier to the Turkish Armed Forces, and 58th-largest defence contractor

BUSINESS AREAS

Platform manufacturer and systems integrator/
equipment supplier

- ▶ Military aircraft (fighter aircraft, trainer aircraft, helicopters)
- ▶ Unmanned systems (MALE UAVs, target drone systems)
- ▶ Aerostructures
- ▶ Earth observation and communications satellites
- ▶ Modernisation and maintenance services

GOVERNANCE

Chairman	Rafet Bozdogan
Chief Executive Officer	Temel Kotil
President, Aircraft	Atilla Dogan

OWNERSHIP STRUCTURE

Symbol	
Listed on	Unlisted group
Market Cap	

Major shareholders (as of 14.11.2023)

Turkish Armed Forces Foundation (TSKGV)	54,49%
Defence Industry Agency (SSB)	45,45%
Turkish Aeronautical Association (THK)	0,06%

MAIN JOINT VENTURES AND ASSOCIATES

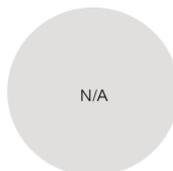
Name	%	Country
TUSAS Engine Industries	50,5%	Turkey
TAAC	50%	Turkey
GSatCom	50%	Turkey
TR Mekatronik	50%	Turkey
CTech	49%	Turkey
Airbus Military	5,6%	Spain

KEY FIGURES (Fiscal year ended: December 31st)

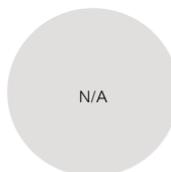
€ millions	2019	2020	2021	2022
Revenue	2 024	1 317	1 324	1 746
Δ (%) [€/\$]*	36,07%	-33,66%	4,12%	17,43%
Defence (%)	82%	84%	83%	83%
Export (%)	N/A	N/A	N/A	N/A
Operating profit/loss	N/A	N/A	N/A	N/A
Operating margin	N/A	N/A	N/A	N/A
Net income	N/A	N/A	N/A	N/A
Order book	N/A	N/A	N/A	N/A
Employees	9 000	11 000	14 000	14 167

*Variation based on revenue in U.S. dollars
See €/\$, p.7

REVENUE BY BUSINESS SEGMENT (%)



REVENUE BY REGION (%)



TURKISH AEROSPACE

MAIN PROGRAMMES, COOPERATIONS AND EXPORT PARTNERSHIPS

	Airbus	Leonardo	Sikorsky***	BAE Systems	Aselsan	Havelsan	TEI***	Roketsan	Tübitak Uzay	Thales Alenia Space	Telespazio****	KAI****
Fighter and trainer aircraft												
TF Kaan future air superiority fighter aircraft (TF-X programme)			●	●	●							
Hürjet future advanced trainer and light attack aircraft												
Hürkus-A/B trainer aircraft and Hürkus-C light attack aircraft				●								
Helicopters												
T929 ATAK 2 future heavy attack helicopter												
T625 Gökbey future utility helicopter				●		●						
T70 future utility helicopter*		●		●		●						
T629 future attack helicopter												
T129 ATAK attack helicopter**	●			●		●						
Unmanned systems												
Aksungur combat MALE UAV				●		●	●					
Anka surveillance and reconnaissance MALE UAV				●		●	●					
Aerostructures												
A400M programme (forward center fuselage, paratrooper doors, tailcone, fins, spoilers)	●											
H215M programme (fuselage, tail, canopy)	●											
KUH-1 Surion helicopter (forward fuselage)												●
Satellites												
Türksat 6A future communications satellite				●				●				
Göktürk family of Earth observation satellites				●			●	●	●	●		

*Sub-licensed production of Sikorsky's S-70i **Based on Leonardo's A129 Mangusta ***Subsidiary of Lockheed Martin
 ****USAS Engine Industries *****Korea Aerospace Industries

STRATEGIC HIGHLIGHTS

Business trends

- ▶ Turkish Aerospace revenues increased 17.4% in U.S. dollars, to \$1,839m (€1,746m) in 2022. Defence activities contributed to this growth, particularly on certain programmes for the Turkish Armed Forces (Hürkus and P-72 TMPA aircraft, T625 Gökbey, T70 and T129 ATAK helicopters, Aksungur and Anka MALE UAVs, etc.). The upturn in production rates in the civil aeronautics sector, for which the group supplies aerostructures (in particular to Airbus and Boeing), also boosted sales.
- ▶ Turkish Aerospace has been building on technology skills acquired through programmes under U.S. and European licences. The group now offers one nationally designed aircraft, the Hürkus trainer and light attack aircraft, and is completing the development of three other aircraft (the Hürjet advanced trainer and light attack aircraft, and the T625 Gökbey and T929 ATAK 2 helicopters).

Home market

- ▶ Turkish Aerospace is a major supplier to the Turkish Armed Forces in the aviation and space fields. The group is the prime contractor for most of Turkey's major aeronautical programmes, including the future TF Kaan air superiority fighter aircraft.
- ▶ In October 2022, Turkish Aerospace handed over a fifth ATR 72-600 passenger aircraft (Leonardo) modified as a P-72 TMPA maritime patrol aircraft (Meltem III project) to the Turkish Navy. Equipped with the Thales AMASCOS system, the aircraft possess anti-ship and anti-submarine warfare capabilities and can carry out search and rescue missions. The delivery of the sixth and last P-72 TMPA aircraft is scheduled for 2023.
- ▶ In March 2023, Turkish Aerospace unveiled three prototypes of its future TF Kaan aircraft, powered by two GE Aerospace F110-GE-129 turbojet engines, and began taxi tests. The aircraft could make its maiden flight in 2026.
- ▶ Two of the group's platforms made their maiden flights in April 2023: the Hürjet advanced trainer and light attack aircraft, powered by a GE Aerospace F404-GE-102 turbojet engine, and the T929 ATAK 2 heavy attack helicopter, powered by two TV3-117VMA turboshaft engines from Ukrainian engine manufacturer Motor Sich. Both aircraft could enter service in 2025.
- ▶ In May 2023, Turkish Aerospace's CEO announced that the group planned to deliver twenty TF Kaan Block 10 aircraft to the Turkish Air Force by 2028, with production rising to two aircraft per month from 2029. The aircraft's sale price is said to be around \$100m (€94m).

Export markets

- ▶ In terms of exports, Turkish Aerospace is mostly present in Africa and in Asia. The group also supplies aerostructures to U.S. and European aircraft manufacturers.
- ▶ Turkish Aerospace won several contracts in 2022-2023, for its T129 ATAK attack helicopter (six units for Nigeria), its Hürkus-C trainer and light attack aircraft (two units for Niger, three for Chad and an unspecified number for Libya), its Aksungur combat MALE UAV (six units for Algeria and an unspecified number for Angola and Kyrgyzstan) and its Anka-S surveillance and reconnaissance MALE UAV (ten units for Algeria, two for Chad, twelve for Indonesia and three for Malaysia).
- ▶ Discussions are underway with several countries, including Azerbaijan and Pakistan, aiming to integrate them as partners and/or customers in the TF Kaan air superiority fighter aircraft programme.

Technology and Innovation

- ▶ In addition to the T625 Gökbey helicopter, Turkish Aerospace aims to bring to market three other aircraft: the T929 ATAK 2 heavy attack helicopter, the T925 heavy multirole helicopter (search and rescue, troop and equipment transport, fire-fighting, etc.) and the T629 attack helicopter.

PROJECT TEAM (Xerfi Spécific)

Eline Maurel (Research Director)

Jérémy Robiolle (Development Director)

STEERING COMMITTEE DGA/S2IE

Camille Lanet, Michel Boivin and Mathilde Le Paire
with the support of the S2IE's industrial offices and financial expertise

LAYOUT and GRAPHICS

Xerfi Spécific

Manuscript completed on January 15, 2024

French defence procurement agency (DGA)

Industrial Affairs and Economic Intelligence Department

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www.defense.gouv.fr/dga

Xerfi Spécific

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www.xerfi.com/xerfi-specific

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

The armaments portal www.armement.defense.gouv.fr

French defence procurement agency (DGA)

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