

YEAR

BOOK

2019

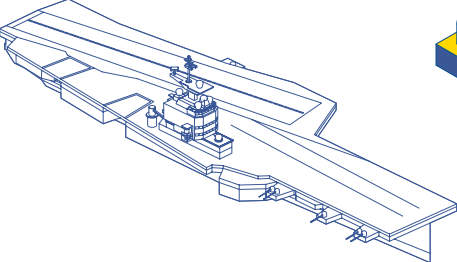


**YEARBOOK** ▶ Discover all the key events, both small and large, that have marked our activity in 2019.

**February**


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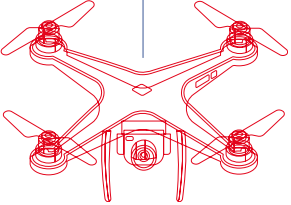
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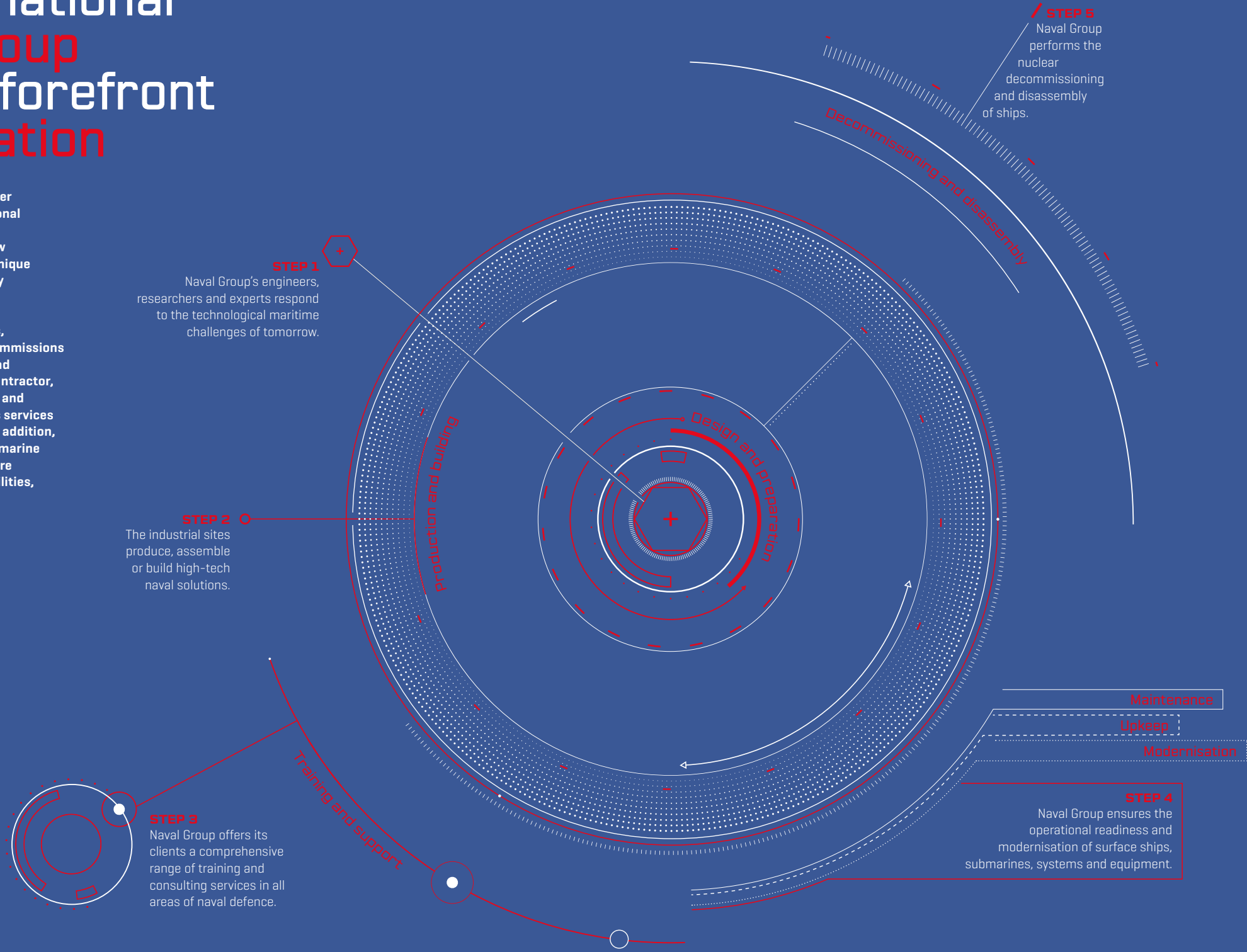
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# An international group at the forefront of innovation

Naval Group is the European leader in naval defence. As an international high-tech company, Naval Group uses the extraordinary know-how of its 15,000 personnel and its unique industrial resources and capacity to arrange innovative strategic partnerships to meet its clients' requirements. The group designs, produces, builds, supports, decommissions and disassembles submarines and surface ships. As an industrial contractor, designer and builder of warships and combat systems, it also provides services for naval shipyards and bases. In addition, the group offers a wide range of marine renewable energy solutions. Aware of its corporate social responsibilities, Naval Group is a member of the United Nations Global Compact.

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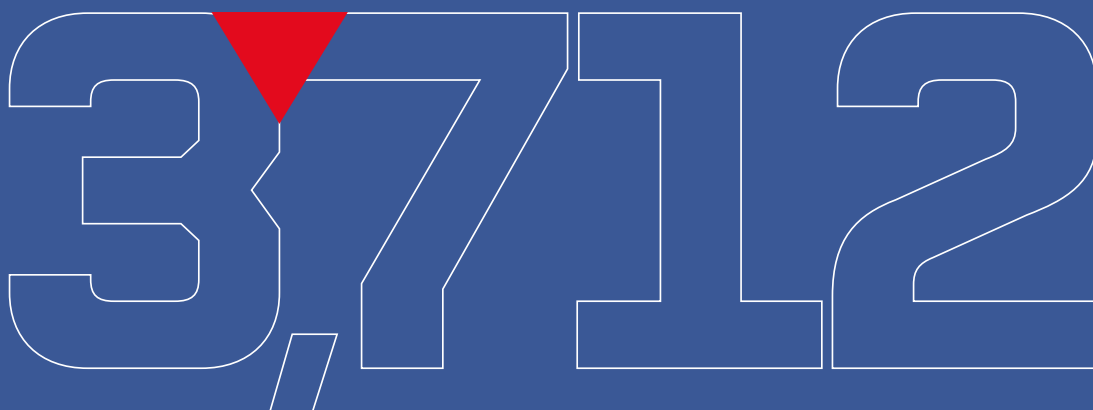
# Naval Group: the best profitability in the naval sector in Europe

**Earnings before interest, taxes, and amortisation (EBITA)**

EBITA stands at €282 million.

Its growth compared to 2018 is shown through an increase in operating profitability, from 7.4% in 2018 to 7.6% in 2019.

06



2019 turnover (in millions of euros, IFRS standards)

Consolidated turnover stands at €3.712 billion, which is an increase of 3% in comparison with 2018. Services represent an essential component, with a share of 41%, notably through the maintenance of most of the French Navy's fleet, but also through international activity.

Order intake recorded during the 2019 financial year represents €5.3 billion, enabling the renewal of the order book, which

amounted to €15 billion. Orders recorded in France and internationally benefited all sectors.

## 29%

Percentage of turnover generated internationally

**A strong recruitment drive**

15,000 personnel in 2019, with a target of recruiting 10,000 to 12,000 new talents between 2018 and 2028,

both in France and internationally, to respond to the strategic challenges facing the group and to meet our clients' expectations.

Subsidiaries

- AUSTRALIA • BELGIUM • BRAZIL • CANADA • CHILE • EGYPT • FRANCE • INDIA • INDONESIA • ITALY • MALAYSIA • NETHERLANDS • SAUDI ARABIA • SINGAPORE

Branches or representative offices

- CHILE • COLOMBIA • GREECE • INDIA • INDONESIA • MALAYSIA • NETHERLANDS • POLAND • SAUDI • SINGAPORE ARABIA • UNITED ARAB EMIRATES



07

Thanks to the strengthening of its capacity to finance its future growth, Naval Group continues to internationalise its business, including in the area of innovation.

## 18 countries

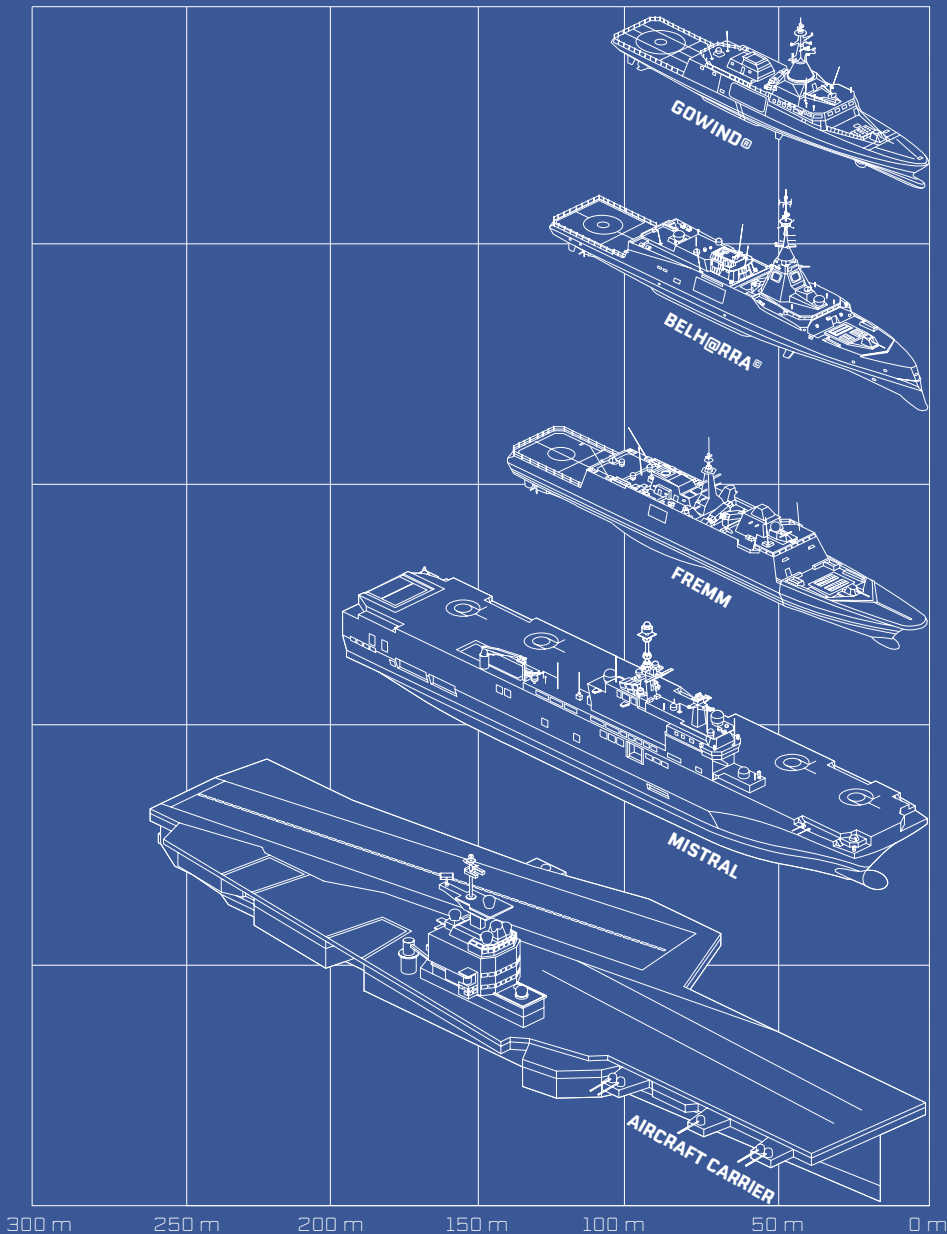
**The linchpin of European alliances**

In 2019, Naval Group and Fincantieri created Naviris. The aim of this 50/50 joint venture is to

strengthen Europe's position on the world naval defence market and to jointly combat global competition, in the service of navies.

# Products and solutions of excellence...

## \_Surface ships



### Gowind®

The benchmark multi-role combat ship.

**MISSIONS:** coastal and high seas operations, surveillance, protection and escorting, anti-trafficking and anti-piracy operations, either alone or in cooperation with a naval force.

### Belh@rra®

The latest generation digital frigate.

**MISSIONS:** all high-intensity naval operations, high detection capability, strong anti-aircraft firepower and command of sea warfare domains.

### FREMM

The expedition-capable multimission frigate.

**MISSIONS:** all high-intensity naval operations, benchmark in anti-submarine warfare, long-range onshore strikes and naval force command at sea.

### Mistral

The amphibious helicopter carrier with proven efficiency.

**MISSIONS:** force projection, humanitarian support, aero-naval and amphibious operations command and hospital ship.

### Aircraft carrier

The flagship of an ocean-going fleet.

**MISSIONS:** force projection and independent aerial support for all types of operations.



### ► ON-BOARD MISSION AND COMBAT SYSTEMS

#### SETIS®

The combat system for warships in high-intensity naval operations.

#### POLARIS®

The on-board maritime security and surveillance system.

#### SUBTICS®

An integrated combat system for submarines that is powerful, highly automated and scalable.

#### I4®DRONES

The management system for unmanned operations.

### ► PLATFORM SYSTEMS AND EQUIPMENT

A complete range of systems designed to ensure the security and control of surface ships and submarines in combat.

#### SHIPMASTER®

The automated control system for surface ships.

#### SYLVER®

Vertical missile launch systems.

#### SAMAHÉ®

An efficient system for handling heavy on-board helicopters in rough seas.

#### INTEGRATED PLATFORM MANAGEMENT AND CONTROL SYSTEMS FOR SUBMARINES

Integrated control systems ensuring centralised and particularly safe operation of submarines.

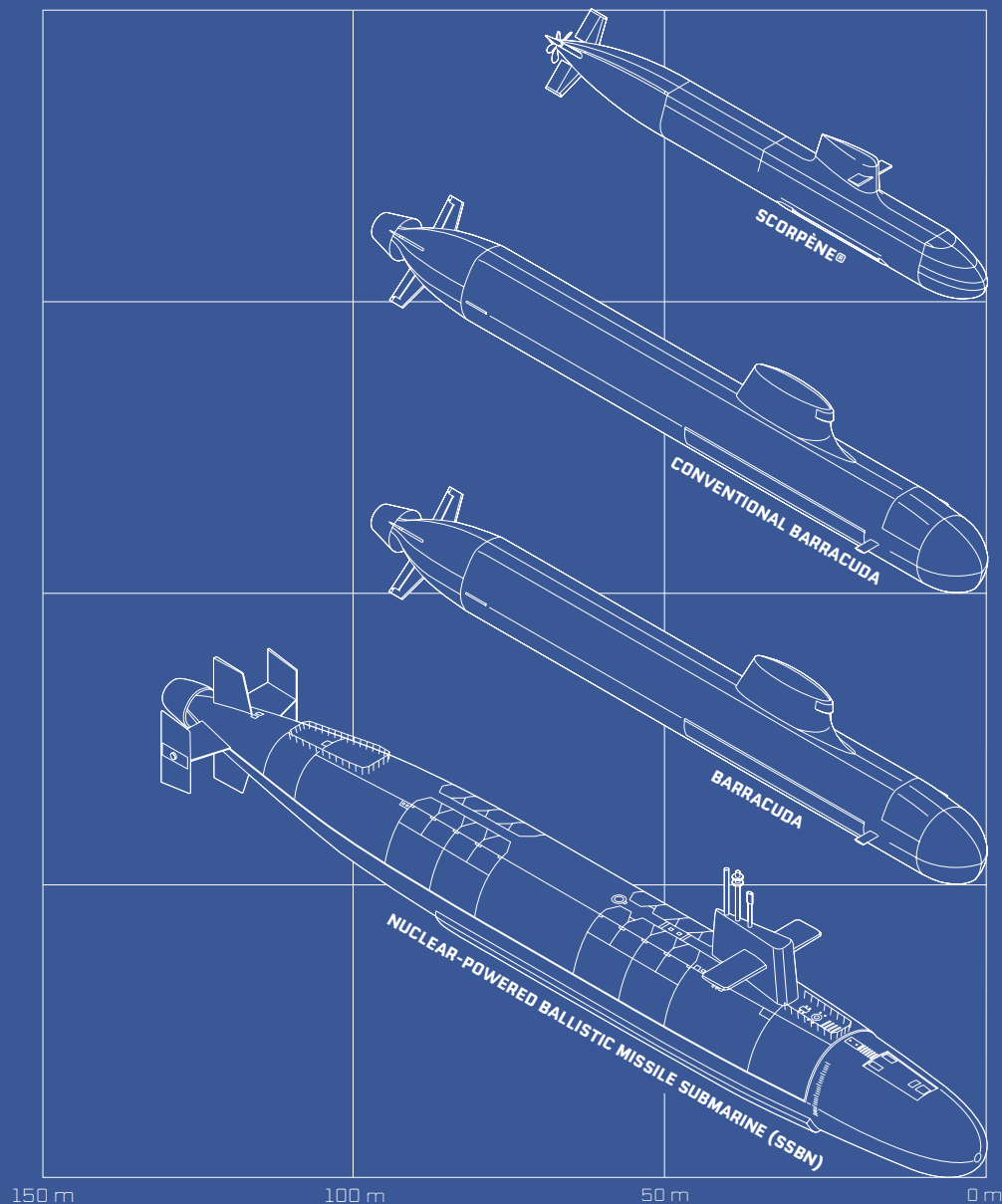
#### TORPEDO LAUNCHER INSTALLATIONS

For submarine and combat ships.

# Used in strategic missions by more than 50 navies

## \_Submarines

10 \_



### Scorpène®

The international benchmark for conventional submarines. Particularly discreet and enduring.

MISSIONS: warfare against surface ships and submarines, information gathering and special operations.

### Conventional Barracuda

An extremely quiet, powerful and versatile submarine that can be deployed on distant and lengthy operations.

MISSIONS : all areas of warfare, high weapons-carrying capability, various means of action for special forces and massive onshore strikes.

### Barracuda

A nuclear stealth attack submarine that is particularly mobile and has great endurance.

MISSIONS: all areas of warfare, dissuasion support, long-range strikes, wide-area surveillance, deployment with an aero-naval force and coalition deployment.

### Nuclear-powered ballistic missile submarine (SSBN)

Nuclear-powered ballistic missile submarine (SSBN). The best performance for nuclear dissuasion.

MISSIONS: nuclear dissuasion and ultimate protection of France's vital interests.



#### ► SERVICES

A range of bespoke services to ensure the operational availability of surface ships and submarines.

#### EDUCATION AND TRAINING

A complete range of education and training solutions for crews and maintenance and industry personnel.

#### MAINTENANCE, LOGISTICAL SUPPORT AND MODERNISATION

Solutions for maintaining operational readiness and for modernisation adapted to all types of ships and all navies.

#### NAVAL INFRASTRUCTURES

Rare skills for infrastructure upgrades, complete program management for new infrastructures and the operation and maintenance of naval infrastructures.

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#### ► SUBMARINE WEAPONS

##### F21 TORPEDO

The latest generation heavy torpedo for submarines.

##### MU90

The best performing light torpedo in the world, adopted by nine navies and deployable from any naval or aerial platform.

##### CANTO-V® for surface ships and CANTO-S® for submarines

The countermeasure operating on the principle of confusion/dilution, revolutionary in anti-torpedo warfare for surface ships or submarines.





**HERVÉ GUILLOU**  
Chairman and CEO



**ALAIN GUILLOU**  
Senior Executive Vice President,  
Development



**VINCENT MARTINOT-LAGARDE**  
Executive Vice President,  
Services



**GUILLAUME ROCHARD**  
Executive Vice President  
for Strategy, Partnerships  
and Mergers & Acquisitions

# Governance\* to achieve excellence



**OLIVIER DE LA BOURDONNAYE**  
Executive Vice President,  
Programs

## \_The Executive Committee

Presided over by the Chairman and Chief Executive Officer, the Executive Committee sets the group's objectives and rules on all matters that have a major impact on the group's strategy, its functioning and its commercial and operational activities. It is composed of the Senior Executive Vice President for Finance, Legal, Purchasing and Real Estate, the Senior Executive Vice President for Development, the General Secretary, the Executive Vice President for Services, the Executive Vice President for Programs, the Executive Vice President for Industry, the Executive Vice President of Program Australia, the Executive Vice President for Human Resources and the Executive Vice President for Strategy, Partnerships and M&As.

\*Governance as at 1 January 2020.



**LAURENT ESPINASSE**  
Executive  
Vice President, Industry



**FRANK LE REBELLER**  
Senior Executive Vice President,  
Finance, Legal, Purchasing  
and Real Estate



**CAROLINE CHANAVAS**  
Executive Vice President,  
Human Resources



**JEAN-MICHEL BILLIG**  
Executive Vice President,  
Program Australia

## \_The General Management Committee

The General Management Committee considers all the major strategic, economic, financial or technological policies relating to the company's activity. It underwrites the social interests of its main stakeholders: shareholders, staff members and clients. It is made up of eighteen members. Staff representatives, elected by their peers, account for one third of the members of the General Management Committee. Six administrators are appointed by the Shareholders' General Meeting and six others are appointed by decree as representatives of the State.

As at 1 January 2020, the General Management Committee is composed of:

- Chairman: Mr Hervé Guillou.
- Administrators appointed as staff representatives:  
Mr Laurent Chagnas, Mr Didier Chavrier, Mr Tony Lecorps, Mr Olivier Ménard, Ms Béatrice Unia and Mr Yvon Velly.
- Administrators appointed by the Shareholders' General Meeting:  
Mr Jacques Hardelay, Ms Sandra Lagumina, Ms Eveline Spina, Ms Sophie Mantel and Mr Bernard Rézat, appointed at the proposal of the State; Mr Pascal Bouchiat, Mr Patrice Caine, Ms Nathalie Ravilly, appointed at the proposal of Thales; Ms Gabrielle Gauthey, Mr Hervé Guillou and Mr Luc Rémont.
- Administrator appointed by decree as a representative of the State: Mr Vincent Le Biez.
- Censor: Mr Gabriel Cumenge.

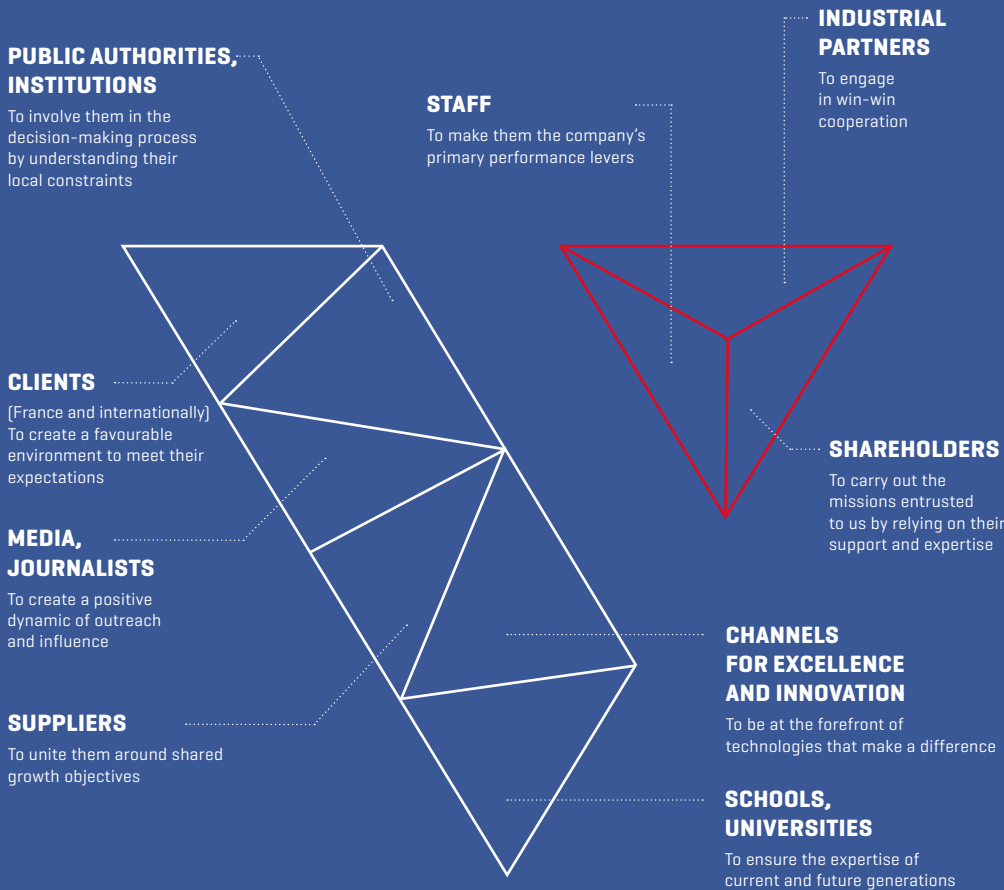


**JEAN-YVES BATESTI**  
General Secretary



# Commitments to all our stakeholders

Both in France and internationally, Naval Group wishes to advance its social approach in a collaborative and collective way with all stakeholders affected. Here are our commitments to each of them.



# EUROPEAN NAVAL DEFENCE: inescapable consolidation

The multiplication of players involved, a new geopolitical situation, rising regional tensions: the recomposition of the landscape of naval defence is continuing and does not care about borders. While the sea is confirming its status as a pillar, competition between industrial operators is fierce. In this context, it is entirely in the interest of European stakeholders to join forces. With the creation of Naviris, Naval Group and Fincantieri have taken an important step in this direction.

Acts of terrorism, piracy, trafficking, cyberthreats: navies everywhere must prevent, monitor, inform and protect. They must be ready to act at any time to defend the sovereignty of states, including, if necessary, beyond their exclusive economic zones. The oceans stir up all kinds of greed. In the South China Sea and the Strait of Malacca, tensions are forming acutely.

### FERCE COMPETITION

In this context of increased threats, the naval defence hierarchy is being shaken up by the emergence or re-emergence of players such as China, whose ambitions and resources are considerable, or Russia, a historic and influential competitor on the naval defence market. Supported by their respective governments, industrial operators in those two countries

are becoming increasingly powerful, with turnovers of up to several billion dollars.

The slightest flutter of its wings by China, which is now number one in the world, impacts the entire Asia-Pacific region. The increase in China's military expenditure, as part of the plan for the exponential growth of its fleet, is creating a form of one-upmanship. From India to Japan, naval defence spending is on the rise overall. ▶

▼  
**IN 2017, CHINA BECAME THE WORLD NUMBER ONE IN TERMS OF TONNAGE PRODUCED.**

The Chinese navy has seen its tonnage increase by more than 50% since 2012. China launches an average of one destroyer or frigate every month and one submarine every quarter.

▷ However, that is not all: although Europe's main competitors are Chinese and Russian, they are also now Indian, Turkish, Korean, Singaporean, Ukrainian, etc. And what are they offering? From entry-level to the most sophisticated technologies, they also incorporate the very latest European equipment. Each of them is a serious competitor in one or more links of the value chain, like Turks, whose expertise in fleet services is renowned and is starting to be the difference.

**EUROPEAN COUNTRIES OUT OF STEP**

But what is stopping the Europeans from facing up to them? European industrial operators (no fewer than a dozen of them) are all engaged in strategies of global conquest. However, their fratricidal wars and lack of a common agenda slow them down and weaken them. Being smaller, they respond to invitations to tender in a disorganised manner and find themselves faced with increasingly strong competition, which generally applies aggressive pricing strategies while offering a high-performing range. However, no domestic market in Europe can offer the potential needed for retaining skills, recruiting the best talent and ensuring sustainable competitiveness. Moreover, being a credible player on the global naval defence market also requires constant

innovation. Here again, size is the key to offering a sufficiently wide range of products and staying one step ahead.

All of this argues in favour of a consolidation of European positions. In any event, this is the position defended by Naval Group, which has won major contracts in many countries. Its legitimacy as the standard bearer of such a grouping is bolstered not only by the creation of Naviris, the alliance formed with Fincantieri, but also by the French State's commitment to major naval programs such as the Barracuda and multimission frigate (FREMM) plans, despite a tight budgetary environment. ◀

**x2**

**THE OBJECTIVE IS TO INCREASE NAVAL GROUP'S INTERNATIONAL TURNOVER BY 2028.**

This will be achieved, in particular, through new building programs for corvettes, frigates, minehunters and submarines, together with the development of international service activities and the sale of equipment and systems independently of our ships.

**NAVAL GROUP :**  
**A unique model**

**To succeed internationally in a context of a shifting balance of power, Naval Group is banking on its unique and very international position. It enables the group to respond in as refined a manner as possible to the needs of each navy.**



**GUILLAUME ROCHARD**

Guillaume Rochard joined Naval Group in May 2015, after 20 years of experience with PwC. Appointed Executive Vice President for Strategy, Partnerships and Mergers & Acquisitions in February 2017, he joined the group's Executive Committee in 2019.

"Our position is original, unique even. We are the only company to have a presence throughout the entire naval defence chain, from design to disassembly, including the physical and functional integration of equipment for combat systems. Not to mention the services and systems that we design, develop, test and integrate", points out Guillaume Rochard, Naval Group's Executive Vice President for Strategy, Partnerships and Mergers & Acquisitions.

With its unique model, Naval Group is a major player in naval defence, with a presence across all areas of expertise that States need to ensure their sovereignty at sea. Few players can claim such a scope while guaranteeing, in particular, the operational performance of the entire warship.

Ensuring the sustainability of Naval Group as an international player also involves the development of all the group's business lines. "This is what will make it possible to provide specific responses for the assorted needs of the world's navies. Thanks to our unique range of skills, we are able to have a presence throughout all or part of the value chain, provide services tailored to the specific needs of each of our clients

and even sell equipment or systems on non-Naval Group platforms - which we already do successfully."

**INNOVATE AND INTEGRATE, FASTER AND BETTER**

Moreover, the competition faced by Naval Group is in no way homogeneous.

In the entry-level segment, certain industrial operators follow an aggressive pricing policy that is difficult to counter. "It is on warships that Naval Group's main distinguishing technological feature can be seen", stresses Guillaume Rochard. "A distinguishing feature that, in order to be retained, requires, firstly, relentless and diverse innovation and, secondly, the rapid integration of innovation into ships, even if they are already in service."

Aware of the stakes involved, Naval Group has reorganised its Innovation Governance, making it open and shared. To better integrate innovation into ships, its teams are already co-designing solutions and equipment with sailors. However, innovation must also be at the heart of the group's operating methods and industrial processes, so as to improve efficiency, reliability and speed. ▶

- ▶ Such flexibility is all the more essential since the expectations of a first-rate navy, such as the French Navy, can be far removed from the concerns of some foreign navies.

### INNOVATION IS GOING INTERNATIONAL

In order to refine knowledge of international clients and place them at the heart of the innovation process, Naval Group has created R&D centres of excellence in Australia and Singapore, and plans to open others. The opening of these centres also makes it possible to forge links with research institutes and universities, local authorities and partners and thus bolster the group's reputation, locally. Another benefit is the development of collaboration with researchers and academics from other backgrounds, who are able to bring a different perspective and approach problems differently.

#### NAVIRIS: BE STRONGER, STAY SOVEREIGN

It has a name: christened Naviris, the Franco-Italian joint venture has been operational since early 2020. The management team, programs and R&T are in place to support international development, while continuing to serve the sovereign interests of the French and Italian navies. This is an unprecedented and balanced compromise that respects each party's sovereignty and reveals the ambition of the Naval Group, whose objective is for Europe to strengthen its presence and footprint on the global naval defence market. Buoyed by its unique model and ambitious strategy, Naval Group continues to engage in open dialogue with its European counterparts, advocating healthy consolidation of the sector that will benefit all.

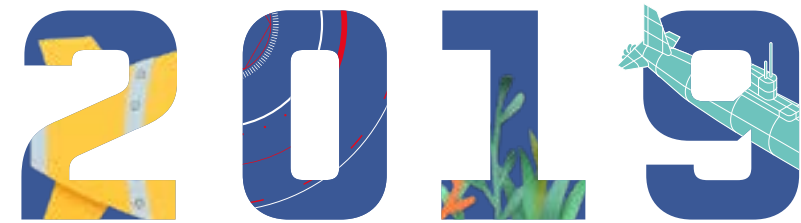
### REFINED CLIENT KNOWLEDGE

Ensuring the group's sustainability requires using its expertise for export clients. In other words, creating specific ranges that are perfectly adapted to their needs. To that end, now more than ever, Naval Group wants to put the client at the heart of its commercial approach and strategy. Its ambition is to build for each navy a unique range of products and services adapted to their geopolitical context, local issues and their own needs.

"This requires that we place the client at the centre of our approach, thanks to more detailed knowledge of the stakeholders - decision-makers, opinion formers and users, as well as public opinion. Naval Group has taken specific steps in this direction, for example, we conducted a satisfaction survey of our international clients for the first time, which was very informative."

Finally, all of this is only possible if Naval Group has the right skills at the right time. The group focuses closely on the need for traditional, rare or new skills, aware that having a diversity of profiles requires the diversification of recruitment sources and the creation of career pathways, both in France and internationally. ◀

## THE YEAR



Hitting the milestones, continued international development, innovation and attractiveness: our challenges for 2019 were as varied as they were numerous. Over the following pages, discover all the key events, both small and large, that have marked our year and, more broadly, that of the naval defence industry. Happy reading!

#CYBER

### NAVAL GROUP ATTENDS THE FIC

At its fourth time attending the International Cybersecurity Forum (FIC), held on **22 and 23 January** at the Grand Palais in Lille, Naval Group presented its latest technological and industrial innovations. Faced with new cyber challenges, Naval Group offers a robust and structured response that can ensure the overall protection of its clients' interests and guarantee their resilience in the face of the threat. Its integrated and cross-disciplinary approach covers the entire life cycle of ships, from design to production and maintaining their operational readiness.



#CONTRACT #LSS

### CONNECT 4

On **30 January**, Naval Group and Chantiers de l'Atlantique were awarded a contract for the supply of four replenishment tankers (known in French as BRFs) along with an option to ensure their maintenance in operational condition for the first six years. Geared towards the provision of logistical support to warships belonging to the French Navy and allied naval forces, the order falls under the Franco-Italian Logistic Support Ship industrial program led by the Organisation for Joint Armament Cooperation (OCCAR). Delivery of the tankers, each with a capacity of 13,000 m<sup>3</sup>, will take place in stages between the end of 2022 and early 2029.

#INTERNATIONAL

#OPV

# 4 Argentinian



# OPVs: ready, steady, go!

Naval Group began work on the four patrol vessels (OPVs) for the Argentine Navy on **14 February**, the date the contract came into force. The *A.R.A. BOUCHARD*, which has already been built, was delivered in December following a complete overhaul in Toulon. The other three OPVs, also built in France, will be adapted for navigation in cold waters in the southern seas.

TO VIEW PHOTOS OF THE OPV THE *ADROIT*, RENAMED THE *A.R.A BOUCHARD*, VISIT US ON [INSTAGRAM](#).

WATCH THE VIDEO OF THE DELIVERY OF THE *A.R.A BOUCHARD* IN ARGENTINA ON OUR [YOUTUBE CHANNEL](#).

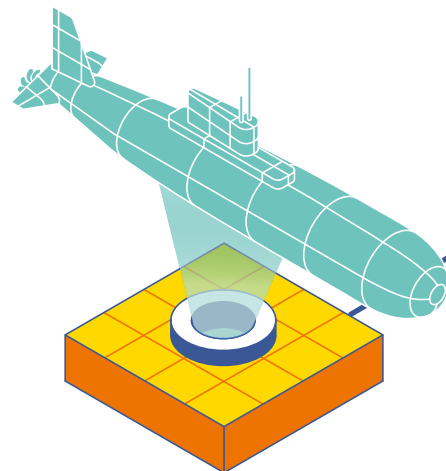
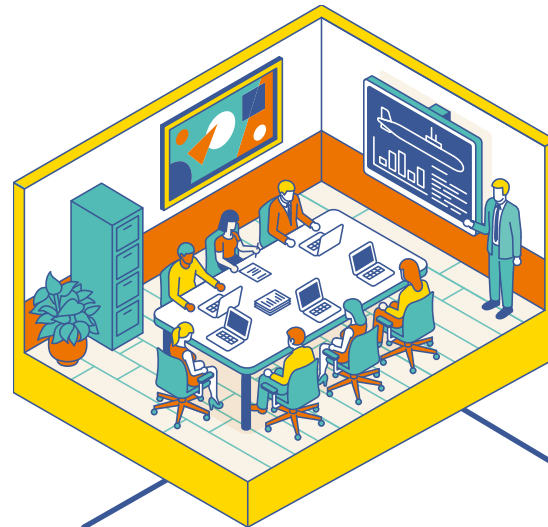
#AUSTRALIA

#AFSPROGRAM

#AUSTRALIANFUTURESUBMARINE

# SIGNING OF THE STRATEGIC PARTNERING AGREEMENT

As a key milestone of the Australian Future Submarine (AFS) program, the strategic partnering agreement (SPA) signed between the Commonwealth of Australia and Naval Group on **11 FEBRUARY 2019** provides a framework for cooperation over the next 50 years and covers all future contracts agreed as part of the project. The aim is to enable Australia to become a sovereign submarine nation.



February

**03.2019**

**Signing of the first phase of the design contract (2020-2021),** covering the continuing design work on Australia's Attack-class submarines. The program is now entering the definition phase, which includes the selection of equipment essential to its design.

**711**

**EMPLOYEES** are currently working on the AFS program, including 180 in Australia.

**07.2019**

**Validation of the second training course** run by Naval Group University in Cherbourg. Fifteen Australian engineers attended the course over a period of three months to gain new skills in design and construction.



**07.2019**

**Second Integrated Baseline Review (IBR)** passed with success following an in-depth audit of our program management methods. Carried out with the Australian client in Cherbourg, the exercise was meticulously prepared by our teams in France and Australia. The auditors were very happy with the quality of the work carried out in preparation for the review, describing the standards achieved by the teams as "world-class", thereby boosting customer confidence.

**07.2019**

**Completion of the design feasibility phase and transition** to the design definition phase (PD2), aimed at de-risking the design prior to the preliminary design phase.



**JEAN-MICHEL BILLIG**  
Executive Vice President  
AFSP, Naval Group

**"Since construction of the new Adelaide shipyard got underway at the end of 2018, the AFS program has made great strides, with the signing of the SPA framework agreement in February and the launch of the design studies for the future submarine. Technology transfer activities have continued apace, with the delivery of training to a second group of Australian engineers who will take over as the design authority for the program in Australia in 2022. As for the IBR completed in July, the review helped to build trust with the customer and demonstrated the remarkable commitment of our teams to ensuring the success of the program."**





**JOHN DAVIS**

Chief Executive Officer,  
Naval Group Australia

“2019 was a very busy year for the AFS program. First of all, we signed the APS, setting out the principles of cooperation governing the program. We then signed the *Submarine Design Contract* as well as a framework agreement with ASC with a view to beginning a partnership on supply chain safety matters and training and learning initiatives. In October 2019, we placed the first orders for the equipment needed to build our submarines. We also held the tenth Australian industry briefing, an event aimed at promoting industrial opportunities for local businesses. Lastly, our workforce continues to grow and the expectation is that, at its height, the program will generate up to 1,800 direct jobs and thousands more across the entire supply chain.”



**8-10.10.2019**

Attendance of the Franco-Australian team at the **Pacific 2019 International Maritime Exposition** in Sydney. The event was an opportunity for Naval Group to showcase the AFS program to hundreds of visitors.



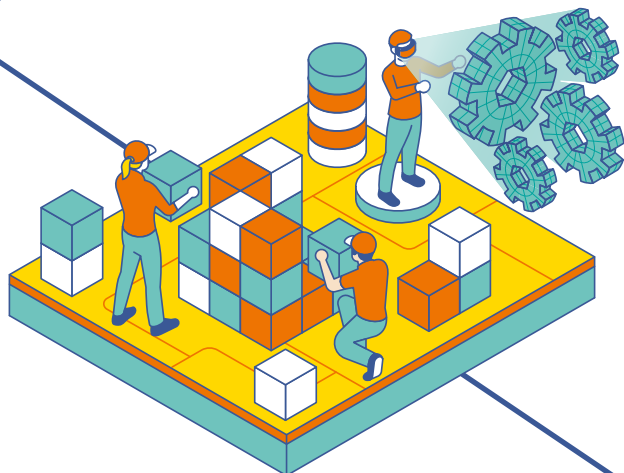
**12.2019**

Completion of the supplier selection process for the submarine's five main pieces of equipment (MTU for the diesel generators, Jeumont Electric for the main electric propulsion equipment, Schneider Electric for the main DC switchboards, Sunlight for the batteries and Babcock for the weapon delivery system).

24 \_

**09.2019**

System Requirements Review and System Functional Review, marking the end of the PD2 phase and the transition to the preliminary design phase (PD3), during which functional and fitting studies will be conducted by incorporating data from suppliers.



**10.2019**

Signing of a contract for the supply of three major pieces of equipment for the Osborne Naval Shipyard. The contract is of strategic importance to the program since the equipment (medium-and high-capacity presses) directly impacts the design of the site's foundations.

February

Fun fact

**Cherbourg, both near and far**

CHERBOURG



\_ 25

There is also a town called Cherbourg in Australia, some **16,500 kilometres** from the Cotentin Peninsula in the State of Queensland!

#INNOVATION #AIP #PRIDE

## NEW RECORD FOR THE 3<sup>rd</sup> GENERATION AIP

Eighteen days of autonomy is the new record set by Naval Group last **March** when it successfully completed the test campaign for the third-generation AIP\* system, combining electricity production from a fuel cell and hydrogen production from diesel reforming. As the only manufacturer in the world capable of using this type of technology under water, Naval Group improved its previous record by 7 days. The achievement represents a revolution in the world of conventionally propelled submarines.

\* Air-independent propulsion.



#LIFECYCLE #FRANCE

#FREMM

## LAUNCHING OF FREMM FRIGATE ALSACE

Thirteen months after the keel laying of the first block, the FREMM *Alsace*, the ninth multimission frigate to come out of Naval Group shipyards, was launched in Lorient on **18 April**. The 142-metre-long ship – the seventh frigate for the French Navy – will be the first to benefit from enhanced air defence [AD] capabilities.

TO VIEW PHOTOS AND VIDEOS, CHECK OUT OUR STORY ON [INSTAGRAM](#).



## RANDSTAD AWARDS



#PRIDE #DISTINCTION

#ATTRACTIVENESS

On **29 March**, the 2019 Randstad Awards recognised Naval Group for the second time in three years. Awarded to “France’s favourite company”, the prize reflects the fact that one out of every two respondents who know Naval Group say that they would like to work for us. The award reflects the growing attractiveness of the European leader in naval defence.

March

April

May



#PRIDE #INNOVATION

#TALENTS

## 2019 LA PÉROUSE PRIZE

The project to optimise the escape route of underwater vehicles led by Estelle Chauveau and Maxime Debert was awarded the 2019 La Pérouse prize in **May** by Naval Group’s Scientific Council. And the prize itself? A year’s worth of budget to independently develop a project of potential interest to Naval Group. In other words, “the dream of every researcher”, as Fabien Chaillan, the 2018 winner, put it.



#COMMITMENT

#STANDING

#PRIDE



Claire Allanche,  
Senior Vice President,  
Communications  
at Naval Group

## “Being able to support *Hermione* in its adventure helps to promote shipbuilding know-how and to attract new talent.”

On **6 May**, Naval Group teamed up with the *Hermione* La Fayette association in its journey to promote the naval sector.

#LIFECYCLE

#FDI

#PRIDE

## APPROVED FDI DESIGN

More than a hundred internal and external planning meetings, 140 deliverables, 17,000 pages and some 6,500 comments processed: after what felt like a marathon build-up, on **27 May**, the French Defence Procurement Agency (DGA) and the French Navy approved the general design plans of the future defence and intervention frigates (FDI). The achievement of this milestone signals the acceptance of the design of the first “all-digital” frigate. After celebrating their success, the program teams began work on the detailed design and industrialisation studies prior to the actual start of production.



#INNOVATION

#RESEARCH

## “For Naval Group and its partners, the objective is clear: to innovate with the aim of ensuring our clients’ operational superiority.”

Government, industrial and academic partners attended the 4<sup>th</sup> edition of the Naval Innovation Days in Lorient on **22 and 23 may**.



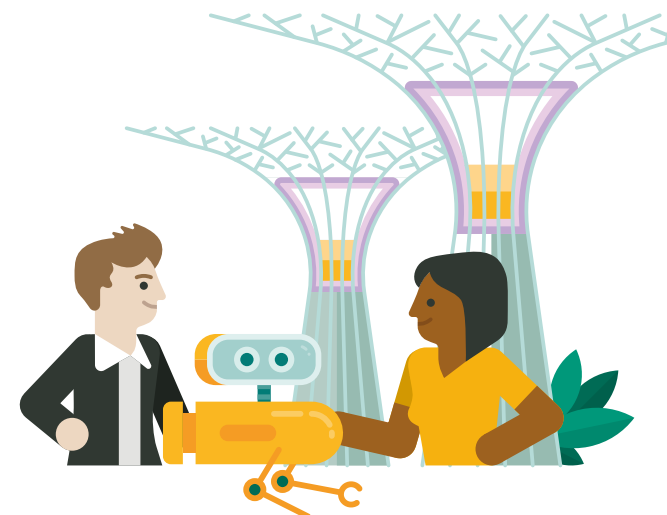
Hervé Guillou,  
Chairman and Chief  
Executive Officer  
of Naval Group

#INNOVATION

#INTERNATIONAL

## Start We Up in Singapore

On **6 June**, Naval Group organised the fourth edition of Start We Up in Singapore, a pioneering hub of innovation. Broadcast by the Embassy of Singapore in Paris, the event was an opportunity for meetings and discussions between local startups and Naval Group experts. Dedicated to creating synergies and promoting open innovation and reflecting Naval Group’s commitment to R&D activities in Singapore, this one-day event was also an opportunity to identify the solutions and businesses most in line with its strategic objectives.



#ALLIANCE

#EUROPEOFDEFENCE

# NAVAL GROUP AND FINCANTIERI: a historic naval alliance

The joint venture agreement signed in Rome

**ON 14 JUNE 2019**

between Naval Group and Fincantieri solidifies the long-standing partnership between two major players in the European naval defence sector. The agreement cements their shared commitment to building a future of excellence in the field of surface vessels.

▼ **CLAUDE CENTOFANTI**

Chief Executive Officer of Naviris and Board member [on the left]

▼ **ENRICO BONETTI**

Chief Operational Officer of Naviris and Board member [on the right]



With increasingly competitive markets and ever smaller volumes despite a growing number of international players, the European naval defence sector requires new measures to maintain our technological lead and control the future of our industry.

**What are the origins of the alliance?**

As Claude Centofanti explains: “Naviris was born out of the need to create a Europe-wide response to counter the emergence and rapid development of competitors from the Middle East, Russia and Asia, particularly in the surface ship market.” “Our joint venture is a response to the twin challenges of sovereignty and autonomy in the European industry, but it also seeks to maintain a balance between the specific characteristics and national interests of the two countries, which continue to play a major role in the naval defence sector”, explains Enrico Bonetti, recalling the common history of the two companies and the support that the French and Italian governments have always given to naval cooperation initiatives.

At the bilateral summit held in September 2017, this support led naturally to plans for a proposed alliance, as the Executive Director explains: “In the course of discussions relating to



**“Naviris will carry out marketing, project management and Design Authority work on surface vessels for the two national navies and export customers.”**

▼ **ENRICO BONETTI**

Fincantieri’s acquisition of a stake in Chantiers de l’Atlantique for the production of cruise ships, an old collaborative venture in the field of naval defence was put back on the table”.

The partnership developed in several stages, starting with exchanges of data and work on the implementation of the partnership, followed by efforts to secure the agreement of shareholders and culminating with the signing of the agreement in June 2019 in

La Spezia aboard the FREMM *Federico Martinengo* and the unveiling of the name of the joint-venture on 30 October 2019. The last administrative measure, in January 2020, marks the date on which the association became operational and was able to secure its first contracts.

**How is the joint venture structured?**

Incorporated under Italian law, the company will have its headquarters in Genoa, while its wholly-owned research subsidiary will be based in Ollioules. Decisions are taken on an equal footing, with the Board being composed of three members appointed by each parent company and chaired by Giuseppe Bono, Chairman and CEO of Fincantieri.

Alberto Maestrini, General Manager of Fincantieri, and Jean-Yves Battesti, General Secretary of Naval Group, also sit on the Board. Claude Centofanti and Enrico Bonetti, who are also members of the Board, are at the helm of Naviris as Chief Executive Officer and Chief Operational Officer respectively. >

► In addition, Naval Group's Emmanuel Diot will lead the Finance department and Sabrina Sanguineti will be responsible for marketing and sales.

#### What are the expected synergies from Naviris?

"We expect many significant synergies, whether in terms of technological advances or economic value added, which will be achieved mainly through new contracts and by optimising supplies through the size effect", says Enrico Bonetti.

In particular, the pooling of engineering and R&D activities will help to create a virtuous circle of good practice, which is something that will benefit not only Naviris but also its two parent companies. Similarly, design contracts emanating from either the French or Italian governments will benefit both navies in the long term.

As regards the development of its product range, Naviris will be able to rely on the ranges of both parent companies.

"Their complementary portfolios mean that we are able to offer a wide range of solutions to prospective clients, whether in terms of platforms or systems, which is a major step forward in the face of stiff international competition. The first projects have already been launched with export customers," says Claude Centofanti.

#### And its main strengths?

Naviris already has access to an extensive hunting ground thanks to the international presence of the two parent companies, through their subsidiaries and construction sites: from the United States, where Fincantieri conducts 30% of its surface combatant activities, to the Far East, where Naval Group is well established, and the Arabian Gulf, where both groups have a long-standing presence.

"As well as the high penetration rate of both parent companies in

### “Naviris will carry out marketing, project management and Design Authority work on surface vessels for the two national navies and export customers.”

▼ CLAUDE CENTOFANTI

these markets, Naviris also benefits from their position as a design authority and prime contractor throughout a ship's life cycle and value creation chain, which is something few other shipbuilding companies



can claim", explains Enrico Bonetti.

Another strength is the wealth of expertise that Naviris is able to draw on to meet the expectations of its most demanding clients. As such, the Ollioules-based laboratory represents a key lever for its advanced skills in engineering, naval architecture and combat system architecture. "Based on the client's specifications, our engineers will imagine everything a ship can do and then focus on quickly presenting high value-added pre-projects. To do so, they will be able to rely on the Common Naval Engineering Lab (CNEL) and its simulation technologies, which are resources that few competitors currently have access to", notes Claude Centofanti. This is already the case under the first bi-national contract awarded to Naviris by the two governments – specifically, the feasibility study for the mid-life refit of the

four Horizon frigates, with the joint venture teams currently assessing future needs in terms of modernisation and capacity increases.

#### Can you tell us about the other projects on the table?

"Naviris is also very active on the export front.

With the agreement of the national navies, four projects have been launched in four countries and are currently at an advanced stage of commercial development," notes Claude Centofanti.

A number of international research programs on future-oriented areas are also at an advanced stage, such as vessel digitalisation, from design to maintenance and upgrade operations.

"At a European level, Naviris is establishing itself as a leader in harnessing energies and is launching a number of cooperation initiatives.

The most important initiative relates to the European Patrol Corvette (EPC) program, the only

project to have been selected as a program of strategic interest under the Permanent Structured Cooperation (PESCO) scheme. We are actively working to extend the partnership to other European countries with a view to obtaining the funding provided for under the scheme", notes Enrico Bonetti, recalling that the EPC will replace the Floréal and Comandanti classes.

#### With such a rich track record, the future of Naviris looks promising...

"The road ahead will be firmly rooted in our common goals and in our shared commitment to seizing new program opportunities at the international and European levels, including larger projects in terms of units." With the first export contracts, adds Claude Centofanti, "Naviris

will come to be recognised as a major European player in the surface ship sector by competitors from all over the world. It will then be in a position to make a very real contribution to the core goal at the heart of what we do: to become the Airbus of the naval defence industry in Europe." "Naviris embodies the natural next step in the evolution of a cooperation partnership between two manufacturers that have already developed several projects together and that share the same values and goals of excellence." <

TO WATCH THE INTERVIEW, VISIT OUR [YOUTUBE CHANNEL](#).







Caroline Chanavas,  
Executive Vice President,  
Human Resources

#COMMITMENT #EQUALITY #RECRUITMENT

## “We are aiming to increase the percentage of women in our workforce to 35% by 2025.”

Gender equality is increasing in the notoriously hyper-male world of the naval industry, according to one of the key findings to have emerged from the *Assises de la Parité* (Parity Conference) held on **20 June** in Paris.

#COMMITMENT #AWARDS

#SUPPLIERS

## And the winner is...

At its annual supplier convention on **21 June**, Naval Group presented awards to seven of its suppliers: Themys (speed and responsiveness), Diva-Fiva Group (international), Reel (occupational health and safety and environment), Yaskawa France (innovation), Philippe Lassarat (quality and technical performance), Souriau-Sunbank (competitiveness and cost optimisation) and Eca Robotics (special award).



#LIFECYCLE #CHERBOURG

#SNA

### THE HEART OF SAPHIR HAS STOPPED BEATING

The second of the six sister ships in the Rubis series, the *Saphir*, a nuclear-powered attack submarine, is the first to have been retired from service. Toulon, its adopted port, dispatched the boat on **21 June** to the port of Cherbourg, where it was born and where it will be dismantled from the autumn by a team of around a hundred staff from Cherbourg and Toulon.

#INNOVATION #DATACENTRE #PRIDE

## NATICK – ONE YEAR ON

To save on the energy usually used to cool data centre servers, Microsoft came up with the idea of sinking a data centre 40 metres below the surface of the sea off the northern Scottish coast. Naval Group and its subsidiary Naval Energies designed the structure, named Natick, the fruit of their combined expertise. One year on from its installation on **28 June 2018**, Natick has proven to be a success.



#INTERNATIONAL #GOWIND

## NAVAL GROUP CHOSEN IN ROMANIA



On **3 July**, Romania selected the joint bid submitted by Naval Group and Santierul Naval Constanta (SNC) to build four new Gowind® corvettes, modernise the T22 frigates and create a maintenance and training centre to support the life cycle of the vessels.

TO READ THE PRESS RELEASE, VISIT [OUR WEBSITE](#).

# CSR: a proactive APPROACH

At the 'Oceans 2019' international conference

## IN JUNE 2019,

held in Marseille, Naval Group showcased its eco-design strategy. Secure in the knowledge that it is contributing to the future of the naval defence industry, the group is keen to take the lead in this area. The company incorporates environmental concerns from the design stage of its products and throughout their entire life cycle.

\* Corporate social responsibility.

### 1 VOLUNTARY PROJECTS

In a bid to stand out from the competition, the group favours a proactive policy by seeking to implement and anticipate regulations laid down by the International Maritime Organization in the area of civil maritime transport by choice rather than obligation. In 2019, we met our target of integrating eco-design into 50% of all new ship projects. The group was able to achieve its target by getting the technical teams fully involved and providing them with methods and rules to follow, a network of experts to draw on, and internal training, among other measures. As well as ships, the Eco-Design team is responsible for rolling out the approach to infrastructures (up to 15%) and services [5%].

### 2 CLEANER SITES AND SHIPS

Following the investments made in 2018 for its energy upgrade, the Naval Group site in Angoulême-Ruelle was able to reduce its total consumption by more than 13% over the course of 2019! Building on this success, the group is continuing its efforts to improve the energy efficiency of its facilities. Everyone plays a part in reducing the environmental impact of products. The greenhouse gas emissions assessments carried out annually at each site, which measure the carbon footprint of ships built by Naval Group, also underline the progress made in this area. Having measured the carbon footprint of the Gowind® corvettes and multimission frigates, the carbon footprint of the Scorpène® submarine was assessed this year.

+4

STAFF  
In 2019,  
the Environment  
and Design team  
was bolstered

### PRIORITY GIVEN TO ECO-DESIGN IN R&D

Over the past three years, 20% of R&D data sheets have contributed to environmental protection. In mid-2019, Blue Ship, one of the six core priorities of the group's R&D strategy, formed part of this approach.

By combining energies and using hybrid sources, the aim is to ensure the armed vessel has the energy autonomy required for all its current and future missions while minimising the environmental footprint. The initiative seeks to promote environmental concerns in the broadest sense – i.e. energy management and efficiency, waste management, resource consumption, the use of alternative energies and protection of the marine biotope. This R&D priority combines innovations and new operational capabilities with the aim of meeting the challenge of the ecological and energy transition.

June



3

ENHANCED COLLABORATION

After signing an operational reserve support agreement with the French National Guard in June 2019, Naval Group is now actively encouraging its reservist staff to work closely with the armed forces, especially the French Navy. The scheme is designed to support Naval Group employees in their voluntary commitment to safety and to promote understanding of clients' operational requirements. Within the company, these managerial situations, experienced as military units, represent hugely enriching experiences.

In addition, as part of the Australian Future Submarine (AFS) program, Australia's very high expectations in terms of environmental protection are a major driving factor in our approach. For the first time ever, we have a member of staff fully dedicated to environmental protection from the very outset of the design process. The staff member in question is responsible for providing eco-design training to clients.

An award-winning approach

At the 7<sup>th</sup> CSR Awards event (*Nuit de la RSE*) organised on 25 November 2019 by the APF France Handicap association, Naval Group presented its Blue Ship project, for which it received the Bronze award in the "Best approach centred on sustainable or alternative practices" category. The award recognises the hard work carried out over the past ten years by the Eco-Design team, who, from marketing to purchasing, are working to make environmental protection a priority within the company.



4

GETTING OUR SERVICE ACTIVITIES INVOLVED

Naval Group is committed to deploying eco-design principles to the activities of the Services department, including activities relating to the maintenance in operational condition (MOC) of surface ships, submarines, systems, equipment and infrastructures. The approach was implemented gradually in 2019. In December, a new recruit was taken on with the specific task of taking the approach already applied to vessels and rolling it out to infrastructures. Work has been carried out on the applicable regulations, which now need to be translated into internal requirements. With respect to MOC, the methods developed for new ship and R&D projects also need to be rolled out.

+15%  
This is the annual increase in percentage terms of the budgets specifically allocated to the Eco-Design R&D stream, which rose from €110K to €125K.



#CONTRACT

#MINEHUNTERS

## 12 minehunters

On **5 July**, Belgium and the Netherlands – both world references in the field of mine warfare – signed an agreement with Naval Group and ECA Group for the supply of twelve minehunters, with the two companies forming the Belgium Naval & Robotics consortium. On the same day, the Europe of Defence was also celebrated. All of which amounts to a worthy and ongoing cooperation between countries and manufacturers...

TO READ THE PRESS RELEASE, VISIT [OUR WEBSITE](#).



#INNOVATION

#MARINERENEWABLEENERGIES

### COOPERATION WITH JAPAN IN FLOATING WIND ENERGY

On **8 July**, On 8 July, Naval Energies and Hitachi Zosen Corporation announced their cooperation in the field of floating wind energy. Their common goal is to carry out a feasibility study to jointly design and build floating wind turbines off the Japanese coast. The wind turbines will have a capacity of several hundred megawatts and will be fitted with the semi-submersible float solution developed by Naval Energies.

#COMMITMENT

#COMPLIANCE

### AN AWARD FOR COMPLIANCE!

On **9 July 2019**, Naval Group was awarded the “Special Mention” award in the “Compliance Department” category at the *Trophées du Droit* (Law Awards) event. The award recognises the efforts made by Naval Group and its dedicated teams to put in place an anti-corruption system that meets the highest international standards. The *Trophées du Droit* are awarded by a panel of French and European experts and professionals drawn from the legal profession, bringing together nearly 700 people each year for a gala event and prize-giving ceremony.

#INTERNATIONAL

#CREWTRAINING

#PERFORMANCE

## TRAINING OF THE RIACHUELO CREW



On **10 July**, a milestone event took place at the Itaguaí Naval Base: the ceremony marking the completion of the training program [both theoretical and simulator-based] delivered to the crew of the first Brazilian submarine, the *Riachuelo*. Led by Naval Group University in conjunction with Navfco, the program was an opportunity for more than 40 Brazilian submariners to undergo training in how to operate the first Brazilian submarine in the Scorpène® class with the aim of providing them with the skills needed to operate the boat at berth and to prepare for trials at sea.

#LIFECYCLE

#FREMM

#FRENCHNAVY

#EUROPEANPROGRAM

### THE FREMM NORMANDIE TRANSFERRED TO BREST

On **16 July**, the Organisation for Joint Armament Cooperation (OCCAR), which manages the FREMM program on behalf of the French Defence Procurement Agency (DGA) and the French Navy, signed the decision to accept the *Normandie*, the sixth multimission frigate in the European program. The signing signalled the ship's future entry into service with the French Navy, with deployment scheduled for late 2019.





#CONSTRUCTIONPROJECT

#EXPERTISE

# *Suffren:* a historic launch

42\_

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It was with a mix of pride and emotion that,  
**ON 12 JULY 2019,**  
our teams witnessed the transfer of the *Suffren*,  
the first Barracuda-class submarine, to the launch  
platform. Begun in 1998, the adventure became  
a reality on that day in the presence of our French  
and international clients, our partners and the  
President of France. Here we take a look back  
at the event, which represented a key stage  
in the advancement of the Barracuda program  
for the French Navy.

TO WATCH A VIDEO OF THE LAUNCH OF THE *SUFFREN*,  
VISIT OUR [YOUTUBE CHANNEL](#). 



\_ 43



**A LONG-TERM PROGRAM**

Launched in 1998 as part of the replacement of the Rubis-class nuclear-powered attack submarines (SSNs), Barracuda is the result of ten years of design work, with the first metal cut taking place in 2007 and the launch of the first boat in the series taking place in 2019.



# Excellence

44 \_



**THE BARRACUDA CLASS**

Six submarines will be built and assembled at Naval Group sites. Their delivery will be staggered between 2020 and 2030, with the last in the series scheduled for withdrawal in 2060.

**2,500**

**MEN AND WOMEN MOBILISED**

including 800 subcontractors spread across the seven sites involved in the program.

**MEETING MILESTONES TOGETHER**

It is thanks to the drive and commitment of the teams that we were able to meet this major challenge and to manage the program effectively.



**A VERY SPECIAL DAY**

The launch ceremony took place in the presence of the President of France, the French Minister of the Armed Forces, the Australian Minister of Defence and representatives of French and foreign state and military authorities.



**AT THE HEART OF THE LAUNCH OF THE SUFFREN**

The nuclear boiler system developed by TechnicAtome benefits from the latest innovations and can be used to maintain high speed quietly and for sustained periods of time while also providing increased performance, including increased reactor availability, greater energy capacity and improved safety.

\_ 45

# Pride



**A WARM TRIBUTE**

The President of France praised the outstanding expertise behind this French industrial success story.

July



50

MILLION HOURS OF WORK

and more than 10,000 people involved throughout the program to design and build this industrial object – the most complex object in the world.



**COLLECTIVE PRIDE**  
Having crafted this jewel of French industry, Naval Group staff are now able to share memories and stories while basking in the satisfaction of a job well done.



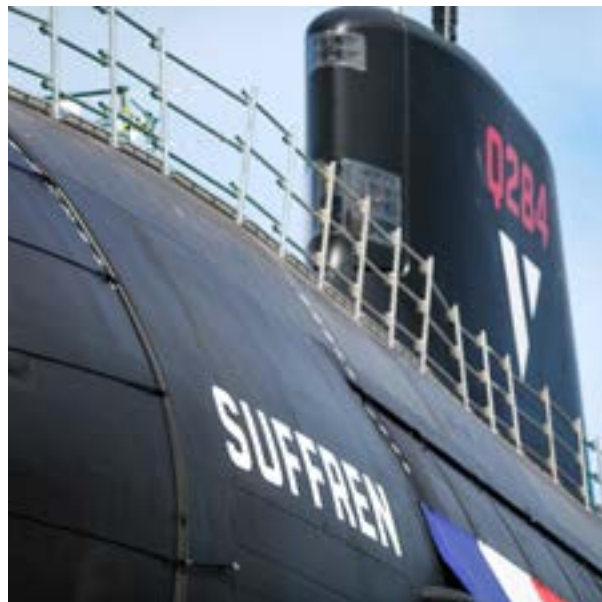
**FROM THE TRIUMPHANT TO THE SUFFREN**

Having worked as a hull welder since 1989, Olivier is proud of what he does: “The launch means that we can be satisfied with a job well done! I’m proud of our expertise and honoured to be representing my teammates before the President of France: the ceremony was the best possible recognition.”



**Olivier Folliot**  
Hull welder at the Naval Group site in Cherbourg

# Collaboration



**OUR INDEPENDENCE, OUR SOVEREIGNTY, OUR FREEDOM OF ACTION**  
Thanks to its technical prowess and international standing, the Barracuda class ensures France’s status as a major power in the world.

# Innovation

**SHOWCASING THE FRENCH DEFENCE INDUSTRY**

The performance levels and high technology of the Barracuda were key factors in Australia’s decision to order twelve conventionally powered submarines (see page 22).



**AN ATTRACTIVE SECTOR**

Drawing on rare and highly-specialised expertise and professional specialisms cultivated over decades, the Barracuda class has, throughout the program, combined a capacity for innovation with century-old know-how.

24

**A HISTORIC PASSING OF THE TORCH**

The *Saphir*, the second SSN in the Rubis-class launched in 1976, has been retired from service. The vessel left Toulon, its adopted port, on 24 June for Cherbourg, where it is currently being dismantled. Launched in 1984 from the Cotentin shipyards, the *Saphir* was awarded the Cross for Military Valour. It was with nostalgia that the teams bid the vessel a fond farewell.



# Expertise

**DIGITAL, ARMED AND AHEAD OF ITS TIME**

With its acoustic superiority and enhanced operational capabilities combined with the latest-generation systems, the Barracuda class represents an instrument of power at the service of the nation.



**BLUE WHALE**



**SUFFREN**

100m

In its hull, it has **17,000 sections** of pipes and **160 kilometres** of cables as well as systems and equipment stemming from major technological breakthroughs: **200 software applications**, **20 million lines of code**, **70,000 operational units** and **500 connected systems**. Capable of deploying special forces and UAVs, the *Suffren* remains manoeuvrable and discreet. The ship has a crew of 65 men and women.



**A CATALYST FOR EXPERTISE**

Between now and 2030, Barracuda will help to enhance design and production capabilities, particularly in the hull and nuclear sectors: 10,000 jobs will be created in the shipbuilding industry.





#CYBERSECURITY



Pascal Mercier,  
cyber expert

**“The aim is to closely observe the practices of attackers, as well as their level of knowledge and maturity, so as to better guide our actions in the future.”**

About Naval Group’s attendance at DEFCON, the hacking conference held in Las Vegas from **8-10 August 2019**.

#INNOVATION

#OPENINNOVATION

#ACCELERATION

### LAUNCH OF INNOV’FACTORY!

The Innov’Factory was inaugurated on **6 September** at the Naval Group site in Angoulême-Ruelle. The facility represents 4,700 m<sup>2</sup> dedicated to innovation, from sketches to their integration on board ships, with the aim of accelerating our innovation and development processes. On the same day, Naval Group signed a partnership agreement with the Nouvelle-Aquitaine region to boost regional economic development.



#LIFECYCLE

#CHERBOURGSITE

#ECODECONSTRUCTION

# 12 months of work



On **11 September**, the former nuclear-powered ballistic missile submarine (SSBN) the *Tonnant* reached the 12-month milestone in its deconstruction. Over the course of just one year, more than 3,000 tonnes of hull components, materials and equipment left the Naval Group site in Cherbourg. 2,000 tonnes of waste have already been sent for treatment.

#INTERNATIONAL

#COLLABORATION

#PREPARINGTHEFUTURE



## SCORPENE® SYMPOSIUM IN MALAYSIA

On **11 September**, Naval Group delivered a technical-operational seminar at Kota Kinabalu Naval Base attended by around 40 Malaysian naval officers and non-commissioned officers. The aim of this first symposium was to plan for the future and anticipate the evolution and development of Malaysia's submarine forces.

52 \_

#PRIDE

#TALENTS

#WOMENININDUSTRY



## 32 years old and “2019 business woman”

In the spring, Naval Group and ECA won the tender for the construction of twelve minehunters for the Belgian and Dutch navies. One of the key people behind this success is 32-year-old Audrey Bouyer, Naval Group's Corporate Country Director - Europe, who received the 2019 Women's Business Award from the magazine *L'Usine Nouvelle* on **24 September**.

#INTERNATIONAL

#INNOVATION

#P75PROGRAM

## 2<sup>nd</sup> SCORPÈNE® MADE IN INDIA!

On **28 September**, the *Khanderi*, India's second Scorpène®-class submarine, was put into service in Mumbai. Since 2005, Naval Group has been supporting the Indian shipyard Mazagon Dock Shipbuilders Limited to build the six submarines in the series. The event represents a key stage in what is a major industrial technology transfer program.



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TO VIEW PHOTOS AND VIDEOS, CHECK OUT OUR STORY ON [INSTAGRAM](#).

#INNOVATION

#CIVILNUCLEARPOWER

#CLEANENERGY



Georges Joab,  
Naval Group Nuclear  
Inspector

**“The NUWARD project aims to meet the need for different geographical areas to have smaller, compact and modular nuclear power plants. Our involvement in this project is consistent with our commitment to take on board and implement civil nuclear standards.»**

About Nuward, the modular reactor project developed with TechnicAtome, EDF and the CEA, presented on **17 September**.

#INTERNATIONAL

## THE 7SEAS USERS CLUB OPENS ITS DOORS!

Every two years, the Club will bring together users of ocean-going ships designed or built by the group. The Club has three objectives: to maintain trusting relationships with our customers, to gather customer feedback and to promote our support for the French Navy. The international members of the club met for the first time in Toulon and Ollioules between **1 and 3 October** 2019. As part of our ongoing commitment to listening to our customers, the second edition of the Scorpène® Club was held in April in Chile, while the 2021 edition is due to take place in Brazil.



September



October



#INTERNATIONAL

#INNOVATION

## LAUNCH OF NAVAL GROUP PACIFIC

On **8 October**, Naval Group announced the launch of its Naval Group Pacific subsidiary in Sydney [Australia]. Distinct from Naval Group Australia, the subsidiary dedicated to the Australian Future Submarine program, Naval Group Pacific will be responsible for developing our activities in Australia and New Zealand. The subsidiary will focus on bolstering Australia's defence capabilities by forging partnerships with Australian manufacturers. Naval Group Pacific will also develop a world-class research and development (R&D) centre of excellence in Australia.



#INTERNATIONAL

#BRAZILIANSUBMARINES

#PERFORMANCE

### ASSEMBLY OF THE HUMAITÁ COMPLETED IN BRAZIL

On **11 October** the final joining ceremony for Brazil's second Scorpène®-class submarine, the Humaitá, took place in the presence of the President of Brazil and the country's top political and military authorities. This symbolic industrial stage marked the final phase of the boat's assembly and integration. For Brazil, this latest milestone takes the country one step closer to acquiring a new submarine fleet and to developing submarine construction expertise, something that has been the focus of an unprecedented transfer of technology to the Brazilian Navy.



#INTERNATIONAL

#FUTURESUBMARINEPROGRAM

#AUSTRALIANINDUSTRY

## Visit to Sydney for Pacific 2019

From **8 to 10 October**, Naval Group attended the Pacific 2019 exhibition held in Sydney to present the Australian Future Submarine Program, the largest defence contract in Australian history. Organised jointly with the Australian Department of Defence and our partner Lockheed Martin, the Future Submarine Industry briefing was attended by around 700 participants, who were given a virtual fly-through of the future construction site for the attack submarines at Osborne. The event was also an opportunity to present the Belh@rra®, our new-generation digital frigate.

#LIFECYCLE

#SERVICES

### A SUCCESSFUL 19TH TECHNICAL SHUTDOWN

On **22 October**, technical shutdown 19 [TS19] was completed and the *Charles de Gaulle* was declared available for operations. After carrying out some 1,400 lines of work, including many structural modifications extending from the mast to the holds, the aircraft carrier is now available for operational missions thanks to the commitment of everyone involved.



## GO-AHEAD FOR FDI PRODUCTION

#LIFECYCLE

#BELH@ARRA®

#FRIGATEOFTHEFUTURE



On **24 October**, the Lorient site hosted 300 guests for the ceremony marking the first metal cut for the defence and intervention frigate (FDI), the first native digital ship: the *Amiral Ronarc'h*. The guests collectively held their breath as the imposing plasma cutting machine went into action. Florence Parly, France's Minister of the Armed Forces, signed the symbolic piece: production was underway.

TO VIEW PHOTOS AND VIDEOS TO WATCH THE EXPLANATORY VIDEO OF THE FDI PROGRAM, VISIT OUR [YOUTUBE CHANNEL](#).



#INTERNATIONAL #NAVIRIS #ALLIANCE

# 1 NAVIRIS

## JOINT-VENTURE

On **30 October**, Naval Group and Fincantieri unveiled the name of their joint venture. On the day, Hervé Guillou, Chairman and Chief Executive Officer of Naval Group, explained: “Naviris is to be the name of the joint venture equally owned by Naval Group and Fincantieri. The name reflects the strength of our partnership and underlines our international ambition. For both groups, Naviris is an opportunity to both increase their capacity to better serve the French and Italian navies and develop new technologies. Lastly, the new company will help to make the French and Italian shipbuilding industries more competitive.”

#INTERNATIONAL #EUROPEANNAVALDEFENCE

#EUROPEOFDEFENCE #COOPERATION



### EUROPEAN COOPERATION AT THE HEART OF THE FRENCH-GERMAN BUSINESS FORUM DEBATES

“Europe caught between the USA and China: the power[lessness] of the middleman?” Such was the theme of the 6th edition of the French-German Business Forum held in Berlin on **30 October**, an annual day-long event bringing together leading political and business figures from France and Germany for discussions and debates. At the event, Hervé Guillou defended the idea of a European defence industry.

#CYBER #COOPERATION

### Cybersecurity: stronger together!

On **14 November**, Naval Group and seven other defence manufacturers signed a convention with the Minister of the Armed Forces, Florence Parly, to enhance the cybersecurity of weapons and information systems. These new synergies will enable the signatories to further develop their capacity to anticipate, detect and deal with cyber incidents in their field.



October

November



#INNOVATION

#INTERNATIONAL



# An R&D centre in SINGAPORE

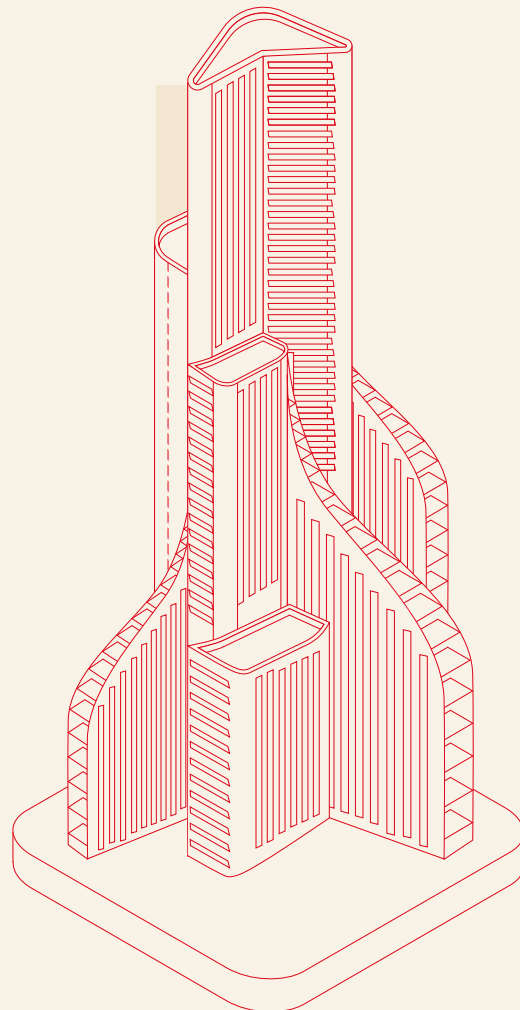
By bringing the group's strategic research activities in the field of naval defence to the heart of Asia, the R&D centre inaugurated in Singapore

**ON 21 NOVEMBER 2019**

will provide innovative technologies for the regional market in new areas such as big data, artificial intelligence and additive manufacturing.

## INNOVATION: AT THE HEART OF OUR STRATEGY

The advances made possible by technological developments and breakthrough innovations open up new prospects and are also a game-changer in terms of strategy and corporate culture. In 2019, Naval Group continued to engage in numerous initiatives aimed at redesigning how it approaches ship design, at fully integrating the digital dimension and at digitalising industrial processes. Based around three major operational objectives – superior information, superior commitment and the ability to last with reduced crews – and six overarching innovation priorities [see boxes 1 to 6] formalising the capability targets of future products and services, the initiatives are designed to enhance and ensure:



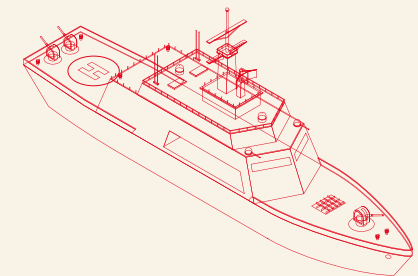
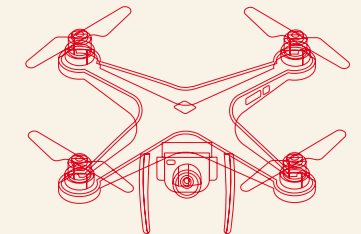
- collaborative innovation to increase operational performance by pooling all the talent of a high-performance scientific and technological ecosystem supported by significant industrial and financial resources;
- greater international outreach through the creation of subsidiaries, R&D centres and partnerships with startups and SMEs abroad;
- a redesigned approach to governance based on faster and more agile processes.



## INNOV'FACTORY: 4,700 M<sup>2</sup> DEDICATED TO THE INNOVATION PROCESS

Based at the Angoulême-Ruelle site and specialising in strategic equipment for combat systems and platforms for military ships, the Innov'Factory initiative fits in with the ecosystem of the various Naval Group Labs, which aims to accelerate innovation processes within the group, whether technical, technological, organisational or methodological. In concrete terms, the initiative operates as a hub for innovations, supported and accelerated from the very first sketches to the development of a product that creates value for the end user and for the group. Based around multidisciplinary teams, its flexible structure will help to reduce development times and costs with the aim of becoming more competitive. Innov'Factory is also a key hub for meetings, discussions and collaborative workshops with customers and the group's economic and industrial ecosystem at regional and national levels [partners, SMEs, startups, fab labs, etc.]. >

Priority 1 Smart Naval Force



**Ensuring superior aeronaval force tracking and engagement in collaborative naval combat through the use of vectors from UAVs to special forces and aircraft.**

Surveillance, intelligence, combat: for several years, Naval Group has been working on the development and integration of autonomous vehicles to offer new capabilities to its clients. At the 2019 Naval Innovation Days, a live demonstration illustrated the operational value of multi-UAV, surface [USV] and airborne cooperative systems designed to ensure greater military supremacy and the effectiveness of naval operations.



► **BUILDING BRIDGES: THE NAVAL INNOVATION HUB**

Since being set up in October 2018, the Naval Innovation Hub has been entirely focused on pursuing its goal of acting as a catalyst for Naval Group’s disruptive innovations. As a builder of bridges interacting closely with the group’s innovation ecosystem while managing its own work streams independently, the aim of the Naval Innovation Hub is to initiate, support and accelerate projects by maximising their value for internal and external clients.

The Hub carries out a wide range of activities, including searching for innovative technologies directly related to the world of startups, laboratories and intrapreneurship, training on new working methods, such as how to deliver pitches, the development of *business plans* including business partnerships, and equity investments. Led by a team with diverse and complementary backgrounds, the Hub provides a global understanding of technologies and markets, thereby informing Naval Group’s strategic thinking.



Priority 3 Smart Ship

**A ship designed to house the human dimension of the naval force and which is simultaneously intelligent, communicative, cyber-secure and with system architectures that are easily adaptable and capable of being regularly upgraded.**

To meet this need, Naval Group is developing a user-centred approach, upstream of system design, that involves future users in the choice of man-machine interaction technologies, the definition of use cases and the validation of the chosen solutions.

Priority 2 Invulnerable Ship



**NAVAL INNOVATION DAYS: OPEN INNOVATION AT THE HEART OF THE STRUCTURE AND PROCESSES OF NAVAL PROGRAMS**

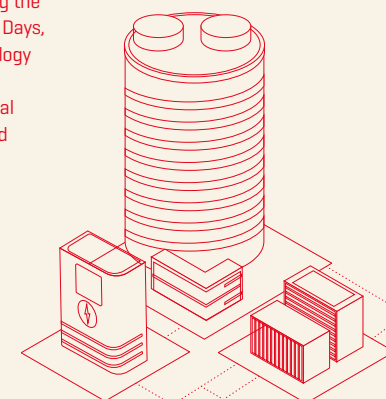
In Lorient, the 4<sup>th</sup> edition of the Naval Innovation Days brought together Naval Group and its government, industrial and academic partners for a series of roundtables, workshops and demonstrations. Focusing on the challenges and key factors of success of open innovation at the service of naval programs throughout the life cycle of ships, these discussions are conducive to drawing up technology roadmaps for combat superiority, but also in other areas such as onboard living conditions. The 2019 edition focused on a number of R&D programs and developments, such as the lithium-ion battery revolution, the factory of the future and additive manufacturing, digital cyber trust, new human-machine interaction technologies and support for navies in the era of UAVs [among other areas].

Priority 4 Blue Ship

**By combining energies and using hybrid sources, the aim is to ensure the armed vessel has the energy**

**autonomy required for all its current and future missions while minimising the environmental footprint.**

In 2019, Naval Group continued to invest in identifying, developing and delivering solutions that meet these objectives. Such as the new-generation lithium batteries presented during the Naval Innovation Days, a form of technology perfectly suited to the operational environment and safety criteria of submarines.



**JOURNÉES SCIENCES ET TECHNOLOGIES (SCIENCE AND TECHNOLOGY DAYS): OPENING UP TO THE OUTSIDE WORLD**

By bringing together the group’s scientific and technical community and its main partners [academic research centres, manufacturers, clusters and technological research institutes] at Technocampus Océan, Naval Group is positioning itself as a global player in science and technology for naval defence.

By taking the long view and promoting a culture open to global research, the 2019 edition of the JSTs provided an opportunity to share the results of work carried out independently or in collaboration in areas geared towards the major challenges of tomorrow’s ocean-going machines. From materials and structures to energy, data processing and wave-matter interactions, all areas provide inspiration and suggest avenues to explore new skills. This is an essential prerequisite for the high value-added solutions that are then developed and offered to Naval Group’s clients. ►



**NANTES-INDRET OPEN LAB: AN OPEN SPACE AND A COMMUNITY OF MAKERS**

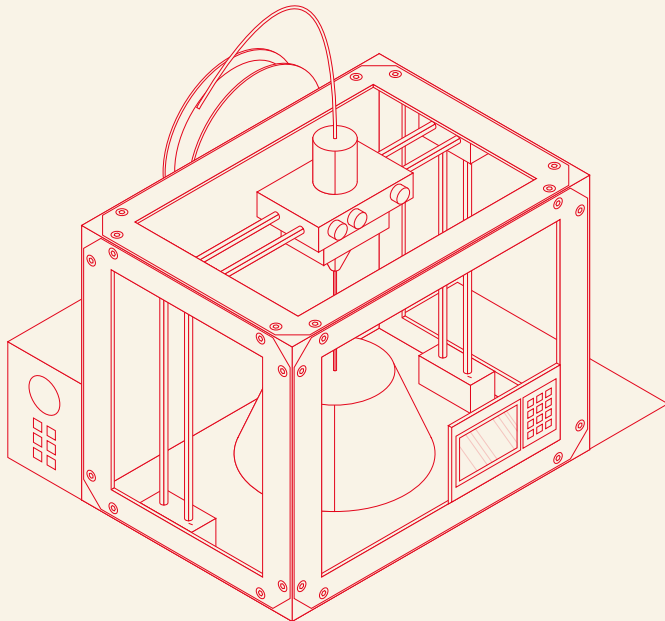
Inaugurated in the autumn of 2019 at the Naval Group site specialising in naval propulsion, the group's new Open Lab is a 300m<sup>2</sup> collaborative space open to employees on a daily basis. The aim is to encourage creativity and innovative design sessions by allowing teams to move quickly and cheaply from idea to prototype using digital manufacturing tools, 3D printers, cutting machines, etc. The Fab Manager provides support to any

employee who wishes to develop and realise their ideas. With the support of the *Usine du futur* [Factory of the Future] team, the Fab Manager devotes all his efforts to supporting the development of ideas and solutions capable of leading to new projects with added value for Naval Group's activities.

Priority 5 Smart Availability

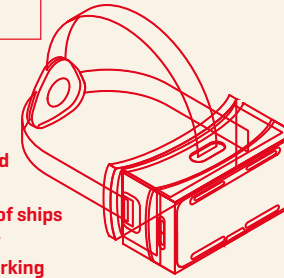
**Ensuring the operational availability of vessels. To ensure continuous operational performance management, Naval Group is conducting several projects and studies simultaneously.**

The digital twin concept extended to the vessel as a whole, from design to systems operation, onboard additive manufacturing and the Phoenix® solution designed for managing operational capabilities after sustaining combat damage are all innovations aimed at ensuring resistant designs, predictive control of system availability and resilience to damage.



Priority 6 Smart Industry

**A digital industry at the cutting edge of technology designed to ensure that our future generations of ships are built with better productivity and working conditions that make Naval Group a hugely attractive prospect for talented individuals and experts in their field.**



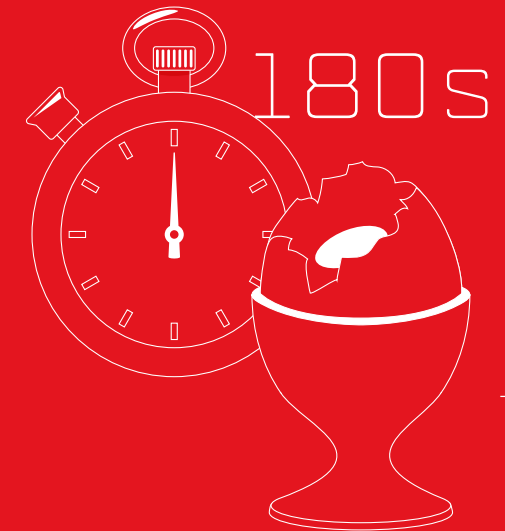
In this respect, the modernisation of the design tools that will ensure the FDI is the first frigate to be developed entirely digitally and the use of digital models as an aid to assembly and verification of the work carried out are among the key developments of the Factory of the Future program.



**NAVAL GROUP PACIFIC: COMMITTING TO THE LONG TERM**

Long-term partnerships and a global centre of expertise. A good illustration of these two core principles is the creation, in the autumn of 2019, of the subsidiary Naval Group Pacific based in Sydney [Australia] and responsible for business development and innovation capabilities in Australia and New Zealand. Distinct from Naval Group Australia – based in Adelaide and entirely dedicated to the Australian Future Submarine program – Naval Group Pacific will focus on strengthening Australia's defence capabilities by engaging in program management activities and promoting the full range of Naval Group's products and services and on a policy aimed at building partnerships with Australian industry. It will also develop a world-class centre of excellence by focusing on cooperation with academia and Commonwealth Scientific and Industrial Research Organisation [CSIRO] to develop innovative defence technologies. <

**Start We Up: see you in Singapore!**



In June, Naval Group brought together the cream of Singaporean start-ups providing cutting-edge technological expertise and disruptive innovation capabilities. After delivering their **180-second pitch**, the selected startups were given an opportunity to discuss their ideas with Naval Group. The objective is to identify solutions for future collaborative projects by targeting short-term incubations.

TO VIEW PHOTOS AND VIDEOS, CHECK OUT OUR STORY ON [INSTAGRAM](#).



#PRIDE

#SHIPBUILDING

#MANUFACTURINGFACILITIES



## 100 YEARS OLD AND STILL GOING STRONG!

On **29 November**, the Lorient site celebrated the 100 years of its construction form. With its 15,000m<sup>2</sup> dry dock, the site is where the major components of surface ships weighing up to 8,000 tons are assembled. Over the past century, it has undergone many transformations to remain at the forefront of innovation. The site has produced 117 ships. The *Lorraine* – the 10<sup>th</sup> multimission frigate – is currently under construction there.

#COMMITMENT

#COLLABORATION



### SECOND COLLABORATIVE LAB WITH ENSTA BRETAGNE

Naval Group and ENSTA Bretagne, the leading engineering school for innovation in the maritime and defence sectors, launched a second joint laboratory dedicated to the design and development of intelligent naval embedded systems on **30 November**. The aim is twofold: to accelerate innovation and to raise awareness among young talents of the specificities of Naval Group's know-how.

#PRIDE

#USINENOUVELLEAWARDS

### L'USINE NOUVELLE AWARDS: AND THAT MAKES TWO!

Engineer of the year! Vincent Martinot-Lagarde, the then Director of the Barracuda program, was presented with the award on **3 December** by *L'Usine Nouvelle*. Having joined the group in the early 1990s, Vincent has held many key positions. Having spent five years leading the Barracuda program, in December 2019 he was appointed to head up Naval Group Services. His leadership and experience give him undisputed legitimacy. Well done Vincent!



#COMMITMENT

#COLLABORATION

#RESEARCH

### A STRATEGIC PARTNERSHIP WITH INRIA

On **9 December**, Naval Group and French National Institute for Research in Digital Science and Technology (INRIA) signed a strategic partnership focused on naval information systems. The partnership will enable Naval Group to accelerate its innovation processes in the fields of artificial intelligence, cybersecurity intelligence and signal processing.

#PRIDE

#AEM2019

#ASSISESDELAMER

### NEXT STOP THE ASSISES DE L'ÉCONOMIE DE LA MER

An unmissable annual event for the French maritime community, the *Assises de l'économie de la mer* (Maritime and Coastal Economy Congress) was held in Montpellier on **3 and 4 December**. The aim of the event is to provide a broad overview of the maritime economy through a series of roundtables, interviews and workshops. During the event, President Macron reaffirmed his support for the industrial sector and for Naval Group.

#CONTRACT

#ARGENTINA

#ARABOUCARD

### The *Adroit* reflagged

On **6 December** in Toulon, a reflagging and handover ceremony was held for the former Offshore Patrol Vessel (OPV) *the Adroit*, renamed *A.R.A Bouchard*, which now flies the Argentinian flag. The patrol vessel was sold to the Argentine Navy under a contract that includes the construction of three more OPV 87 type units to be delivered by 2022.



#PARTNERSHIP

#HR

#PRIDE

# RECRUITING TALENT TO ENSURE SUCCESSFUL GROWTH

While Naval Group's business momentum continues unabated, the group is pursuing an ambitious recruitment and skills transfer policy, a key condition for the success of its many programs.

## AS AT 31 DECEMBER 2019,

it was estimated that between 10,000 and 12,000 new staff will have been recruited between 2018 and 2028, both in France and throughout the world, to meet the group's strategic objectives and our clients' expectations.



## CYBER SECURITY MANAGER

"This is my first job – I'm fresh out of engineering school. This job allows me to work on several projects at once in a cross-cutting way, such as the projects I'm currently working on. The aim of one of my current projects is to check that cybersecurity requirements are being adhered to in one of our programs, while the other relates to a risk management software system to be rolled out shortly."

**CLAIRE MELLANO**

With Naval Group since 2018



### RECRUITMENT ON THE RISE

In 2017, Naval Group's recruitment needs increased significantly, with more than 1,500 new hires, 70% of whom were taken on as permanent staff. We have seen the same trend for several years, and it is expected to continue into 2020 and beyond. To attract the best talent, the group has a strong presence in target schools, at career fairs and on social media and recruitment websites, while also holding numerous recruitment events. To attract and retain staff, the company is constantly striving to refine and improve its pay and career development policy while promoting optimal quality of life at work and redoubling its social commitments.



### UPSTREAM AND DOWNSTREAM REQUIREMENTS

Naval Group is recruiting in design, shipbuilding and fleet services. As well as looking for recruits in engineering, including cyber security and product IT, the group also needs many technicians and workers. Current programs will generate thousands of new jobs both in France and abroad. At the same time, our activities focused on the maintenance and modernisation of existing fleets will also draw on a wide range of skills.



### JOIN FRANCE'S FAVOURITE COMPANY

According to the Randstad Employer Brand Research 2019 survey, more than one in two people who know the Naval Group would like to work for the company. Indeed, Naval Group is working hard to attract and retain staff. As well as mobility, the group offers opportunities for training and professional development to every employee. It also promotes the transmission of knowledge and skills and actively supports collective and individual innovation. The strategy has been effective in convincing many talented people to join the leader in naval defence, a group that applies its ability to design and build the world's most complex systems every day.

## NUCLEAR BOILER MECHANIC

"I maintain nuclear boiler rooms in operational condition on board nuclear-powered attack submarines and aircraft carriers. Completely dismantling machines and removing and refitting fuel elements, as we do when servicing a boat, is risky, for sure, and requires a lot of vigilance. But by stripping a boat, you also gain a deeper understanding of it. It's particularly useful for understanding how equipment works."

**CHRISTOPHE RENAUDINEAU**

With Naval Group since 2014





## INTERNATIONAL COOPERATION AND OFFSET MANAGER



“Within the scope of an export bid, meeting the expectations of a prospective customer is a real challenge in seeking to build a long-term cooperation plan. My job is to develop the plan in collaboration with the internal teams. I go on site to meet our potential future partners, negotiate their contribution to the program concerned, or even to other Naval Group programs, and liaise with our teams. The aim is to achieve the right balance between our objectives and those of the client country so that our cooperation is truly differentiated from the competition. You have to adapt, negotiate and persevere.”

**MATHILDE LEMOINE**

With Naval Group since 2013

## SOFTWARE ENGINEER

“I work on UAV mission systems operated from a naval platform. Trajectories, actions (area surveillance, mine clearance, etc.), coordination and mission execution are directly managed by these systems. My role is to design the framework, the software components, so that they meet both the customer’s needs and development and maintenance requirements. I work at the heart of the product production process, and in a booming sector as well. It’s exciting.”

**MATHIEU SOUBROUILLARD**

With Naval Group since 2010



## WELDER

“I have an unusual profile. I’m returning to my first love – my passion – after twelve years in business. At Naval Group, I had to relearn everything from scratch, but they trusted me. Today, I weld all kinds of components, from a few kilograms to several tons, which are then mounted on Barracuda-class submarines. The work I do is never the same, and I’m learning all the time. I love perfect, well-executed welds. I like the idea of leaving them, much like a footprint, on a submarine.”

**RONALD BINIAKOUNOU**

With Naval Group since 2018



## STRUCTURAL DESIGN TECHNICIAN

**PHILIPPE CUZANGE**

With Naval Group since 2012

“I have an unusual job: I manage obsolescence for the upgrade of the six nuclear-powered attack submarines (SSNs). I also install new equipment on the submarines. Space on board is very cramped and not all SSNs are the same. Our business is changing rapidly at the moment because of digital and 3D technology. Some modification studies can be carried out without the boat being docked. But managing to combine modernisation and sailor ergonomics remains a challenge!”



FIND OUT ABOUT OUR CAREER OPPORTUNITIES THROUGH OUR EN IMMERSION SERIES AVAILABLE ON OUR [YOUTUBE](#).

## School Partners: our employees become ambassadors!



Who better than Naval Group employees to make people want to join us? Since 2019, Naval Group has been offering some of its employees the chance to volunteer **as ambassadors to promote the career paths and opportunities** offered by the company to students from our target schools, from CAP to postgraduate level.



## INTEGRATION AND MAINTENANCE TECHNICIAN – COMBAT SYSTEMS

“I love what I do because I’m never bored. I’m in charge of ensuring the internal and external communications systems of ships and submarines are maintained in operational condition, whether that be telephony and intercom systems, radio links, etc. I worked in this area for nearly twenty years in the French Navy. Now, I’m carrying on at Naval Group. Transmission technologies are constantly evolving and pushing us to do the same – to train, improve and move forward.”

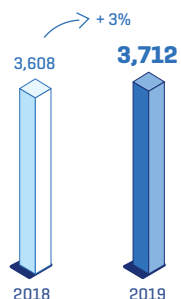
**NEZHA DA FONSECA**

With Naval Group since 2017



# A solid outlook for 2020, in line with previous years

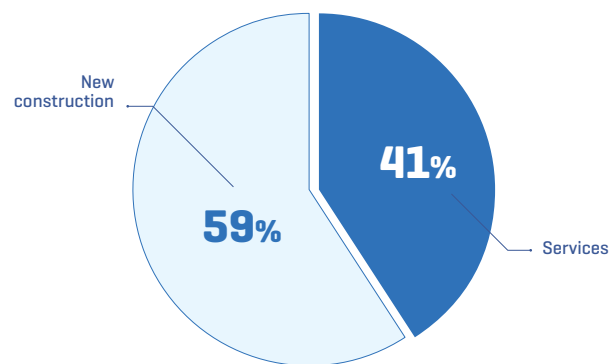
## REVENUE



**Consolidated revenue was 3,712 million euros.** The 3% increase compared to 2018 was driven by major national programs, primarily the Barracuda program and the defence and intervention frigate program. The Australian program also contributed significantly to Naval Group's revenue. Lastly, at 41%, services accounted for much of our revenue, a figure mainly driven by the maintenance of most of the French Navy's fleet, but also by international activities.

In 2019, Naval Group achieved record order intake figures, increased its revenue and operating profitability, and posted solid results, in line with previous years. We accelerated our investments, particularly in open innovation, and continued our recruitment drive. The outlook for 2020 looks solid, maintaining the momentum of previous years.

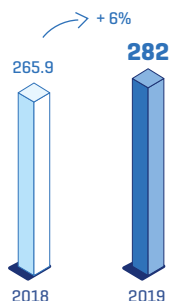
## SECTORAL DISTRIBUTION



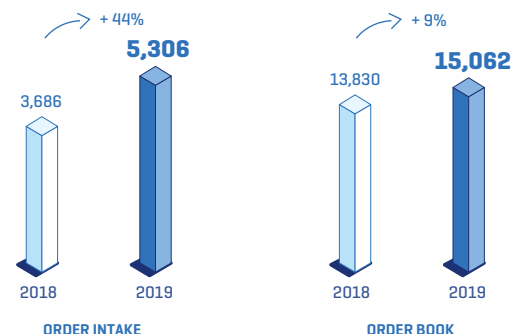
## EBITA

**EBITA (operating profit before amortisation of intangible assets) amounted to 282 million euros.**

The increase compared to 2018 translates into an increase in operating profitability, from 7.4% in 2018 to 7.6% in 2019. This momentum reflects the operational improvement of all naval programs and the effectiveness of the improvement initiatives undertaken over the last five years.



## ORDERS



Booked orders in 2019 totalled 5.3 billion euros, helping to maintain a healthy order book at 15 billion euros. Orders booked in France and abroad in 2019 benefited all sectors.

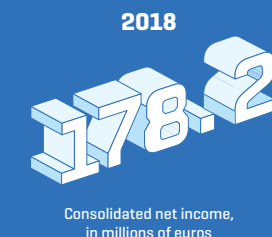
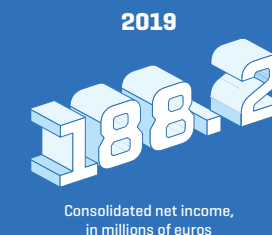
“In 2019, order intake reached record levels. The results for 2019 (prepared in accordance with IFRS and, in particular, IFRS 15 since 2018) show, for the fifth consecutive year, an increase in our sales, which totalled 3.7 billion euros, and an improvement in our operating profitability, which this year rose to 7.6%, marking a steady increase since 2015.”

Frank Le Rebeller,  
Senior Executive Vice President Finance,  
Legal, Purchasing and Real Estate

TO WATCH THE ANNUAL RESULTS PRESS CONFERENCE, VISIT OUR [YOUTUBE CHANNEL](#).

## NET INCOME

(group share)

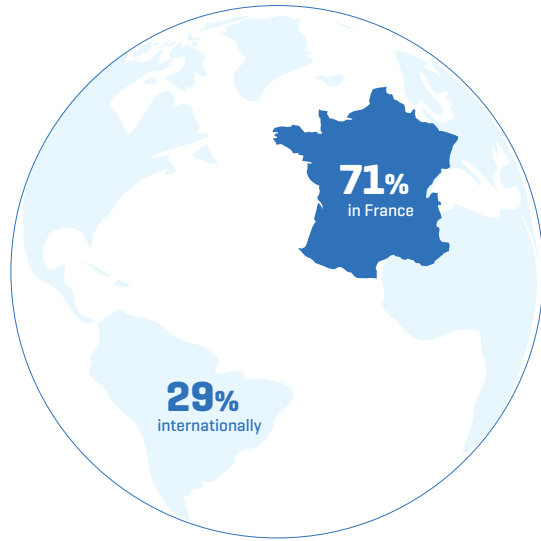


## VARIANCE



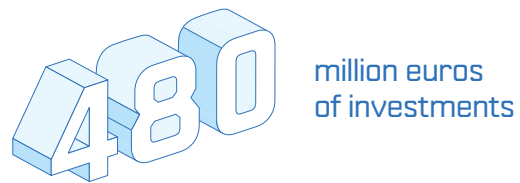
Net income group share was 188.2 million euros, up 10 million euros compared to 2018. This result brings the group's consolidated shareholders' equity to 1.2 billion euros.

**GEOGRAPHICAL DISTRIBUTION  
OF REVENUE**



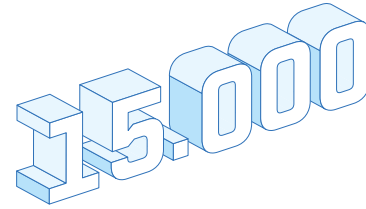
74\_ **In 2019, Naval Group continued its international expansion.** The delivery of the *Khanderi* to the Indian Navy and the signing of the design contract as part of the Australian Future Submarine program are among the most noteworthy examples of this continued trend. Naval Group is benefiting from positive market dynamics and, despite stiff competition, was able to win tenders for more than twenty vessels.

**INVESTMENTS**

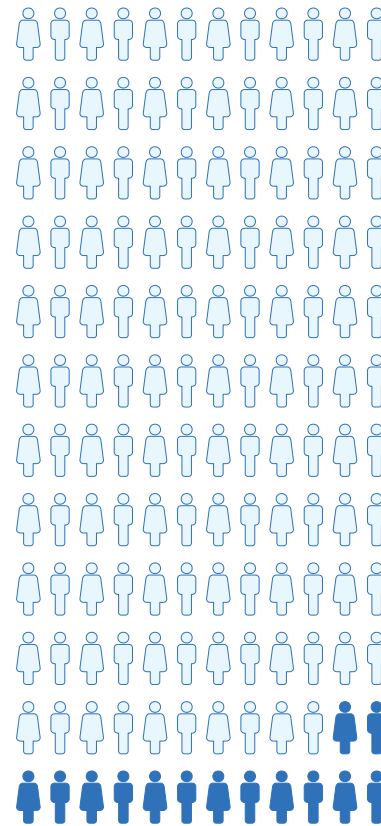


**Naval Group is ramping up its investments dedicated to open and collaborative innovation,** and to the development of international trade, as well as investments in industrial and IT equipment, which amounted to nearly 480 million euros in 2019.

**GROUP WORKFORCE**



**employees,** including 1,500 new talents recruited in 2019.





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