EURONAVAL

Daily 4

Nov. 7, 2024

Interview of the day

Lénaïc Segalen,
General Delegate of CINAV talks about the challenges of recruitment in the naval

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Focus on Acepp, a company with key human assets

Forsim: a virtual instructor forthe french navy

Equipment simulators in training

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Until now, this short-range surface-to-air self-defence system was fitted with two Mistral 3 missiles...

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Underwater Acoustics: from Military to Civilian

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The European Union is organising itself to acquire a very large, 100% European, MALE (Medium Altitude Long Endurance) UAV.

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With industry researching and developing a wide variety of systems above, on and under the surface, what is the impact of these systems on military...

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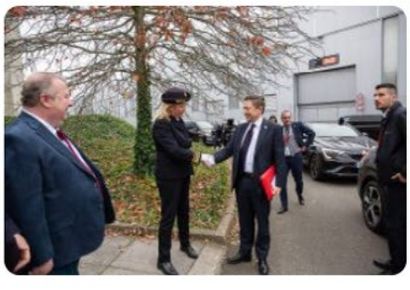

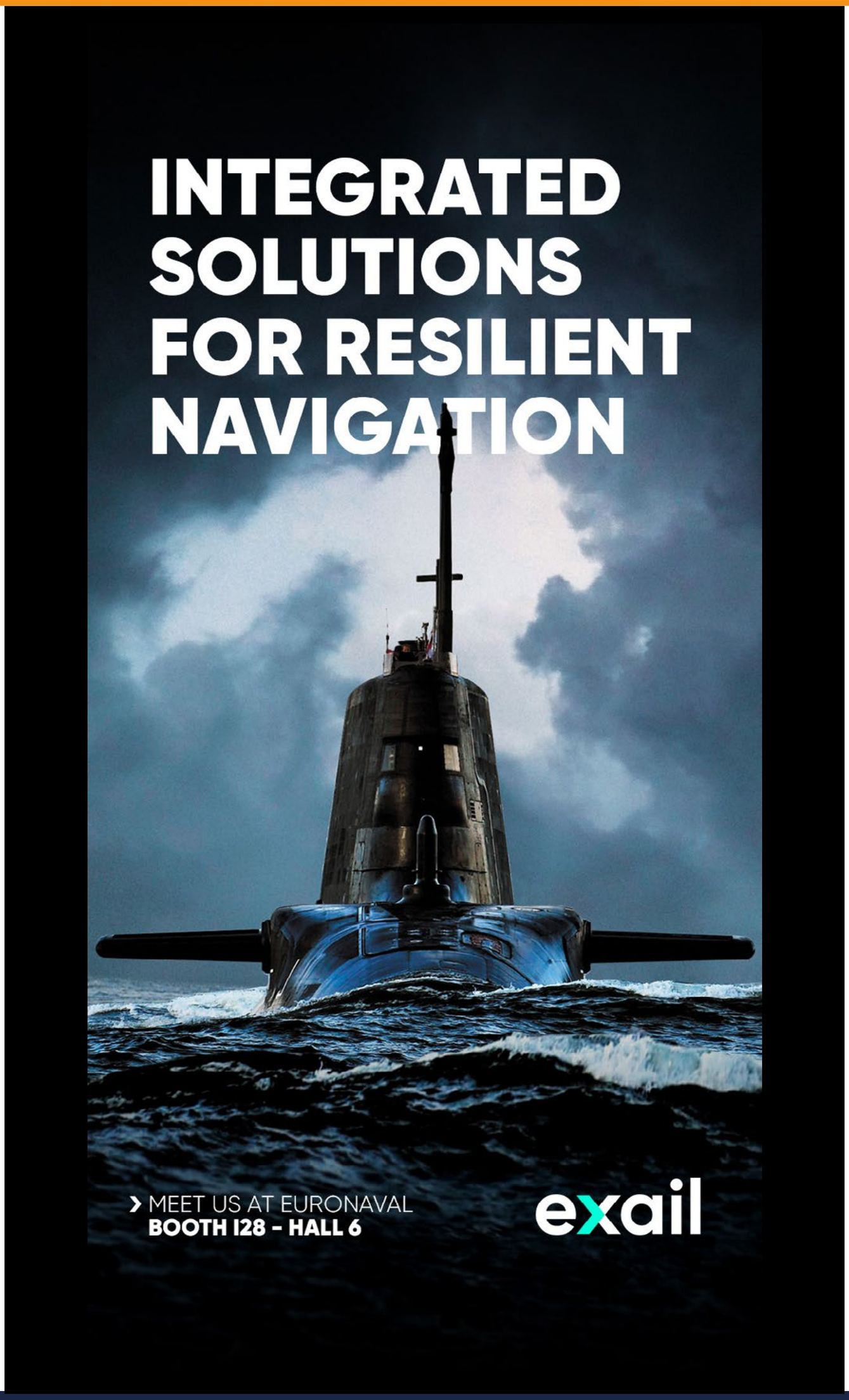
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exail

Focus on Acepp, a company with key human assets

With 40% of its workforce former sailors, Acepp draws on the experience of its personnel to pene-trate the training sector.

Although it is not its core business, Acepp, a member of the Hevrett Group, has turned its employees into a significant asset in the training sector. With 40% of its workforce former sailors, this SME, which specialises in MRO and construc-tion-related work in the naval and nuclear sectors, has also made a name for itself in the training sector over the past two years or so.

“This activity originally stemmed from a customer need in rather confidential sectors, in environ-ments that were not always very accessible, such as the French nuclear subma-rine base at Île Longue, in Brittany”, says Thomas Guerry, a former SSN commander and now Key Account Manager at Acepp. “We provide training on the use and first-level main-tenance of complex crane, rack and oth-er installations…”

With their human talent specifically comprising a dozen for-mer submariners, each with 15 to 20 years of experience, Acepp is naturally positioning itself as a powerful solution against a critical re-cruitment landscape: “The population is ageing and a generation is heading off into retirement. Some

specialists are in high demand within the industry and we are clear that, in the decade to come, with new nuclear technologies and the return to nuclear power, there will be a shortage of people trained in these professions." Notably, a nuclear BTS (advanced technician's certificate) was established two years ago in Cherbourg.

S. Rose Joannis

Special reports - Training

Forsim: a virtual instructor for the french navy

With its Virtuel Yves Instructor, Forsim is pushing back the boundaries in training. A new way of learning that could hold promises for meeting the needs of schools.

Frédéric Zitta is a former officer in the French Navy who, after a career of 27 years, has combined his expertise with another of his interests, developing simulators. His initiative gave rise to the company Forsim, founded in 2020. For two years, Forsim has been developing a virtual instructor that will be operational in summer 2025 at the School of Underwater Navigation in Toulon (ENSM / BNP), in the south of France. With this project, Zitta intends to make up for the shortage of available trainers. "*The French Navy needs self-training solutions because, given the constant needs on board ships, it is difficult to free up naval personnel for schools*", explains Forsim's CEO.

So self-training yes, but not just anyhow: "Today's simulators

incorporate small, extremely basic virtual instructors that are not satisfactory because they do not adapt to the learner", says the former naval officer. But in a year's time, the Virtuel Yves instructor will be able to meet this need. Not only will it monitor compliance with the rules of conduct, but it will also be capable of giving learners tips based on their mistakes and of adapting the training programme to their individual progress. The training tool will be embodied by a character who is still under study. It will be part of the programme and be positioned in a corner of the screen, "*maybe in the top right*", says Zitta, "*so that it is present, but doesn't block the field of vision*."

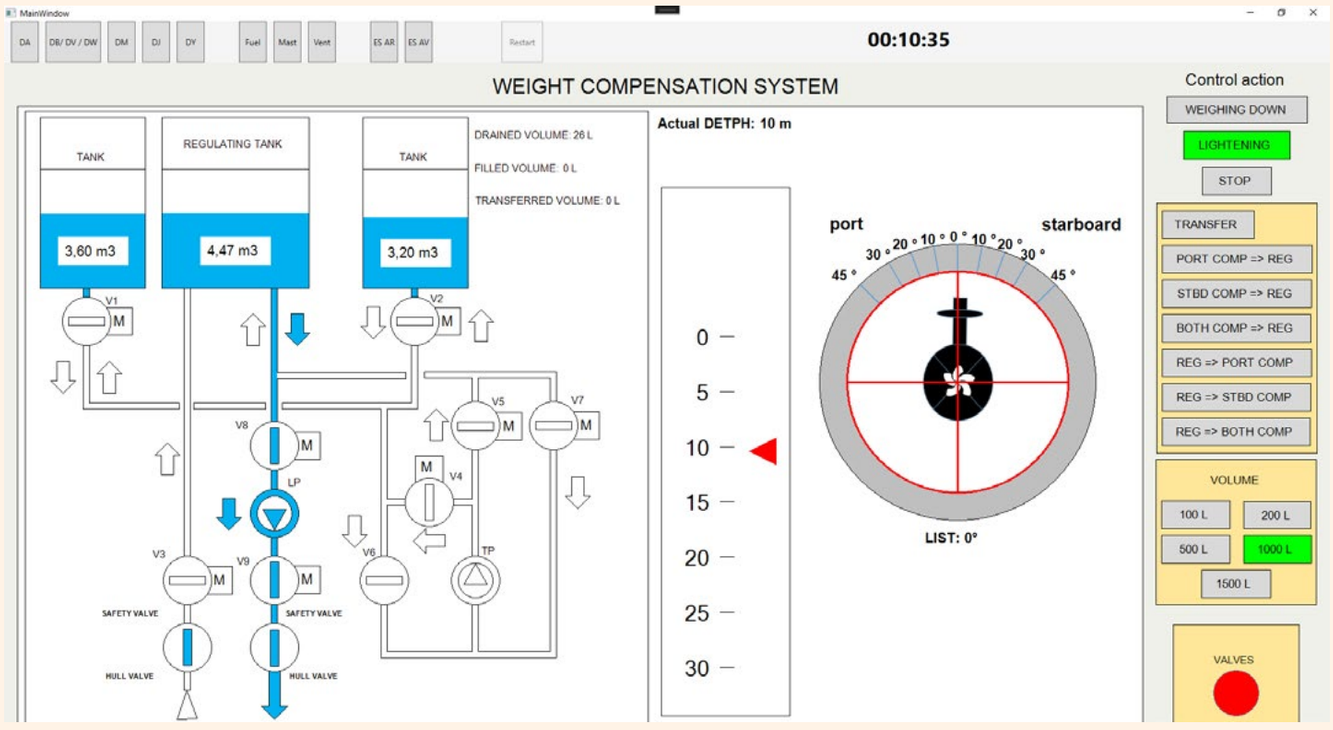
The Virtuel Yves Instructor will consist of a generic part common to all the simulators and a part specific to the particular one. This specific part will contain the rules of conduct, learning tips and the training programme. It will be adaptable to other equipment of this kind but before that, a learner-focused adaption will be necessary, because the challenge lies in capturing their attention. "*AI is set to become part of our everyday lives, and I think we'll succeed in getting students interested. The question is: will it work now or later?*" For the moment, Virtuel Yves still has everything to prove.

S. Rose Joannis

Special reports - Training

Equipment simulators in training

The growth of digital technology has not gone unnoticed by the Defence industry and it is keen to integrate digital solutions into its training programmes.



©FORSIM DCI

Combining operational and digital capabilities is the unique expertise of the Heverett Group, which has been supporting the industrial and digital transformation of its customers for 20 years. Building on this expertise, the company has quite naturally branched out into training, in connection with digital tools.

Over the past two decades, Fabien Neveu, Heverett's Chief Digital Officer (CDO), has seen digital technology evolve differently in traditional industry and in the Defence sector. "The issues differ between these two worlds. In industry, profit is the main concern, so the costs and lead-times are not the same. But the Defence sector, where the technologies

adapted are quite mature, can benefit from the optimisation approach", he explains.

Among the digital solutions it develops, digital twins, i.e. the virtual model of a physical object, help to "facilitate training, among other things", explains Neveu. This technology has both economic and training benefits and is an opportunity to gather real-world data and transpose it in a digital environment. "Learners start with a virtual approach to the subject-matter before gradually moving into the real world. Training therefore requires fewer resources and less equipment, while still practising all the right safety measures", says the CDO.

This is the core business of Forsim, a company specialising in the development of training simulators. Its latest new product is a diving safety simulator (SIMSECPLO), designed for DCI – NAVFCO, which will be operational in 2025. "DCI wants a simulator for training in safe submarine diving, travel and surfacing, as well as the dangers involved and how to mitigate them", says Frédéric Zitta, CEO of Forsim.
The submarine equipment simulator, designed for three learners and an instructor, consists of four consoles each with four screens: "The workstations will be like a quite elaborate video game. There is one screen for the 3D view and three for controlling equipment such as pumps and valves", says Frédéric Zitta, who intends to stimulate the attention of learners with this modern simulation training game.

S. Rose Joannis

Industy - Deep sea

Simbad RC: MBDA doubles the capabilities of its self-protection systems

Until now, this short-range surface-to-air self-defence system was fitted with two Mistral 3 missiles... But, for 2027, MBDA will be offering the system with four missiles and, another new feature, with an automated turret 100% made in France. The new turret will be produced by the French Cegelec Défense group's Mechatronics Solutions division, according to the Mer et Marine online news portal, rather than by Rheinmetall in Germany.

Installed for the French Navy for the first time on board a replenishment vessel, the BRF Jacques Chevallier, Simbad RC in particular comes with an IR thermal camera which "captures" the target, and a remotely controlled automatic launcher, which is very easy to use by a single operator on board the vessel. There are only three control keys – activation, "lock on the missile" and "fire". Equipped with an IR homing system, the Mistral 3 missiles have a maximum range of 8 km and complement other weapons. They can be used against conventional and asymmetric threats such as anti-ship missiles, fast boats, helicopters, aircraft and of course Class 1 and 2 drones. Simbad RC is an effective solution, regardless of the weather conditions.

Aude Leroy

Facts and Figures

U system weight : **500** kg

Missile weight : **19,7** kg

Length: **1,86** m

Diameter: **90** mm

Industry - Deep sea

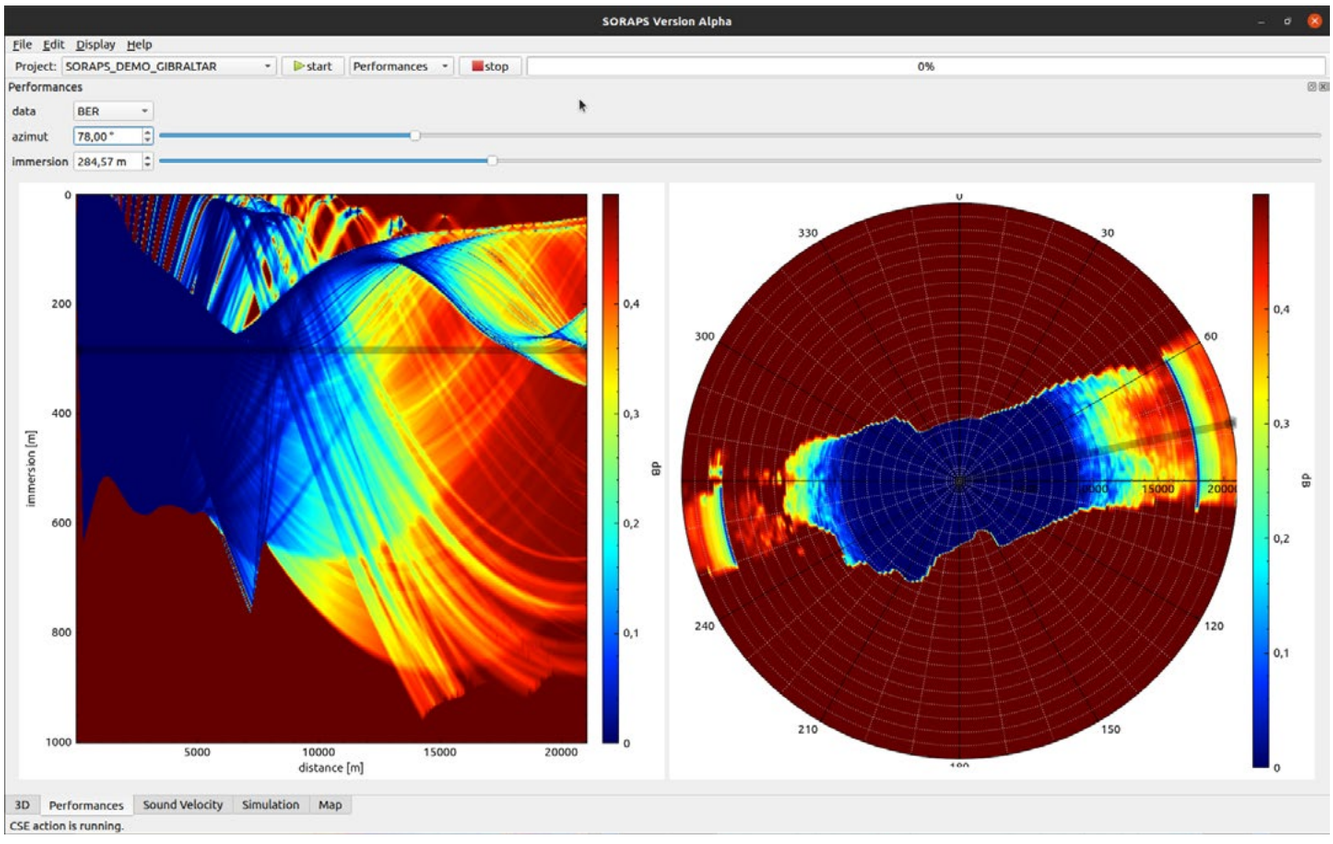
Underwater Acoustics: from Military to Civilian

Seagnal, a flagship company in underwater acoustics, is recognised for its expertise, but is too small to become a Defence equipment manufacturer and grow.

The company is therefore conquering civil markets to secure its future.

Seagnal may be a small company, but it is highly specialized. Based in Sophia Antipolis on the French Mediterranean coast, the dozen or so engineers it employs are all experts in analogue and digital electronics. In just twelve years, this team has produced six electronic demonstrators for the French Navy, which “have all met with satisfaction”, comments Jérôme Durif, Business Development Manager at Seagnal. Not only it is capable of designing customised electronic boards and entire systems for its customers, the company has also developed different types of active and passive sonars.

In particular, Seagnal has developed software capable of simulating sound propagation, called SORAPS. This programme is highly innovative in terms of computing power because “we use the same processors as those used to create animated images in computer video games”, explains Durif. “The 3D results are finer, more precise and more realistic because we take account of the features of the seabed, the salinity of the water, its temperature, and so on”, he says. In addition to 3D technology, SORAPS uses the time evolution of sound waves. Measuring the travel time of the different waves provides data on the behaviour of the acoustic channel between the transmitter and receiver. This technology is

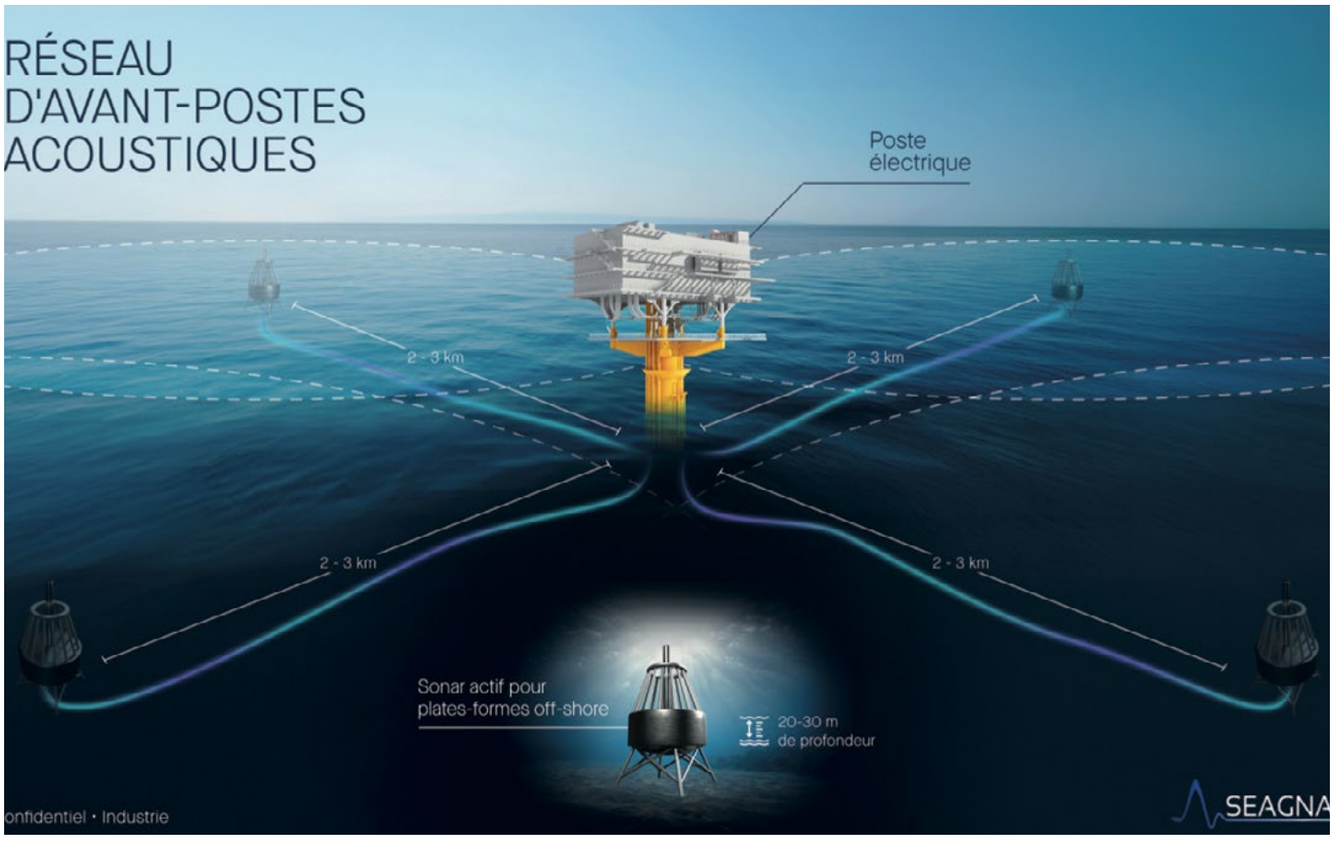


of particular interest to designers and users of sonar and underwater digital acoustic communication systems.

One promising area for Seagnal's business development is underwater acoustic monitoring of offshore wind farms, both fixed and floating: "Each farm has a substation that receives the power output by the turbines. Substations are critical assets, and therefore potential targets for a terrorist attack, which would destroy the farm's entire production. And they are difficult to secure. With our Acoustic Outpost Network (RAPA) comprising four to six active sonars (SAPOS) distanced from the substation, we can detect the presence of divers several kilometres away, in all directions", explains Durif. Seagnal is working with Compagnie des Signaux (CS) group, which is proposing aerial, surface and underwater surveillance to operators of fixed offshore wind farms, pending the construction of floating farms, scheduled for 2028. France currently has only three experimental floating wind farms, each with three turbines, one in Brittany and two in the Mediterranean.
A 500-megawatt wind farm represents an investment of

around €1.5 billion. The cost of the RAPA equipment is currently being determined, and should be in the region of a million euros per active sonar, which is a fair price to pay to protect the strategic core of such an offshore wind farm!

Un champ d'éoliennes de 500 mégawatts représente un in-



vestissement de l'ordre d' 1,5 milliards d'euros. Le coût des équipements du RAPA est en train d'être défini et devrait tourner autour du million d'euros par SONAR actif: pas très cher pour protéger le cœur stratégique d'un tel champ d'éoliennes en mer !

Aude Leroy

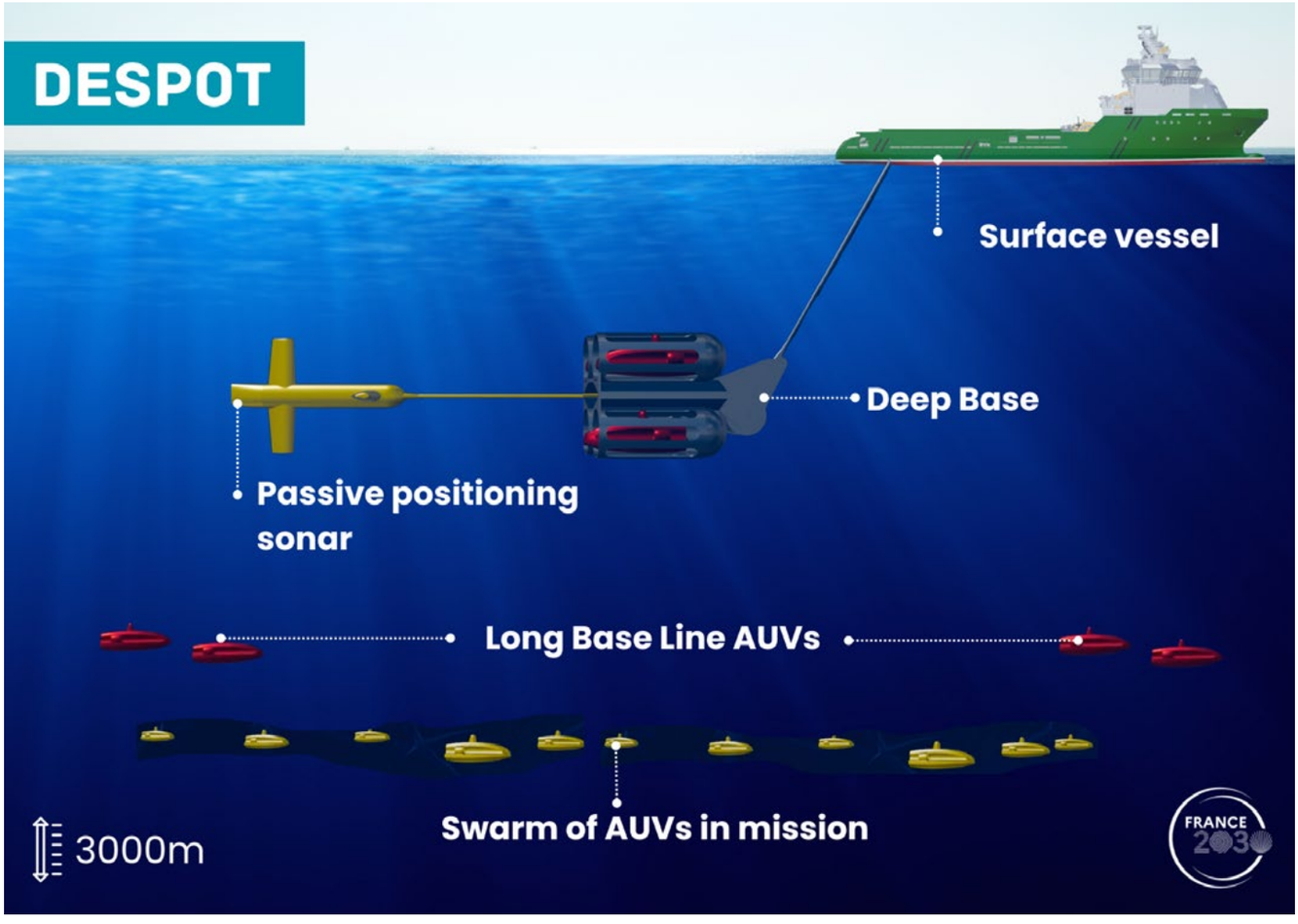
Facts and Figures

Seagnal's range : **3** km range of Seagnal's dive detection sonar (Compared with nearly 0,9 km for its competitors)

Floating Wind Turbine: **20** M€ / unit

Industry - Deep sea

DESPOT: The new Positioning System for AUV swarming



By joining forces, the flagship French companies Arkeocean, Seagnal and Bourbon Subsea Services have secured funding under the 'Deep Sea' call for projects component of the France 2030 investment plan.

DESPOT, which stands for "DEep Swarm POsiTioning", is a system for positioning a swarm of autonomous underwater vehicles (AUVs) navigating in the water column. In future, it will allow hundreds of these drones, swarming at depths of down to 3,000 metres, to be accurately positioned and guided to within five metres. This is totally revolutionary in the abyssal depths, which are still largely unknown to humankind.

The consortium leader, the family-owned business Arkeocean, is developing almost acoustically undetectable AUVs measuring less than a metre which will monitor the ocean depths or take GHOM (geography, hydrography, oceanography and meteorology) measurements. Seagnal is producing a sonar positioning system for these mini-AUVs so that they know their exact position underwater – a system that will also be more cost-effective than an inertial unit.

Between the surface vessel and the swarm, a Deep Base coupled with a Passive Positioning Sonar, and a 'Long Base Line' of four to six 'LBL' AUVs will enable each drone of the underwater swarm to know its position with a recurrence of less than ten seconds.
Launched in January 2024, the project will be developed over three years and funded by the French public sector investment bank BPI.

Aude Leroy

Innovation

Saab takes another steps towards autonomy of naval vessels

On Wednesday, November 6, the Swedish company Saab presented its new autonomous ship, Autonomous Ocean Core, a 16-meter-long unmanned ship piloted live from the Euronaval stand, 1,800 kilometers from its location in Norway, around the port of Värns. This latest-generation surface drone, built by Saab at the Docksta shipyard, can self-pilot using artificial intelligence. Intended for military operations in hostile areas, it can be controlled from anywhere on earth thanks to the Starlink network.

Paul Laquière

Sovereignty

Eurodrone: a step towards European sovereignty in drones

LThe European Union is organising itself to acquire a very large, 100% European, MALE (Medium Altitude Long Endurance) UAV. The aim is to break free from American dependence on UAVs by 2030.

At a time when threats at sea are becoming increasingly numerous and sophisticated, this 26-metre vehicle, capable of reaching altitudes of 10,000 metres, could be a veritable

©Airbus

Swiss Army knife. Designed to carry missiles as well as the latest optronic, AIS and radar tracking technologies, the European UAV could be used both for maritime surveillance missions and in military operations. Eurodrone is a programme launched jointly by France, Germany, Spain and Italy. The contract — signed in 2019 between the four countries, Airbus and Europe's Organisation for Joint Armament Cooperation (Occar) — includes the supply of 20 Eurodrone

systems by the end of the decade. Three contractors are involved in the programme: Airbus Defence and Space S.A.U in Spain, Leonardo in Italy and Dassault Aviation in France. They will have the ambitious responsibility of manufacturing the most advanced unmanned aerial system (UAS) in the sector, in other words an object of European sovereignty. Japan, which includes a large number of islands and therefore an extensive maritime surveillance zone, has already shown an interest in the European UAS. Powered by thermal engines, the MALE UAV will have an endurance of 22 hours and will be able to circumnavigate the Mediterranean in a single flight.

Paul Laquière

News

Contracts signed or announced at Euronaval (via Press Releases)

Montenegro acquires two 60m OPVs from Kership

These two 60-metre Offshore Patrol Vessels (OPVs), designed and built by the French shipyard Kership based in Concarneau, Brittany, will enable the government to perform its missions at sea (policing, fight against trafficking, etc.).
The Navy of Montenegro also wanted to include capabilities for carrying and deploying special forces via autonomous craft and uncrewed systems to extend the ships' range of action and influence.
The French Defence procurement and technology agency (DGA) will provide government support on the commercial contract with Kership, for the Ministry of Defence of Montenegro, under a technical arrangement with the MoD's Logistics Directorate.

News

Lacroix to equip RABDAN FA-400 with SYLENA LW

©Lacroix

The SYLENA LW advanced decoy system from Lacroix will be integrated onto the FA-400 fast attack vessel recently launched by EDGE Group entity Abu Dhabi Ship Building (ADSB). The partnership agreement was signed by David Massey, CEO of ADSB, and François Moulinier, COO of LACROIX.

RABDAN FA-400 is a UAE 45-metre, purpose-built patrol vessel designed for speed and territorial and coastal missions.

Lacroix’s technology is already operational on more than 30 vessels worldwide.

News

Thales partners with FEBUS Optics for the protection of critical undersea infrastructure

©Thales

A gem of technology in Distributed Fibre Optic Sensing (DFOS) systems, FEBUS Optics proposes DAS (Distributed Acoustic Sensing), which needs only one optical fibre for its connection. The system is designed to detect any acoustic signal generated on or near infrastructure being monitored and ensures early detection and precise geolocation of any anomalies. The signals will then be exploited using Thales' sonar arrays.

The two manufacturers' complementarity, which they are both keen to leverage, should enable permanent monitoring of the volume of water around sensitive installations and, therefore, a seamless surveillance system.

News

United Arab Emirates Navy chooses Exail MCM system

The UAE Navy has chosen Exail to supply a UMIS 3rd generation unmanned integrated mine countermeasures system, which aims to provide advanced capabilities for remote mine clearance.

News

Singapore Navy opts for key Safran systems

Singapore's Defence Science and Technology Agency (DSTA) has chosen Safran Electronics & Defense to supply Electro-Optical (EO) observation systems and processing units for Gun Fire Control Systems (GFCS).

They will outfit the Singapore Navy's new Multi Role Combat Vessels (MRCVs) and Offshore Patrol Vessels (OPVs).
The sighting system comprises high-definition sensors and a multispectral telescope, for long-range identification of targets day or night and under poor weather conditions. The GFCS is a smart Command and Control (C2) system that processes information from various shipborne sensors to control the ship's weapons systems.

The new generation GFCS product line was also contracted as part of the modernisation of the Singapore Navy's Formidable-class frigates.

News

The Egyptian Navy chooses Safran optronics and navigation systems

Ten Egyptian Offshore Patrol Vessels (OPVs), built by Alexandria Shipyard, will be equipped with advanced optronics and navigation systems from Safran.
The contract was signed with NVL Egypt, a joint venture between the Government of Egypt and the German shipbuilder Lürssen.
VIGY 4 is a compact, stabilised, long-range panoramic observation and sighting system that can detect, identify and track threats. It is particularly efficient for operations in reduced visibility, in the dark and in difficult weather conditions, through fog for example, thanks to a SWIR (Short Wave InfraRed) channel. The VIGY 4 sight can also drive and operate small and medium-calibre weapons.
Based on the HRG Crystal gyroscope technology, an innovation patented by Safran, the Argonyx inertial system provides all the data essential for navigation. This advanced navigation system also offers a high level of performance in environments devoid of satellite navigation signals (GNSS-denied) and meets the most stringent requirements for weapon systems stabilisation.

News

Advancing military training solutions

Défense Conseil International (DCI) and RTSYS - Underwater Acoustics & Drones are teaming up to integrate cutting-edge underwater robotic technologies into military training programmes with the aim of improving the operational readiness and effectiveness of international armed forces and security forces.

DCI's innovative training courses will leverage high-end equipment from RTSYS, in particular the SONADIVE portable sonar, the NEMOSENS and COMET-MCM light and man-portable AUVs for mine countermeasures (MCM) training, and the SEMA recoverable target for anti-submarine warfare (ASW) training.

News

AID and GICAN step up their cooperation

The French Defence Innovation Agency (AID) and the French maritime industry association, GICAN, have renewed their partnership, after signing a first agreement in 2020.

AID and GICAN work together to promote the naval industry, particularly during innovation missions abroad and at French and international trade exhibitions such as Euronaval and the Defence Innovation Forum.

The two partners also come together within the Conseil d'Orientation de la Recherche et de l'Innovation des Industriels de la Mer (Maritime Industries Research and Innovation Guidance Council - CORIMER), with the aim of identifying projects of interest for defence. CORIMER manages support for innovation in the maritime industry and acts as an interface between manufacturers and the government, in particular to optimise public aid for innovation and to direct projects towards government support schemes.

The signing of the agreement also comes as part of the designation of the seabed as a domain of strategic action for the French Ministry for the Armed Forces and Veterans. Innovation in seabed control and warfare is of crucial strategic importance, in order to strengthen offshore safety and the surveillance of naval and undersea infrastructure.

This partnership with GICAN will enable AID to further its relations with private-sector players driving initiatives to harness and support dual-use innovation.

News

L'externalisation des vols en drone dans le cadre de la surveillance maritime

Avec l'augmentation de ses aires maritimes à protéger et

ses 10,2 millions de kilomètres carrés d'espace maritime, la France conçoit plus que jamais le drone comme un outil de surveillance incontournable.

Mais face à l'usage complexe des UAS (systèmes d'aéronefs sans pilote), au coût financier de ce matériel et de sa maintenance, de nombreuses entités gouvernementales sont séduites par des offres d'externalisation de vols en drone. Assez inhabituel dans le cadre de la surveillance maritime, le marché du service de drone apparaît novateur. Et une société française, Extensee, qui expose à Euronaval, tire son épingle du jeu.

Depuis son lancement l'an dernier, l'entreprise est pour l'heure la seule titulaire d'un contrat UGAP (Union des groupements d'achats publics), lui permettant d'assurer des prestations de vols en drone auprès de différentes entités gouvernementales françaises comme les douanes, les préfectures maritimes ou encore la Direction générale de l'armement Essais de missile (DGA EM).

En parallèle, le besoin de formation de pilote de drone augmente. Là encore, la jeune entreprise se diversifie en proposant des formations au profit de la Marine nationale et d'entités militaires étrangères comme la Mauritanie, le Mozambique, le Tchad, le Niger, le Bénin ou encore le Cameroun.

News

Asterodyn, an ultra-fast defense drone piloted by AI

It is capable of following Formula 1 cars, goes from 0 to 200 km/h in two seconds and reaches a top speed of 400 km/h.

The Asterodyn drone was designed to be able to transport defense equipment between 300g and 2kg to aerial targets (drones, helicopters) or maritime targets, as part of military operations.

This remotely operated munition, presented last June at the Eurosatory show, has caught the attention of armed forces.Yesterday, Wednesday, November 6 at 1:45 p.m., in the Cherbourg space at the Euronaval show, the Asterodyn company announced its collaboration with Hawaii Tech for the design of a new version of the drone without human piloting based on AI, in order to make it autonomous in its trajectory to the target

Euronaval Talks 4

Technological and CONOPS developments for uncrewed systems

With industry researching and developing a wide variety of systemsabove, on and under the surface, what is the impact of these systems on military concepts of operations (CONOPS) and doctrine? Four panellists – three industry representatives and one French Navy representative – shared their views.

Uncrewed systems are not a new technology. Some derivatives of these systems are known to have been used during World War II (WWII). Yet over the past few years uncrewed systems have taken the world of defence by a storm. From Mine CounterMeasure (MCM) and Intelligence, Surveillance and Reconnaissance (ISR) missions,...

Alix Valenti

read the full Talk 4

Exhibitors List

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  - Drones and robotic
  - Maritime safety and security
  - Artificial intelligence

Discover the exhibitors

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All exhibition's 'Daily' 2024


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WELCOME

Interview of the day

Pierre Éric POMMELLET, President of GICAN

read the article

Innovation - Special Forces

Daily Exclusive: ExoJet, the thruster designed for and with the Special Forces

They may only be 30 cm high and less than 20 cm long, but they are packed with innovation: attached to both thighs.

read the article

Innovation - Maritime surveillance from space

Surveillance: a future multi-domain satellite constellation

A few months ago, Rennes-based start-up Unseenlabs announced plans to launch a satellite constellation in 2026, featuring innovations in maritime, land and space surveillance.

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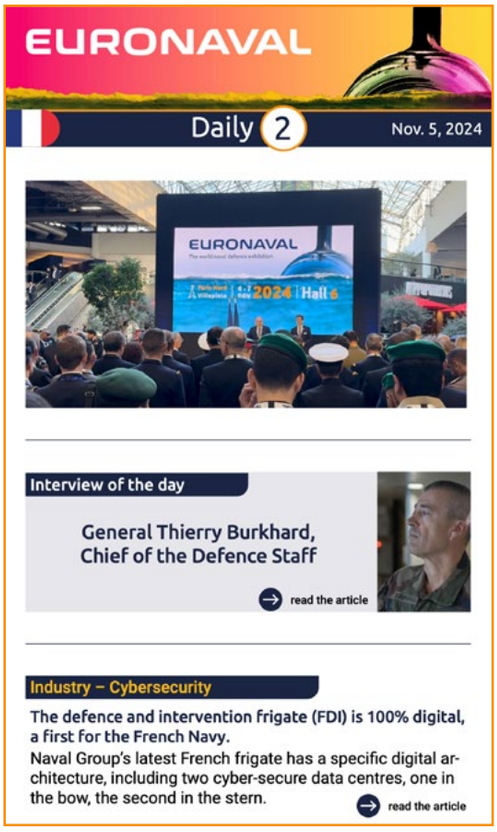
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Interview of the day

General Thierry Burkhard, Chief of the Defence Staff

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Industry – Cybersecurity

The defence and intervention frigate (FDI) is 100% digital, a first for the French Navy.

Naval Group's latest French frigate has a specific digital architecture, including two cyber-secure data centres, one in the bow, the second in the stern.

read the article


EURONAVAL

Daily 3 Nov. 6, 2024

Interview of the day

Foreign delegations

Among the many foreign delegations that have already walked the aisles of Euronaval 2024

read the article

DGA

La Dronisation à marche forcée

On les voit partout. Drones de surface, aérien, sous-marin... Ils sont pléthore à Euronaval mais on les cherche à bord des bâtiments de guerre.

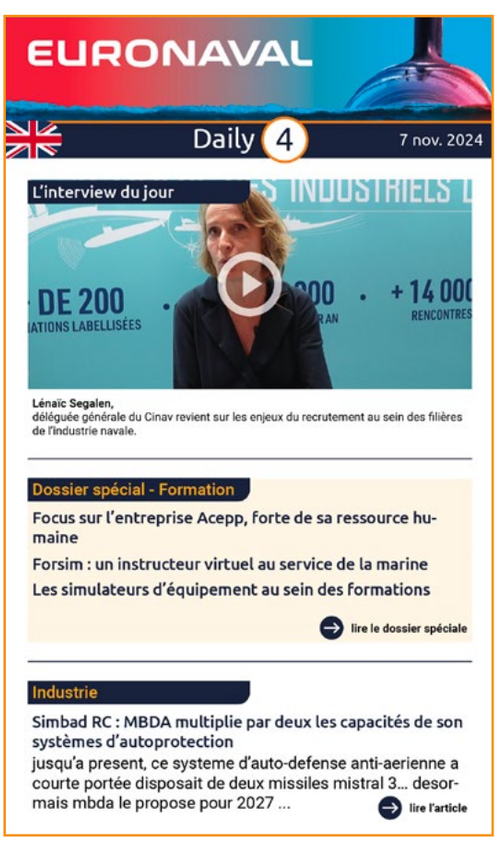
read the article

Industry – C-UAS

Skyjacker spoofs enemy drones

Presented last June and deployed during the 2024 Paris Olympic Games, this decoy system causes its targets to alter their trajectory in order to create a protective bubble around the ship.

read the article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L'interview du jour

DE 200

Lénaïc Segalen, déléguée générale du Cinav revient sur les enjeux du recrutement au sein des filières de l'industrie navale.

Dossier spécial - Formation

Focus sur l'entreprise Acepp, forte de sa ressource humaine

Forsim : un instructeur virtuel au service de la marine

Les simulateurs d'équipement au sein des formations

lire le dossier spéciale

Industrie

Simbad RC : MBDA multiplie par deux les capacités de son systèmes d'autoprotection

jusqu'a present, ce systeme d'auto-defense anti-aerienne a courte portée disposait de deux missiles mistral 3... desormais mbda le propose pour 2027 ...

lire l'article

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