





GENOVA, NOVEMBER 30<sup>th</sup>, 2023
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# NAVIRIS' R&T (Research & Technology) PROGRAMME FINALIZED

The final demonstrations for the last study of the R&T Programme, related to Digital Ship, took place on November 22<sup>nd</sup> in Genova: a concrete result of the cooperation between Fincantieri and Naval Group, the parent companies of the Joint Venture NAVIRIS, for the benefits of France and Italy, represented respectively by the French Armament General Directorate (DGA) and SEGREDIFESA, who mandated OCCAR (Organisation for Joint Armament Co-operation) to manage the contract.

Signed on June 4<sup>th</sup>, 2020, the Naviris' R&T programme contract marked the kick off of Naviris' activities. Composed of 5 projects (\*), it has set the foundation of the competitiveness of the Joint Venture and has been a fundamental enabler of the cooperation between Fincantieri and Naval Group. The last project focuses on "Digital Ship" and aims at developing warship simulation capabilities throughout its whole lifecycle in order to better predict performances and reduce the amount of real testing, to optimize architecture and to help warship operational use.

The aim of the demonstrations was to present the results of the "Digital Ship" study topic and their applicability.

The meeting has been focused on the presentation of all the developments and the validation of calculation methodologies and tools carried out in the frame of the "Digital Ship".

Naviris and OCCAR expressed their deep appreciation to the entire integrated team comprising Fincantieri and Naval Group technicians for their involvement in these demonstrations, for the richness of the results achieved and for the demonstrations that took place earlier for the other study topics. These presentations demonstrated a great degree of cooperation and integration of the team, a good baseline for future cooperation and the use of these developments for future naval programmes (both the technologies and the use of the developed software).







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(\*) The 5 study projects composing Naviris' R&T programme are:

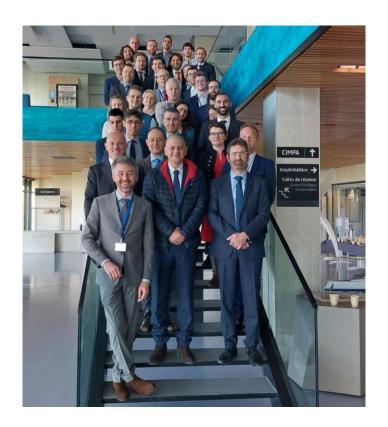
- **Digital ship**: the project aims at developing ship simulation capabilities throughout the whole lifecycle in order to better predict performances and reduce the amount of real testing. It covers the development of tools and methodologies for early design, system engineering (requirements and functional domains management) tools and integrated multi-physical modelling and simulation. Current Naval Group and Fincantieri's approaches of physical modelling are complementary, as Naval Group relies on Computational Fluid Dynamics while Fincantieri's approach is based on perfect fluid panel methods. Such a complementarity could allow both groups to benefit from a wider know-how and strengthen their capabilities in this field.
- Energy consumption optimization of electrical architecture: energy optimization enables a higher autonomy in mission, a better fleet management, an accurate forecast of next needed replenishment or working potential to optimize maintenance period, the compliance with restrictive Environmental Rules on emissions. Fincantieri and Naval Group have already initiated cooperation in this area to improve the global efficiency of the electrical network on board surface vessels.
- Winning a sea state: the objective of the project is to improve the range of use of onboard systems thanks to better ships seakeeping and to enable an equivalent level of performances on "sea state" higher than currently possible. This applies to all critical performances, e.g. crew performance in high sea state, aviation (including helicopter), weapons and sensors operation and performance / accuracy, replenishment at sea, launching and recovery of boats and drones.
- Fuel cells: the use of Air-Independent solutions built by both companies has led to the design of fuel cell solutions, of which the use on surface vessels has been discussed in depth. As both companies are involved in projects embarking an Energy network powered by fuel cells, the intended collaboration aims at gathering the two projects into a single sailing platform devoted to proving the feasibility of such a concept for naval applications in areas where no-emission restrictions are set.
- Factory of the Future: the project relates to the use of digital and robotic technologies to boost shipyard's competitiveness through increased productivity, reduced time-cycles, enhanced quality of products and improved working conditions for tough tasks. Fincantieri and Naval Group have already started tackling these challenges with approaches presenting both similarities and complementarities. In particular, Fincantieri is studying mobile technologies to enhance yard operators and managers' productivity, while Naval Group aims at using digital technologies to boost the efficiency and effectiveness of the shipyard's operator; both these technologies rely on connectivity technologies (e.g., Wi-Fi), digital mock-ups on tablets, and virtual/mixed reality. Clear benefits would arise from the joint development by Fincantieri and Naval Group.







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### **ABOUT NAVIRIS**

Naviris is a 50/50 owned joint venture by Fincantieri and Naval Group, officially launched in January 2020. With this alliance bringing new opportunities to the surface ship market, Fincantieri and Naval Group have cemented their joint desire to build a future of excellence for the shipbuilding industry and navies. The two European leaders with complementary offers, supported by a large ecosystem, came together to better serve the world's navies and mutually increase their competitive edge. They are materialising their shared worldwide ambition: the alliance is based on a mutual understanding of the challenges and realities of naval Defence in the world of today. Naviris is dedicated to opening the doors to the international markets of tomorrow.







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#### ABOUT FINCANTIERI

Fincantieri is one of the world's largest shipbuilding groups, the only one active in all high-tech marine industry sectors. It is leader in the construction and transformation of cruise, naval and oil & gas and wind offshore vessels, as well as in the production of systems and component equipment, after-sales services and marine interiors solutions. Thanks to the expertise developed in the management of complex projects, the Group boasts first-class references in infrastructures, and is a reference player in digital technologies and cybersecurity, electronics and advanced systems. With over 230 years of history and more than 7,000 ships built, Fincantieri maintains its know-how, expertise and management centres in Italy, here employing 10,000 workers and creating around 90,000 jobs, which double worldwide thanks to a production network of 18 shipyards operating in four continents and with almost 21,000 employees. www.fincantieri.com

#### **ABOUT NAVAL GROUP**

Naval Group is a partner to its customers' maritime sovereignty. An international player in naval defense and heir to French naval know-how, Naval Group develops innovative solutions to meet the needs of navies. Present throughout the entire life cycle of the ships, the group designs, builds, integrates and maintains submarines and surface ships, as well as their systems and equipment, through to dismantling. It also provides services for shipyards and naval bases. A high-tech company, it builds on its exceptional expertise, its unique design and production resources and its ability to set up strategic partnerships and successful transfers of technology. Attentive to the challenges of corporate social responsibility, Naval Group is a member of the United Nations Global Compact. With operations on five continents, the group has a turnover of 4.3 billion euros and employs 16 029 people (full-time equivalents / 2022 data).

### **ABOUT OCCAR**

OCCAR (Organisation Conjointe de Coopération en matière d'Armement / Organisation for Joint Armament Co-operation) is an international organisation whose core-business is the through







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> life management of complex, cooperative defence equipment programmes. The organisation was established by means of the OCCAR Convention which is equivalent to an international treaty. The Convention was signed in 1998 and entered into force in 2001.

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**NAVIRIS - Media Contacts** 

Ilaria Castagnola

Mob: + 39 345.0848813

E-mail: <u>ilaria.castagnola@naviris.com</u>

**NAVAL GROUP - Media contacts** 

Véronique Page Mob. +33 (0)6 37 18 01 32 veronique.page@naval-group.com Bénédicte Mano Mob. +33 (0)6 76 46 17 77 benedicte.mano@naval-group.com

FINCANTIERI S.p.A. - Media Relations

**Press Office** Tel. +39 040 3192473 press.office@fincantieri.it **Investor Relations** Tel. +39 040 3192111 investor.relations@fincantieri.it