Press Release

Nantes, 8 September 2020

On 4 September, Naval Group, Sirehna and Centrale Nantes signed an agreement to continue their co-operation within their joint research laboratory, the Joint Laboratory of Marine Technology.

To give Naval Group's ships true operational superiority on the seas, the Joint Laboratory of Marine Technology (JLMT) is boosting technological development in three key areas in military shipbuilding: additive manufacturing, naval hydrodynamics and multi-physics numerical simulation.

This joint laboratory has already delivered a key industrial application for Naval Group: in June 2018, the world's first hollow propeller blade demonstrator was printed on a 1/3 scale via additive manufacturing. Implementing the Wire Arc for Additive Manufacturing process allows for the printing of large parts and paves the way for the production of hollow propeller blades with more complex geometry.

"*The Joint Laboratory of Marine Technology has enhanced a long-standing partnership in the naval field by bringing together the research and innovation capabilities of Centrale Nantes and of Naval Group. Its early successes have encouraged us to pursue our commitment today alongside Naval Group and it is with great satisfaction that we contribute thus to developing the naval industry and marine renewable energies.*" - Jean-Baptiste Avrillier, Director of Centrale Nantes.

"I am delighted to be renewing our partnership with Centrale Nantes for the joint laboratory. Our cooperation contributes to the technological superiority of Naval Group. The combination of Centrale Nantes' academic expertise with our industrial skills enables us to advance effectively together in several key technological fields for naval defence." - Pierre Éric Pommellet, CEO, Naval Group

"*Our joint research laboratory is productive and contributing to our technological advances, particularly in the fields of additive manufacturing, naval hydrodynamics and numerical simulation. I am pleased that this partnership is being renewed and I have full confidence in its potential to tackle the technological challenges we face today*" - Éric Papin, Technical Director, Naval Group

The JLMT has forged strong links between Naval Group, Sirehna and Centrale Nantes.

Established in 2016, the JLMT is a joint industry/research laboratory whose objective is to pool the academic and industrial expertise of Centrale Nantes, the University of Nantes and Naval Group in order to inject innovation into Naval Group's industrial applications in the field of military shipbuilding.

The first agreement signed covered the period 2016 to 2020. This agreement has now been extended until 2023.

Today's partnership between Naval Group and Centrale Nantes focuses, in particular, on materials, the human factor, augmented reality and ecodesign.

About Naval Group

Naval Group is the European leader in naval defence. Naval Group meets the needs of its customers through its exceptional know-how, its unique industrial resources and its ability to form innovative strategic partnerships. The group designs, builds and supports submarines and surface ships in service. It also provides services for naval bases and shipyards. Finally, the group offers a range of solutions in marine renewable energies. Our

commitment to corporate social responsibility is reflected in our membership of the United Nations Global Compact. The group has a turnover of €3.7 billion and 15,168 employees (data for 2019).

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About Centrale Nantes

Founded in 1919, Centrale Nantes is a French engineering school and member of the Ecoles Centrale Group. Its undergraduate, Master and PhD programmes are based on the latest scientific and technological developments and the best management practices. At Centrale Nantes, research and training are organised into three key areas for growth and innovation: manufacturing, energy transition and healthcare. With research platforms ranging from digital simulation to prototyping using full scale models and an incubator with 20 years of experience in supporting start-up projects, the school has two major tools for innovation and creation, working hand in hand with industry. Centrale Nantes promotes its teaching and research capabilities at international level through around 100 partnerships with prestigious universities and schools worldwide.

Centrale Nantes welcomes 2,410 students, including 1,440 undergraduate students, 170 Executive Education and ITII degree apprenticeship students, 270 PhD students, 430 Masters students, and 100 Bachelor/Foundation Master students on its 40-acre campus.

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