

PRESS RELEASE

Stockholm, 10th May 2019



Naval Group at UDT 2019 in Sweden

From 13th to 15th May 2019, Naval Group participates to UDT 2019 in Stockholm, Sweden, to present its underwater systems.

Come and meet us at booth # A4!

Presenting underwater systems

During UDT 2019, Naval Group will showcase many of its innovative underwater vessels and solutions, developed through its close relationship with the French Navy.

SMX[®] 31: "the electric"

SMX[®] 31 is a showcase of developments Naval Group is studying for the next generation submarine. This resolutely digital submarine, designed to operate in a highly demanding environment, will carry out information gathering missions and will be more than ever capable of forceful actions that will result, either by using adapted weapons, or by "special" action modes (disruptive action modes adapted to different situations).

SMX[®] 31 is fitted with significantly increased energy power which allows remaining submerged, stealth and manoeuvring during extended periods. The whole combat system and platform management system are fully integrated. She benefits from the latest developments in terms of Artificial Intelligence (AI). With a perfect hydrodynamic shape (inspired by biomimicry), specially designed for stealth versus active acoustic means, SMX[®] 31 is totally undetectable.

D19 multi-mission torpedo drone

Drawing on its experience in autonomous underwater vehicles, Naval Group has developed a new Unmanned Underwater Vehicle (UUV) called the D19. The family of D19 drones is equipped with modular front-end payload, meaning it can easily be adapted for each mission. It can be launched by a submarine, a surface vessel or from the shore.

Equipped with modular payload at the front end, which can be easily switched thanks to a plug-and-play system, D19 can fulfil a wide variety of missions, such as identification, surveillance, recognition; electronic warfare ; anti-submarine warfare ; underwater mobile target ; mine countermeasures or rapid environmental assessment.

The D19 is built on a F21 torpedo base. This way, Naval Group takes advantage of its experience accumulated with the development of this torpedo. The D19 is propelled by a Lithium-ion energy

section. Already sea proven thanks to the joint effort of Naval Group and the French Navy, the D19 combines long endurance and intelligence.

Smart energy: AIP revolution and a new generation of Lithium-ion batteries system for submarines

Naval Group has developed an Air Independent Propulsion (AIP) system powered by 2nd generation fuel cells called FC2G. Naval Group AIP gives non-nuclear submarines unprecedented operational ability by enabling them to stay submerged for weeks at a time.

Naval Group has also developed a high performance and highly secure Li-on batteries system to provide its submarines with outstanding operational capabilities, as well as with an immersion period and reloading time largely optimized. The Li-ion batteries system LIB, improves security and performances on-board submarines developed by Naval Group

Facing underwater future challenges

During UDT 2019, Naval Group experts will take part to conferences on:

- Improving the submarine sonar array integration for operational performance (13th May, Edouard Honore – Naval Group & Christophe Lozach – Thales, Theatre 1)
- Simulating the Radar Cross Section (RCS) of the wake of a submarine at periscope depth (15th May, Eric Letouzé, Theatre 2)
- Confusion and dilution countermeasures (13th May, Sebastien Colson, Theater 4)
- System engineering for complex system design (13th May, Romain Le Néna, Theater 2)
- Thinking tomorrow's submarine to face operational challenges in constraint environment, the example of the SXM31 (15th May, Armel De Roeck & Lou Durand, Theater 4).

Another round of conferences will be dedicated to torpedoes:

- CFD simulation of a torpedo swim-out launching (13th May, Fabian Pécot & Thierry Taillefet, Theater 4)
- Heavyweight torpedoes program: management of validation and qualification processes (13th May, Eric Lescoat, Theater 4)

Finally, Naval Group will present its innovations in the range of prediction tools and acoustic performance:

- Performance of prediction tools for submarine manoeuvrability in constrained and shallow water (14th May, François Pétillon, Theater 2)
- Numerical prediction of non-cavitation noise from the propeller (15th May, Frédérique Chevalier, Theater 2)
- Analysis of the vibro-acoustic behaviour of a submarine hull on a wide frequency range using experimental and numerical approaches (15th May, Valentin Meyer, Theater 2).

Press contact:

Dora KHOSROF

Tel.: +33 (0)1 41 08 21 46

Mob.: +33 (0)7 72 42 48 96

dora.khosrof@naval-group.com

About Naval Group

Naval Group is a European leader in naval defence. As an international high-tech company, Naval Group uses its extraordinary know-how, unique industrial resources and capacity to arrange innovative strategic partnerships to meet its customers' requirements. The group designs, builds and supports submarines and surface ships. It also supplies services to shipyards and naval bases. In addition, the group offers a wide range of marine renewable energy solutions. Attentive to corporate social responsibility, Naval Group adheres to the United Nations Global Compact. The group reports revenues of €3.6 billion and has a workforce of 14,860 (data for 2018).

www.naval-group.com

