

Thales digital radar, Sea Fire, qualified and ready for integration on France's future FDI frigates combat system

- The Thales Sea Fire radar was qualified by the French Armament General Directorate (Direction générale de l'armement - DGA); It is now ready for integration into the combat system of the new FDI Frigates (Defence and Intervention Frigate) developed by Naval Group.
- In-line with the DGA's initial schedule, this important qualification milestone was achieved after 18 months of extensive tests carried out on the shore integration facility (SIF) – the DGA Naval technical expertise centre's air defence systems experimentation site (SESDA), based in Saint-Mandrier (South of France).
- The Sea Fire is the latest-generation solid-state modular multifunction radar, with a four-panel AESA¹ antenna, simultaneously performing long-range air and surface surveillance, as well as missile guidance, to protect frigates from all types of threats in complex environments.



The Sea Fire Radar at the shore integration facility (SIF) © Thales

Thales Sea Fire, full digital radar is qualified by the DGA after exhaustive and thorough testing in Saint-Mandrier, the reference trial centre for the French naval forces. The radar is now handed over to Naval Group for integration into combat system on-board the FDI frigates.

Over a period of 18 months, the Sea Fire radar underwent a substantial number of land-based tests, mobilising a vast panel of resources and combined teams from the DGA, Thales and Naval Group. All testing took place at the Shore Integration Facility (SIF) on the DGA's SESDA site in Saint-Mandrier in

¹ *Active Electronically Scanned Array*

the South of France - a major testing reference centre in Europe for the naval sector. Since 1969, this facility has been testing and qualifying ashore every combat system and critical sensors of major ships (frigates and aircraft carriers) in service within the French Navy.

Evaluated and tested against an extensive range of situations including surface targets (light boats, surface vessels...), air targets (helicopters, jets, missiles, drones, etc.) in various environments. – the Sea Fire assured its ground-breaking ability to search simultaneously for air and surface targets in a difficult environment, scanning a range of several hundred kilometres with 90° in elevation and an unmatched refresh rate.

Thanks to the Sea Fire's unique full digital technology (for instance digital beamforming), the radar delivers enhanced performance for all missions through dynamic radar resource management with very short response time. This digital radar is at the forefront of technological innovation and benefits from all Thales's Big Data and cybersecurity expertise.

In addition, through its advanced radar software, the digital nature of the Sea Fire made possible the implementation of a high fidelity digital twin. Compared to classical simulations, the digital twin of the Sea Fire truly reproduces the radars' behaviour and performance. It supports radar development throughout the product life cycle from initial development to in-service support, operation and upgrades. The use of a digital twin played a key role in securing the development schedule of the Sea Fire despite the Covid-19 crisis.

Assembled in Limours, south of Paris, with the contribution of a network of French small and medium-sized companies, Sea Fire production started in May 2018 and the first FDI shipset was delivered in May 2021 (4 panels).

“The qualification of the Sea Fire by the DGA is a key milestone of the radar development. We are proud that the Sea Fire is now ready for integration by Naval Group on the FDI frigate.” **François Luc, VP Multi-Function Radars Business Segment.**

About Thales

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Thales has 81,000 employees in 68 countries. In 2020, the Group generated sales of €17 billion.

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