

# Italian Navy Selects Elettronica to Provide EW Suite for New U212 Submarines

The Elettronica Group announced on May 10 that it had signed a contract with prime contractor Fincantieri Group to supply the Electronic Warfare Suite (EWS) for the Italian Navy's new U212 NFS (Near Future Submarine) program. The OCCAR (Organization Conjointe de Cooperation en matiere d'Armement) agency, acting on behalf of Italian Ministry of Defence, will deliver the U212 AIP (Air Independent Propulsion) submarines. Last February, OCCAR awarded Fincantieri a €1.35 billion contract for the development, construction, outfitting and delivery of the first batch of two new U212 NFS platforms, with options for two additional submarines.

The integrated EWS for the U212 NFS submarines represents the most technologically advanced and innovative answer for operations in the underwater and multi-domain scenarios, said Elettronica, which will develop and provide two suites for the first batch of submarines under the awarded contract plus options for two more systems for subsequent batches. The system design is significant, according to Elettronica, because it requires a very high level of functional integration and is able to perform self-protection, surveillance and intelligence tasks the communications bands to the radar bands.

The EWS features a set of three antennas positioned on top of the submarine's fin (i.e., sail). These comprise an integrated RESM/CESM antenna (integrated onto a non-hullpenetrating mast) that is the result of over two years of studies and simulations in collaboration with the Italian Navy. Another antenna, fitted to a non-hull-penetrating optronic mast, supports radar surveillance and detection functions, while an

antenna for the threat warning function is mounted on the sub's periscope mast. Inside the sub, the antennas feed RESM and CESH receivers, which send their information through an Electronic Warfare Management Unit (EWMU) that integrates the ESM information for further processing and fusion via the sub's combat management system (CMS).

According to Elettronica, this suite provides an integrated picture of the complex electromagnetic scenario in both littoral and blue-water environments to support self-protection, surveillance and intelligence activities at tactical and higher levels. Elettronica hasn't released further details, but such integrated EWS solutions can generally cover a frequency band from 30 MHz to 18 GHz, and can provide very accurate direction-of-arrival performance.

The EWS suite is characterized by a high level of digitization based on its software-defined architecture derived from the company's Zeus and Virgilius families of multi-domain EWS. The ESM receiver also utilize proprietary algorithms exploiting advanced machine learning capabilities.

Based on an evolved U212A AIP design by Fincantieri with an unprecedented level of national industry and technological content, the new U212 NFS boats will feature an enhanced propulsion system and a newly designed combat system centered on a Leonardo combat management system and a suite of advanced sensors and weapon systems, being fitted to launch deep strike cruise missiles and unmanned underwater vehicles. – *L. Peruzzi*