

PRESS RELEASE

Mumbai, 23 January 2023

DRDO's Fuel Cell-based Air Independent Propulsion system to soon be fitted onboard INS Kalvari, significantly enhancing its submerged endurance

DRDO & Naval Group France sign agreement to safely integrate the indigenous system in Kalvari-class submarines.

In a major boost to 'Aatmanirbhar Bharat', Fuel Cell-based Air Independent Propulsion (AIP) system of DRDO's Naval Materials Research Laboratory (NMRL) will soon be fitted onboard INS Kalvari. An agreement was signed between senior officials of NMRL and Naval Group France in Mumbai on January 23, 2023 to extend cooperation to enter into the detailed design phase for integration of indigenous AIP in the Kalvari class submarines. As part of the agreement, Naval Group France will certify the AIP design for integration in the submarines.

The AIP has a force multiplier effect on lethality of a diesel electric submarine as it enhances the submerged endurance by several folds. It has merits in performance compared to other technologies and is unique as the hydrogen is generated onboard. This technology has been successfully developed by NMRL with the support of Indian industry partners. The technology has now reached the stage of maturity for industrialisation.

It is worth mentioning that the land-based prototype of the NMRL's AIP has been tested successfully. This new endeavour will be a significant step towards the detailed design certification of the energy module, which will be performed by NMRL along with Indian industry and design of the platforms impacted by the integration of the indigenous AIP inside the Indian submarine by Naval Group. These actions will seamlessly lead the way to start of localisation and industrialization of AIP including the hull fabrication by the Indian industry for future fitment onboard the submarines.

Speaking on the occasion, Chairman & CEO at Naval Group France Mr Pierre Eric Pommellet said, they are proud to cooperate with Indian stakeholders to safely integrate the AIP in the Kalvari class submarines, which have been built by Mazagon Dock Shipbuilders Limited. This is a natural extension of strategic bilateral cooperation shared between India and France in the field of underwater defence & deterrence and in line with Naval Group's continued commitment towards the Government's 'Aatmanirbhar Bharat' policy.

Raksha Mantri Shri Rajnath Singh has complimented DRDO, Indian Navy and MDL for taking Aatmanirbhar Bharat initiative forward in underwater domain. Secretary Department of Defence R&D and Chairman DRDO Dr Samir V Kamat also congratulated NMRL, Indian Navy, MDL and Naval Group France for this strategic partnership.

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About Naval Group in India

Naval Group India is a 100 % owned subsidiary of Naval Group, which is headquartered in Paris, France. Established in September 2008 as DCNS India, it has its presence felt in 2 major cities: Mumbai and New Delhi. The main purpose of Naval Group to be in India would be to support the Indigenisation through 'Make in India' activities for Scorpene® submarine equipment, to develop the Indian defence eco-system, as well as to develop design services in India with talented Indian engineers. The endeavour of Naval Group India is to be a visionary and to further its involvement in empowering more and more industries by creating a robust eco-system that can cater to the varied defence needs of the country.

About Naval Group

Naval Group is a partner to its customers' maritime sovereignty. An international player in naval defence 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 4.1 billion euros and employs 16028 people (full-time equivalents / 2022 data).

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