Sonar System

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Testing & evaluation facility for Sonar Systems of Indian Navy launched by DRDO

Giving impetus to the 'Aatma Nirbhar Bharat' and India's 'Make in India' commitment, Defence Research & Development Organization (DRDO) launched **Hull Module of Submersible Platform for Acoustic Characterization & Evaluation (SPACE) facility** at Naval Physical & Oceanographic Laboratory(NPOL) Kochi recently.

It is a state-of-the-art testing and evaluation facility for sonar systems developed for use by the Indian navy onboard various platforms, including ships, submarines and helicopters.

The SPACE facility is based on the concept design and requirements projected by NPOL and has been constructed by M/s L&T Shipbuilding, Chennai. This will be mainly **utilized for evaluating Sonar systems, allowing for quick deployment and easy recovery of scientific packages such as sensors and transducers**.

The SPACE is one-of-a-kind facility in the world. The **uniqueness** of this facility lies in the **specially designed submersible platform**, which can be lowered **up to depths of 100 meters** using a series of synchronously operated winches.

The design and construction of the platform meet all the statutory needs of Indian Register of Shipping and the vessel classifying authority and strictly adhere to the inspection and registration criteria as per Kerala Inland Vessel Rules.

Sonar system:

SONAR - Sound Navigation and Ranging is used to **detect underwater targets**.

Like radar, used to detect long-range aerial and other targets, sonars have applications in **underwater surveillance, communication and marine navigation.**

It is helpful for **exploring and mapping the ocean** because sound waves travel farther in the water than do radar and light waves.

There are two types of sonar—active and passive.

Active Sonar transducers **emit an acoustic signal or pulse** of sound into the water. **Passive sonar** systems are used primarily to **detect noise from marine objects** (such as submarines or ships) and marine animals like whales.

SONARs are also used in Anti-submarine warfare, Torpedoes, Mines, Aircraft, Underwater communications, Ocean surveillance and Under water security. Civil applications of SONAR include Fisheries, Echo sounding, Net location, Vehicle location etc.

Scientific applications of SONAR include Biomass estimation, Wave measurement, Water velocity measurement, Bottom type assessment, etc.