Raksha Mantri lays foundation stone of Large Cavitation Tunnel at NSTL, Visakhapatnam to boost naval research & testing capabilities

The project will position India as a strong naval power & leader in defence technology: Shri Rajnath Singh

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Raksha Mantri Shri Rajnath Singh, on April 03, 2026, laid the foundation stone of the state-of-the-art Large Cavitation Tunnel (LCT) facility at the Naval Science & Technological Laboratory (NSTL), a premium laboratory of DRDO in Visakhapatnam, Andhra Pradesh. The facility will significantly enhance India's naval research and testing capabilities, marking a major step towards achieving technological self-reliance.

Addressing scientists, researchers, and personnel at NSTL, Raksha Mantri asserted that India, with this initiative, will be able to design, develop and test its equipment, systems & sub-systems indigenously utilising its own resources, position itself as a strong naval power & a leader in defence technology. “Until now, even after successfully developing equipment, systems, and sub-systems, we often had to look abroad for critical testing. This situation will now change. This facility is not merely an infrastructure project, but an enabling system, which will strengthen our capabilities in advancing propulsion systems, enable focused efforts on noise reduction and further strengthen stealth capabilities. It will serve as a foundational backbone for the design and development of submarines & ships, supporting future advancements in naval engineering and maritime defence systems,” he said.

Shri Rajnath Singh described the project as a symbol of the success of Prime Minister Shri Narendra Modi’s resolve of Aatmanirbhar Bharat. He stated that the Government’s determination to make India self-reliant is intrinsically linked to the national security apparatus, and despite challenges, the country has achieved complete Aatmanirbharta in various sectors due to the concerted efforts of the domestic industry, academia, MSMEs, youth, and researchers.

During the visit, Raksha Mantri was briefed about the NSTL projects/programmes by the Secretary, Department of Defence R&D and Chairman DRDO Dr Samir V Kamat.

Shri Rajnath Singh also visited the Seakeeping and Manoeuvring Basin, where he witnessed an impressive display of advanced underwater systems, including torpedoes, naval mines, decoys, and autonomous underwater vehicles (AUVs).

A live demonstration of a swarm of man-portable AUVs showcased India's growing prowess in autonomous maritime operations and next-generation underwater warfare technologies, underlining the nation's focus on future-ready defence systems. Raksha Mantri also inspected some of the vital products realised as spin-off technologies by the Naval Systems Materials cluster labs post Operation Sindoor.

Shri Rajnath Singh commended NSTL for carrying out research and setting benchmarks in a number of areas, including torpedo systems, underwater mines, decoys, and AUVs, while propelling India forward on the path to becoming a formidable naval power. He also acknowledged the demonstration of swarm technology and ongoing work in lithium-ion battery development, calling them crucial for future warfare preparedness.

Raksha Mantri urged NSTL to continue working with dedication towards nation-building by bolstering the security infrastructure of the country. "The systems and technologies boost the confidence and morale of sailors deployed at sea. Reliable and robust technological support significantly enhances the operational effectiveness of the defence forces," he said.

Chief of Defence Staff General Anil Chauhan, Chief of the Naval Staff Admiral Dinesh K Tripathi, Flag Officer Commanding-in-Chief, Eastern Naval Command Vice Admiral Sanjay Bhalla and other senior officials were present on the occasion.

About Large Cavitation Tunnel

Conceived as a strategic national asset, the project is a significant step in strengthening indigenous capabilities in hydrodynamic research, aimed at supporting the design and development of next-generation ships, submarines and underwater platforms. The project, sanctioned by the Government and being executed in turnkey mode with international technical collaboration, reflects a seamless blend of global expertise and indigenous innovation.

The facility is poised to emerge as a globally unique infrastructure with its capability to conduct both closed-loop simulations essential for submarine studies and free surface simulations critical for surface ship research within a single integrated setup. Once operational, it will significantly enhance the country's shipbuilding ecosystem by enabling precise validation of hydrodynamic designs and propulsion systems for major naval platforms, including destroyers and aircraft carriers.

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