

# ISRO AND INDIAN NAVY CONDUCT KEY TRIALS FOR GAGANYAAN MISSION

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A Crew Module Recovery Model was used for the trials.

The Indian Space Research Organisation (ISRO), along with the Indian Navy, has conducted an important trial for the Gaganyaan, human space flight mission. On Tuesday, they carried out initial recovery trials of the Crew Module in the Navy's Water Survival Test Facility (WSTF) in Kochi.

"The trials were part of the preparation for crew module recovery operations for the Gaganyaan mission that will be carried out in Indian waters with the participation of Indian Government agencies, the overall recovery operations being led by the Indian Navy," the space agency said.

A Crew Module Recovery Model (CMRM), that simulates the mass, center of gravity, outer dimensions, and externals of the actual Crew Module at touchdown, was used for the trials. The sequence of operations required for the recovery of the Crew Module were carried out as part of the trials.

According to ISRO, as the safe recovery of the crew is the final step to be accomplished for any successful human spaceflight, it is of paramount importance and it has to be carried out with the minimum lapse of time.

"Hence the recovery procedures for various scenarios need to be extensively practiced by carrying out a large number of trials. The Standard Operating Procedures (SoP) for recovery of Crew and Crew Module need to be finalised. The recovery trials will be initially carried out in a closed pool followed by trials in a harbor and in the open sea," said ISRO

ISRO's recent operation from the initial recovery trials of Crew Module in a closed pool. Different phases of recovery trials starting with the recovery of the Crew Module to the flight crew training are planned at WSTF.

WSTF, Kochi, is a state-of-the-art facility of the Indian Navy that provides realistic training of aircrew for escape from a ditched aircraft under varied simulated conditions and crash scenarios. WSTF simulates different sea state conditions, environmental conditions, and day/night conditions.

“These trials assist in validating the SoP, and training recovery teams as well as the flight crew. They provide valuable inputs for the utilization of recovery accessories. The feedback from the recovery team/trainers helps improve the recovery operations SoP, design various recovery accessories, and finalize the training plan,” ISRO added.

The Gaganyaan project envisages demonstration of human spaceflight capability by launching a crew of three members to an orbit of 400 km for a three day mission and bringing them back safely to earth, by landing in Indian sea waters.

The first trial (uncrewed flight) for Gaganyaan is being planned by the end of 2023 or early 2024. This will be followed by sending Vyom Mitra, a humanoid and then with the crew onboard.

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