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ISRO TO LAUNCH YEAR-END SPADEX MISSION TODAY

NEW DELHI: The Indian Space Research Organisation (Isro) will launch its year-end mission, Space Docking Experiment (SpaDeX), on Monday from the Satish Dhawan Space Centre (SDSC) SHAR in Sriharikota.

The mission will use PSLV-C60 and the launch will happen at 9.58pm, according to the space agency. "In addition, SpaDeX, because of its small size and mass, is even more challenging due to the finer precision required for the rendezvous and docking maneuvers compared to docking two large spacecraft. This mission will be a forerunner for autonomous docking needed for future lunar missions like Chandrayaan-4," Isro said in a statement.

{ TO DEMONSTRATE ORBITAL DOCKING }

Isro to launch two satellites today from Sriharikota

Press Trust of India

letters@hindustantimes.com

NEW DELHI: ISRO is set to launch two satellites on Monday night from the Sriharikota spaceport to demonstrate docking and undocking of spacecraft in orbit, which will make India the fourth country in the world to achieve the feat.

The Indian Space Research Organisation's (ISRO) warhorse rocket Polar Satellite Launch Vehicle (PSLV) will place the two satellites — SDX01 and SDX02 — in a 476-km circular orbit and attempt the Space Docking

Experiment (SpaDeX) in the first week of January, the space agency officials said.

"This mission will mark India's entry into the exclusive league of nations capable of mastering space docking," Union science and technology minister Jitendra Singh said. The SpaDeX mission is expected to be a stepping stone for India's future endeavours in space exploration which include getting rocks and soil from the moon on Earth, the proposed Bharatiya Antariksha Station and landing an astronaut on the lunar surface. Only the US, Russia and China have mas-

AFTER THE DEMONSTRATIONS, THE SATELLITES WILL CONTINUE TO ORBIT THE EARTH FOR STANDALONE MISSIONS FOR NEARLY 2 YEARS

tered space docking technologies. "The primary objective of the SpaDeX mission is to develop and demonstrate the technology needed for rendezvous, docking, and undocking of two small

spacecraft (SDX01, which is the Chaser, and SDX02, the Target) in a low-Earth circular orbit," an ISRO official said.

The secondary objective of the mission includes demonstration of the transfer of electric power between the docked spacecraft, which is essential for future applications such as in-space robotics; composite spacecraft control and payload operations after undocking.

"This capability is vital for India's lunar and interplanetary missions. Docking technology enables multi-launch missions and supports future human

spaceflight," Singh said.

After the demonstration of docking and undocking experiments, the two satellites will continue to orbit the Earth for standalone missions for two years. The SDX01 satellite is equipped with a High Resolution Camera (HRC) and SDX02 has two payloads — Miniature Multi-spectral payload and Radiation Monitor. These payloads will provide high-resolution images, natural resource monitoring, vegetation studies and on-orbit radiation environment measurements which have numerous applications, ISRO said.