

ISRO GEARS UP FOR CHANDRAYAAN-2 MISSION

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Chandrayaan-2, the country's first moon lander and rover mission, is a month away.

The Indian Space Research Organisation has marked mid-July for the take-off and kept the launch window open from July 9 to 16.

After putting the spacecraft through manoeuvres at the earth end, a journey of over a month and a few more orbital manoeuvres as it approaches the moon, ISRO has set September 6 as the date to soft-land its landing craft at the lunar south pole - a region where no agency has got to so far.

ISRO recently listed at least six complexities of soft landing a mission on the Moon – something that pioneers Russia and the U.S. could not achieve easily back in the mid-1960s.

Soft landing, it says, is the most challenging part of the mission.

Chandrayaan-2 will carry 14 Indian payloads

The lander is named Vikram (meaning valour, after the father of the Indian space programme, Vikram Sarabhai). It will release a small robotic rover, named Pragyan (wisdom), to move around, feel and understand the lunar surface.

Vikram must gently descend on a harsh rugged lunar surface, without getting damaged. It must also avoid landing in a shadowy patch. It needs sunlight for generating its power.

Meanwhile, the mother ship or the orbiter that carries Vikram and Pragyan will go around the moon at a distance of about 100 km, taking pictures and gathering surface information and sending them back to earth.

The moon's constantly sunny side gets light for 14 Earth days or one lunar day. The lander and the rover are expected to work for just that duration.

The mission carries 14 payloads or instruments to observe and gauge the lunar scene – both from a distance and on its surface. One of them is a tiny NASA reflectometer to mark the spot for future missions and assess the distance from the earth.

Weighing about 3,500 kg, Chandrayaan-2 will be launched on the heavy-lift GSLV-Mk III rocket. The mission has missed many dates and its lander elements have been revamped as recently as in 2018. The tests related to the lander were conducted at the Challakere multi-agency campus where ISRO, DRDO, BARC and the IISc facilities are located.

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