



# Hindustan Times

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[ PUSHPAK MAKES SUCCESSFUL LANDING ]

## Isro breaks new ground with reusable launch vehicle

The Indian Space Research Organisation has achieved a 3rd straight success in the Reusable Launch Vehicle Landing Experiment by demonstrating the autonomous landing capability of the vehicle

### THIRD, FINAL TEST

In the series of Landing Experiment (LEX-03) was conducted at 7:00am at the Aeronautical Test Range (ATR) in Chitradurga, Karnataka



### WHAT THE MISSION ENTAILED

The mission simulated the approach and landing interface and high-speed landing conditions for a vehicle returning from space, reaffirming Isro's expertise in acquiring the most critical technologies required for the development of a Reusable Launch Vehicle (RLV). RLV LEX-03 re-demonstrated the autonomous landing capability of the RLV under more challenging release conditions (cross range of 500m against 150m for LEX-02) and more severe wind conditions

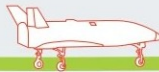
### THE WINGED VEHICLE



Pushpak<sup>®</sup> was released from an Indian Air Force Chinook Helicopter at an altitude of 4.5km from a release point 4.5km away from the runway. Pushpak autonomously executed cross-range correction manoeuvres, approached the runway and performed a precise horizontal landing at the runway centreline

Due to this vehicle's low lift-to-drag ratio aerodynamic configuration, the landing velocity exceeded 320 kmph, compared to 260 kmph for a commercial aircraft and 280 kmph for a typical fighter aircraft

After touchdown, the vehicle velocity was reduced to nearly 100 kmph using its brake parachute, after which the landing gear brakes were employed for deceleration and stop on the runway



### KEY ACHIEVEMENT

Through this mission, the advanced guidance algorithm catering to longitudinal and lateral plane error corrections, which is essential for the future Orbital Re-entry Mission has been validated, the space agency noted

### JOINT MISSION

The mission, led by Vikram Sarabhai Space Centre (VSSC), was a collaborative effort involving multiple Isro centres — Space Applications Centre (SAC), Isro Telemetry, Tracking and Command Network (ISTRAC) and Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota.