



KAMARAJ IAS ACADEMY
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Polar Satellite Launch Vehicle and Private Sector Participation

Published On: 07-11-2025

First PSLV made by private firms to be unveiled in 2026, says ISRO Chairman

About PSLV

Polar Satellite Launch Vehicle (PSLV) is India's 3rd generation launch vehicle.

1st successful launch in October 1994 by ISRO

Stages of PSLV – It is a 4 staged launch vehicle

Stages of PSLV	Use of Equipment
First	Solid rocket motor
Second	Earth Storable liquid rocket engine(Vikas engine)
Third	Solid rocket motor
Fourth	Two earth storable liquid engines

Orbits in which PSLV Places Satellites

o1750 kg of payload to Sun-Synchronous Polar Orbit

o1,425 kg in sub Geo-Synchronous Transfer Orbit

Notable Launches

oChandrayaan-1/PSLV-C11 (2008): India's 1st mission to the Moon.

oMars Orbiter Mission/PSLV-25 (2013): India became the 1st Asian nation to reach Mars orbit and the 1st in the world to do so in its maiden attempt.

oAstrosat/PSLV-C30 (2015): India's 1st dedicated multi-wavelength space observatory.

oIRNSS (2013-18): PSLV launched all seven satellites of the Indian Regional Navigation Satellite System (IRNSS), later named NavIC.

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o PSLV-C58 / XPoSat (2024): India's 1st dedicated polarimetry mission to study cosmic X-rays.

Vehicle Variants: PSLV-CA, PSLV-DL, PSLV-QL, PSLV-XL

Significance:

o Known as ISRO's "workhorse" due to its versatility and high success rate.

o The PSLV has failed thrice in its history.

o 1st Indian launch vehicle equipped with liquid stages

Private Participation in Space sector:

The Indian Space Policy, 2023 allows private players to undertake end-to-end space activities — from satellite manufacturing to launch and operations.

Establishment of IN-SPACe (Indian National Space Promotion and Authorisation Centre) acts as a single-window agency to promote, handhold, and authorize private space activities.

NewSpace India Limited (NSIL), a public sector enterprise under the Department of Space, commercializes ISRO's technology and launch services, fostering industry collaboration and private production of satellites and launch vehicles.

FDI up to 100% is permitted in satellite establishment and operations with government approval

Over 190+ space start-ups (as of 2025) such as Skyroot Aerospace, Agnikul Cosmos, Pixxel, and Dhruva Space are working on launch vehicles, satellites, and space-based data solutions, driving innovation and employment.