

India's

PSLV

Polar Satellite Launch Vehicle

The perfect ride for

Cubesats_1 kg

Nanosats_1 to 10 kg

Microsats_10 to 100 kg

Minisats_100 to 500 kg

Bigger Satellites

Up to 1600 kg SSO

Up to 1100 kg to GTO

Up to 3500 kg to LEO

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Introducing **PSLV** (Polar Satellite Launch Vehicle)

- **Expendable Launch Vehicle (ELV)** operated by ISRO
- Used to launch **India's remote sensing satellites.**
- 100-1600 kg to **Sun Synchronous Orbit (SSO)**
- 1100 kg to **Geosynchronous Transfer Orbit (GTO)**
- 3500 kg to **Low Earth Orbit (LEO)**
- **Multi-satellite** launch capability
- 11 consecutive successful launches
- **The most reliable and cost-efficient** in its class
- **Great frequency of launches: 3 to 4 launches per year**

Introducing **PSLV** (Polar Satellite Launch Vehicle)

- Also used for secondary payload launches for several countries including **Germany, Belgium, South Korea, Indonesia, Argentina, Israel, Canada, Denmark, Japan, and the Netherlands.**
- Its first **fully commercial launch** took place in April 2007 when it launched the Italian satellite AGILE.
- It **launched a record 10 satellites** (2 ISRO payloads, 8 nanosats for foreign clients) in April 2008.



PSLV on the launch pad at the Satish Dhawan Space Centre.



PSLV-C8 (CA Variant) carrying the AGILE satellite lifting off from Sriharikota

Variants **PSLV** (Polar Satellite Launch Vehicle)

Operational

PSLV

- **Standard Version**

- 4 stages using solid and liquid propulsion systems alternately
- 6 strap-on boosters.
- Capability to launch 1,600 kg to 622 km SSO

PSLV-CA

- **Core Alone (CA) Version**

- Core stages without any strap-on boosters
- Capability to launch 1,100 kg to 622 km SSO

Variants **PSLV** (Polar Satellite Launch Vehicle)

Under Development | Proposed

PSLV-XL

- Improved version of the strap-on booster
- Payload capacity 1800 kg compared to the current 1600 kg
- Chandrayaan-1 launch, RISAT Radar Imaging Satellite launch

3-stage PSLV

- 2nd stage of the 4-stage version removed
- Capable of placing 500 kg to LEO

PSLV-HP

- **High Performance (HP) Version**
- Improved efficiency of the stage 4 engine
- Payload capability raised to 2000 kg
- NavSat constellation launch between 2010 and 2012

Launch Log PSLV (Polar Satellite Launch Vehicle)

1. IRS-1D launched on September 29, 1997. (1207 kg)
2. IRS-P4 (OCEANSAT) and two small satellites (KITSAT of Korea and TUBSAT of Germany) launched on May 26, 1999 by [PSLV-C2](#). (1036 + 153 kg)
3. [PSLV-C3](#) launched three satellites -- Technology Experiment Satellite (TES) of ISRO, BIRD of Germany and PROBA of Belgium - into their intended orbits on October 22, 2001. (1108 + 186 kg)
4. ISRO's Polar Satellite Launch Vehicle, [PSLV-C4](#) launched KALPANA-1 satellite on September 12, 2002. (1050 kg)
5. [PSLV-C5](#) launched [RESOURCESAT-1 \(IRS-P6\)](#) satellite on October 17, 2003. (1360 kg)
6. [PSLV-C6](#) launched [CARTOSAT-1](#) and [HAMSAT](#) satellites on May 5, 2005. (1560 kg)
7. [PSLV-C7](#) launched [CARTOSAT-2](#) SRE-1 & LAPAN -TUBSAT of Indonesia, Nano - PEHUENSAT-1 of Argentina on January 10, 2007. (1210 kg)
8. [PSLV-C8](#) launched Commercial Satellite [AGILE](#) of Italy on April 23, 2007. (350 kg)
9. PSLV-C10 launched commercial satellite TESAR of Israel on January 21, 2008. (260 kg)
10. [PSLV-C9](#) launched [CARTOSAT-2A](#), [IMS-1](#) and eight [nanosatellites](#) on April 28, 2008. (800 kg)
11. PSLV-XL launched India's [Lunar Orbiter Chandrayaan-1](#) on 22 October, 2008. This marked India's first moon mission and the [first flight](#) of the enhanced [PSLV-XL version](#).

Historic Launch PSLV

PSLV-C9 launched a record 10 satellites on April 28, 2008.
8 of these were CUBESATS/NANOSATS.

Primary Payload:

CARTOSAT-2A (Indian Earth Observation Satellite)

Secondary Payloads:

India (1 satellite)

Japan (2 satellites)

Canada (2 satellites)

Germany (2 satellites)

Denmark (1 satellite)

Netherlands (1 satellite)