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# PSLV - Polar Satellite Launch Vehicle

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**Why is in news?** "Sunshine moment for India," says Dr Jitendra Singh as PSLV-XL launches India's first Solar Mission

Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.

After its first successful launch in October 1994, PSLV emerged as a **reliable and versatile workhorse launch vehicle** of India.

The vehicle has launched numerous Indian and foreign customer satellites. During 1994-2017 period, the vehicle has launched 48 Indian satellites and 209 satellites for customers from abroad.

It is the **first Indian launch vehicle** to be **equipped with liquid stages**.

It is a **four stage** launch vehicle.

A large solid rocket motor forming the first stage,

An earth storable liquid stage as the second stage,

A high performance solid rocket motor as third stage, and

A liquid stage with engines as fourth stage.

Besides, the vehicle successfully launched two spacecraft "**Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft (MOM) in 2013**" that later travelled to Moon and Mars respectively.

Chandrayaan-1 and MOM were feathers in the hat of PSLV. The launch of **PSLV-C48** marks the 50th Launch of PSLV.

Recently, PSLV C57- India's first Solar Mission, - Aditya L1 was launched from Sriharikota.

PSLV earned its title '**the workhorse of ISRO**' through consistently delivering various satellites into low earth orbits, particularly the IRS Series of satellites

Due to its unmatched reliability, PSLV has also been used to launch various satellites into Geosynchronous and Geostationary orbits, like satellites from the IRNSS Constellation

The PSLV is **capable of placing multiple payloads into orbit**, thus multi-payload adaptors are used in the payload fairing.

The payload performance of the vehicle and mission flexibility is evident from the challenging missions where multi-orbit and multi-satellite missions are accomplished.

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The long string of consecutive successes and multi-satellite launch capability has reinforced the status of PSLV as a **reliable, versatile and affordable launcher in the global market.**

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SLV-3

Height : 22.7m  
Lift-off weight : 17 t  
Propulsion : All Solid  
Payload mass : 40 kg  
Orbit : Low Earth Orbit



ASLV

Height : 23.5m  
Lift-off weight : 39 t  
Propulsion : All Solid  
Payload mass : 150 kg  
Orbit : Low Earth Orbit



PSLV-XL

Height : 44m  
Lift-off weight : 320 t  
Propulsion : Solid & Liquid  
Payload mass : 1860 kg  
Orbit : 475 km  
Sun Synchronous  
Polar Orbit  
(1300 kg in  
Geosynchronous  
Transfer Orbit)



GSLV Mk II

Height : 49m  
Lift-off weight : 414 t  
Propulsion : Solid, Liquid  
Payload mass : 2200 kg  
Orbit : Geosynchronous  
Transfer Orbit