



ISRO Launch Vehicles

ISRO LAUNCH VEHICLES

BACKGROUND

◆ First rocket developed by ISRO - SLV (Satellite Launch Vehicle)

◆ Successor of SLV - Augmented Satellite Launch Vehicle (ASLV)

Polar Satellite Launch Vehicle (PSLV)

◆ About

- The **Workhorse of ISRO**
- 3rd gen, 4-Stage launch vehicle (1st, 3rd stages - solid fuel; 2nd, 4th stages - liquid fuel)

◆ Capacity

- Delivers **earth-observation/remote-sensing satellites**
- Used to launch satellites of lower mass (~1400 Kg)

◆ 4 Variants:

- PSLV-CA ● PSLV-QL ● PSLV-DL ● PSLV-XL

◆ Launches Satellites in

- Low inclination LEO ● Sub-GTO ● GTO

◆ Important Launches

- First successful launch - October 1994
- Chandrayaan-1 (2008)
- Mars Orbiter Spacecraft (2013)

PSLV is 1st Indian launch vehicle to be equipped with liquid stages



Geosynchronous Satellite Launch Vehicle (GSLV)

◆ About

- 4th Gen, 3-staged launched vehicle
- Much more powerful rocket, carries satellites much deeper into space
- Has an **indigenous Cryogenic Upper Stage**

◆ Capacity

- Delivers **communication-satellites**
- Carries heavier satellites (~2200 kg to GTO)
- Carries 10,000-kg satellites to LEO

◆ Launches Satellites in

- Primarily Geosynchronous Transfer Orbit (GTO) (~36000 Km altitude)

◆ Important Launches:

- Chandrayaan-2 ● Upcoming Gaganyaan



Launch Vehicle Mark-III

◆ About

- Aka **GSLV Mk-III**
- 3-stage launch vehicle (2 solid propellant and 1 core stage comprising liquid and cryogenic stages)

◆ Capacity

- 4,000-kg of satellites into GTO
- 8,000 kg of payloads into LEO

◆ Launches Satellites in

- GTO ● Medium Earth orbit (MEO)
- LEO ● Missions to moon, sun

Mk-III versions have made ISRO entirely self-sufficient in launching its satellites



Small Satellite Launch Vehicle (SSLV)

◆ About

- Developed specifically for **small and micro-satellites**

◆ Capacity

- Satellites up to 500 kg

◆ Launch Limit

- 500 km planar orbit (LEO) from Satish Dhawan Space Centre



Drishti IAS

[Read more...](#)

