



## 50th PSLV Launch

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### Why in News

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Recently, India's **Polar Satellite Launch Vehicle (PSLV-C48)** marked its **50<sup>th</sup> launch** by injecting **India's advanced radar imaging earth observation satellite RISAT-2BR1**.

- PSLV-C48 also injected 9 **other customer satellites** from Japan, Italy, Israel and the U.S.A. into their intended orbits.
- This was **75<sup>th</sup> launch vehicle mission** from **Satish Dhawan Space Centre, Sriharikota**.

### RISAT-2BR1

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- The **628 kg RISAT-2BR1**, is placed into a **576-km orbit at an inclination of 37 degrees**.
- It is the **second satellite** in the **RISAT-2B** series and along with the **CARTOSAT-3**, it is the **part of 'spy' satellites**.

These satellites will keep a check on infiltration by allowing round-the-clock surveillance across the border.
- It has a life of **five years**.
- RISAT-2BR1 is expected to bolster the country's **border monitoring measures** besides aiding in disaster management, agriculture and tracking forest cover.

It is equipped with a **Synthetic Aperture Radar (SAR)** that can take pictures of the earth both during the **day and night**, irrespective of the cloud conditions.

### Polar Satellite Launch Vehicle

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- Polar Satellite Launch Vehicle (PSLV) is the **third generation launch vehicle** of India.
- It is a **four-staged** launch vehicle with **first and third** stage using **solid** rocket motors and **second and fourth** stages using **liquid** rocket engines.

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

- Initially, PSLV had a **carrying capacity** of 850 kg but has been **enhanced to 1.9 tonnes**.
- The PSLV has helped take payloads into almost **all the orbits in space** including **Geo-Stationary Transfer Orbit (GTO)**, the Moon, Mars and would soon be launching a mission to the Sun.

Between 1994 and 2019, the PSLV launched 50 Indian satellites and 222 foreign satellites for over 70 international customers from 20 countries.

- It has a history of successful launches of payloads that include **Chandrayaan-1**, **Mars Orbiter Mission(MOM)** and the **space recovery mission, etc.**

The PSLV has **failed only twice** in its history — the maiden flight of the **PSLV D1 in 1993** and the **PSLV C-39 in 2017**.

**Source: TH**