50th PSLV Launch

Why in News

Recently, India’s Polar Satellite Launch Vehicle (PSLV-C48) marked its 50th 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 75th launch vehicle mission from Satish Dhawan Space Centre, Sriharikota.

RISAT-2BR1

- 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

- 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**