



RISAT-2B Satellite

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The Indian Space Research Organisation (ISRO) has successfully **launched an earth observation satellite, Radar Imaging Satellite-2B (RISAT-2B)**, which would enhance the country's surveillance capabilities through **Polar satellite Launch Vehicle (PSLV-C46)**.

Background

- The Indian Air Force (IAF) had sent Mirage 2000 fighter jets to strike a terror camp in Balakot, deep inside Pakistan territory, on the morning of 26th February, 2019. Some experts have speculated that **heavy cloud cover at that time could have blinded Indian satellites, resulting in no images or videos of the operation** being released so far. The country has high-resolution optical imaging CartoSAT satellites, but they get blinded by dense cloud cover.
 - **When it is cloudy or dark, 'regular' remote-sensing or optical imaging satellites** – which work like a light-dependent camera – **cannot perceive hidden or surreptitious objects** on the ground. Satellites that are equipped with an active sensor, **the synthetic aperture radar (SAR), can sense or 'observe' Earth** in a special way **from space, day and night, rain or cloud.**
- Two previous radar-enabled satellites launched by India into space were **RISAT-1** and **RISAT-2**, the latter being an acquisition from Israel.
 - These satellites helped security and intelligence agencies to plan surgical strike in 2016 on terror launchpads in Pakistan-Occupied Kashmir and the Balakot aerial strike in February this year.
 - The first satellite in the RISAT series – **RISAT-2** – was **launched in 2009**. The 300 kg satellite used an **X-band synthetic aperture radar sensor made by Israel Aerospace Industries.**
 - **RISAT-1**, an indigenously developed radar imaging satellite, was **launched in 2012**. The launch of RISAT-1 was postponed to prioritise the launch of RISAT-2 after the 2008 Mumbai terror attack.

About RISAT-2B Satellite

- It is built to work for at least **five years** and would **replace the RISAT-2** that has been in use for monitoring activities in camps in Pakistan and thwarting infiltration bids by terrorists from across the border.
- This is the **third Indian RISAT in ten years** and has been **placed at a low earth 557-kilometre orbit**.
- RISAT-2B's **X-band synthetic aperture radar can give details such as size of objects on Earth, structures, movement and change**.
 - The information will complement data from the normal optical remote sensing satellites.
 - The data from this satellite are **vital for the Armed Forces as well as agriculture forecasters and disaster relief agencies**.