



## International Cooperation: ISRO

---

 drishtiias.com/printpdf/international-cooperation-isro

### Why in News

---

Recently, **Indian Space Research Organisation (ISRO)** and **Japan Aerospace Exploration Agency (JAXA)** reviewed cooperation in **earth observation**, **lunar cooperation** and **satellite navigation**.

### Key Points

---

- **About the Cooperation:**

- They also agreed to explore opportunities for cooperation in “space situational awareness and professional exchange programme”.
- Both agencies signed an **Implementing Arrangement** for collaborative activities on **rice crop area** and **air quality monitoring** using satellite data.
- **India and Japan** are already working on a joint **lunar polar exploration (LUPEX)** mission.

LUPEX aims to **send a lander and rover to the Moon’s south pole around 2024**.

- **Agreements with Other Countries:**

- **India and Italy** have decided to explore opportunities in **earth observation, space science and robotic and human exploration**.
- **India and Australia** signed an amendment to the MoU which will build on the **Comprehensive Strategic Partnership**.

Both countries are also in discussions for **Australia to host vital tracking infrastructure** to support the **Gaganyaan** manned space flight mission.

### Few Achievements Through International Cooperation

- **Chandrayaan-1:**
  - ISRO's maiden mission to Moon, the **Chandrayaan-1**, has been an exemplary example of international cooperation with its international payloads.
  - It has also earned several national and international laurels and was instrumental in the **ISRO-NASA joint discovery of water molecules** on the moon surface, unattained by any of the previous missions of such nature.
- **Megha-Tropiques:**

The **Indo-French joint satellite mission** called **MEGHA-TROPIQUES** was launched in 2011 for the study of the tropical atmosphere and climate related to aspects such as **monsoons, cyclones**, etc.
- **Saral:**

The **Indo-French joint mission**, named **SARAL (Satellite for ALTIKA and ARGOS)** for studying the ocean from space using altimetry was successfully launched in 2013.
- **NISAR:**
  - **ISRO and NASA** are realizing a joint satellite mission called **NISAR (NASA ISRO Synthetic Aperture Radar)** for earth science studies.
  - The mission will observe Earth and measure its changing ecosystem and masses globally.
  - It is the world's most expensive imaging-satellite and the two space agencies intend to launch the satellite by 2022.
- **UNNATI:**

**ISRO has launched capacity building programme on nano satellite development**, named as **UNNATI (UNISpace Nanosatellite Assembly & Training by ISRO)** as an initiative of **UNISPACE+50** (the 50<sup>th</sup> Anniversary of the first United Nations conference on the exploration and peaceful uses of outer space).
- **TRISHNA:**

ISRO and the French space agency **CNES** have partnered in developing advanced upgradation satellites like TRISHNA to **monitor the water cycle** to help in finding out proper ways to utilize it.

**Source:TH**