

# India-Japan Space Cooperation: A Snapshot

Anupama Vijayakumar,  
Consultant, RIS

The India-Japan strategic partnership has ascended to new heights in recent times driven by mutual interests and a vision for the global order based on shared values of democracy and prosperity. Japan views India as an [indispensable partner](#) in carrying forward its Free and Open Indo-Pacific (FOIP) Strategy, a view that is reciprocated for India's side as well. Science and Technology (S&T) cooperation has historically shaped the trajectory of the bilateral relationship in the post-World War II era. Herein, converging viewpoints, whether it be with respect to peaceful uses of technology or universal disarmament has driven bilateral S&T cooperation. Space cooperation has been evolving as a central area of cooperation in recent times.

The origins of [India-Japan space collaboration](#) dates back to the 1960s when India had set up the Thumba Equatorial Launching Station in Thiruvananthapuram. The "Arrangement concerning the considerations of potential future cooperation in field of outer space" was signed between the Indian Space Research Organisation (ISRO) and the Japan Aerospace Exploration Agency (JAXA) in 2005, thereby laying a proper foundation for bilateral space cooperation. This was followed by the signing of a Memorandum of Understanding "to pursue future cooperative activities in the use and exploration of outer space exclusively for peaceful purposes". The two countries ventured into a unique endeavour in deep space exploration in 2017 with the signing an implementation agreement under which JAXA's Akatsuki Venus Orbiter Mission utilised the [32-m antenna](#) of Indian Deep Space Network to carry out its radio occultation experiment. Subsequently in 2018, an

agreement for "cooperation on validations, improvement, and applications of rainfall products using satellite images and ground measurements" was signed. The two countries have further cooperated under the auspices of the Asia Pacific Regional Space Agency Forum (APSAF) on the [APSAF/SAFE Agromet project](#) which aims to provide high-quality space-based agrometeorological information to help end-users evaluate rice crop growth.

The high levels of trust driving bilateral space cooperation is evidenced by growing activity in the area of lunar exploration. ISRO and JAXA have been jointly exploring the potential for joint [lunar polar exploration \(LUPEX\) mission](#) since 2018. The momentum picked up following India's launch of Chandrayaan-2 in 2019 after which India started to lay concerted focus on demonstrating a capability to execute a soft landing on the moon. ISRO gained official authorisation to work on the LUPEX mission on 7 October 2024. Scheduled for launch in 2025, LUPEX seeks to explore the lunar south pole to "demonstrate new surface exploration technologies related to vehicular transport and lunar night survival for sustainable lunar exploration".

Space sustainability is another area where India-Japan space cooperation has ventured into in recent times. Being major spacefaring nations, both India and Japan are concerned about the growing problem of space debris which pose a major threat to their space assets. In this regard, recent endeavors have also sought to foster cooperation between commercial space players. In December 2024, Tokyo-based Orbital Lasers and Indian robotics

company InspeCity have [agreed](#) to jointly look into an experimental approach to space debris management. The study would look into whether a laser-equipped satellite can remove space debris. A subsidiary of the Japanese satellite giant SKY Perfect JSAT, Orbital Lasers is already working on technology which uses lasers to control rotation of space junk at high speeds. It does so through vaporizing small parts of the surface to make it easier for spacecraft to rendezvous.

Discussions within the Quadrilateral Security Dialogue (Quad) have arguably catalysed Japan-India space cooperation to grow stronger. In the [Quad summit](#) in May 2022, the United States, Japan, Australia and India launched the "Indo-Pacific Partnership for Maritime Situation Awareness" and the "Japan-US-Australia-India HADR (Humanitarian Assistance and Disaster Relief) Partnership in the Indo-Pacific". This was intended to facilitate cooperation in using space-based maritime observation to create a monitoring and sustainable development framework.

These frameworks effectively assign India and Japan a major role in [creating public goods](#) that can bolster resilience and security in the Indo-Pacific region. As major spacefaring nations, the two countries are also major voices in shaping the evolving global agenda in space diplomacy and space security. Together, they can advocate for the status of outer space to be maintained as a common heritage of mankind while managing the implications of the ongoing arms race in outer space.