



SpaceCom

This article is based on [“Satellite Broadband: A faster way to connect India”](#) which was published in The Hindu Business Line on 04/07/2021. It talks about the advantages and challenges associated with space communications technologies.

Over the past few months, there has been a sudden rise in the interest of satellite communications in India. Recently, some telcos asked for a share in the 27.5 Ghz – 29.5 Ghz frequency, which globally is earmarked for Space communications (Spacecom).

Space communication is an electronic communication package placed in an orbit. Its prime objective is to initiate or assist through space. It has made a major contribution to the pattern of international communication.

Global companies are striving to build and deploy “mega-constellations” of hundreds or thousands of satellites to bring affordable high-speed internet services to businesses, governments, schools, and individuals.

Realising the potential of spacecom, the government of India released a [Draft Spacecom Policy 2020](#). However, despite India’s impressive achievements in the space sector, growth has been at snail’s pace.

Advantages of SpaceCom

- **Unhindered Connectivity:** Through satellite transmission, coverage over geographical areas is quite large mainly for sparsely populated areas.
 - Wireless and mobile communication applications can be easily established by satellite communication independent of location.
- **Cost Advantage:** Satellite broadband provides instantaneous service. To beam into households, commercial establishments including machine to machine and IoT, satellite broadband does not require laying cable.
 - According to a report titled Space India 2.0, the cost to cover one sq km from space varies between \$1.5 and \$6, vis-a-vis \$3,000 to \$30,000 required by ground infrastructure to cover the same area.
- **Phenomenal Growth in Allied Sector:** It is used in a wide variety of applications such as global mobile communication, private business networks, Long distance telephone transmission, weather forecasting, radio/TV signal broadcasting, gathering intelligence in the military, navigation of ships and air crafts, connecting remote areas, television distribution etc.
- **Easy to Deploy:** During critical conditions, each Earth Station may be removed relatively quickly from a location and reinstalled somewhere else.

Associated Challenges

- **Conventional Technology:** The Indian satellites are still using the conventional satellites despite

the proliferation of high throughput satellites world-over.

- The use of traditional satellite technology in India makes it infeasible for satellite broadband to be commercially viable.
- **Lack of Indignation:** There is a lack of domestic participation for building space infrastructure despite the [‘Make in India’ mission](#).
- **Overburdened ISRO:** [ISRO](#) is over burdened by its regular operations such as launch of satellites, construction of launching vehicles etc which are becoming hurdles in ISRO's way for working in new projects.
- **Low Profile:** As per ISRO studies, India currently holds a mere 3 per cent share in the \$360-billion global space market.
- Satellite broadband services in India remain primarily for the B2B sector with a market size of roughly \$100 million.

Way Forward

- **Privatisation:** Advanced space-faring nations have privatised most of spacecom blocks in the value chain.
 - SpaceCom experts predict that with the upcoming ‘Open Space’, satellite broadband services can be a \$500 million-plus near-term market opportunity.
 - Thus, there is a need for building systems to help nurture the industry and create an extensive ecosystem.
- **Preventing the Misuse of Technologies:** The major concern is to make sure that this high precedent technology should not go in the wrong hands.
 - The government should make laws regarding the operation of private players in both the commercial as well as the strategic part of the space sector, so that technology can't be misused.
- **Judicious Allocation of Orbital Resources:** The allocation of Indian orbital resources would have to be undertaken in a reasonable and non-arbitrary manner and formulated by the jurisprudence under Article 14, 19 and 21 of the Constitution of India.
 - India needs to have conducive regulations and policy along with sufficient spectrum allocation, ease of doing business, dropping capacity prices, etc.
- **Single Window Clearance System:** There is a need to consolidate the powers and functions of stakeholder ministries into a single body.
 - This would authorise all applications for deploying and operating Spacecom assets and provide assurances for a fair, non arbitrary, predictable and time bound adjudication.

Conclusion

With right policy intervention Spacecom has a tremendous scope to contribute a sizable chunk to the GDP growth, with the potential to open floodgates for greater innovation, R&D, employment, investment and connectivity.

Drishti Mains Question

With right policy intervention Spacecom has a tremendous scope to contribute a sizable chunk to the GDP growth, with the potential to open floodgates for greater innovation, R&D, employment, investment and connectivity. Discuss.

