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India's Satcom Sector: An Opportunity Laced With Challenges



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Article Content:

A balanced regulatory approach is crucial, one that supports both public and private players and drives innovation

India's satellite communication (satcom) sector is on the cusp of a revolution powered by government reforms and cutting-edge technologies. Although the satellite spectrum landscape presents significant opportunities, it requires strategic intervention. The sector faces challenges in spectrum allocation, regulatory clarity, high upfront costs, and infrastructure gaps.

"The current demand projections are realistic, yet spectrum allocation delays are hindering industry progress. A balanced regulatory approach is crucial, one that supports both public and private players, drives innovation, and protects national interests. By creating a flexible framework that reduces entry barriers and accelerates allocation processes, we can unlock the full potential of India's space technology ecosystem," said Lt Gen AK Bhatt (Retd), Director General, Indian Space Association (ISpA).

It is still early days for commercial satellite broadband in India. The biggest challenge right now is regulatory clarity. "Licensing, spectrum use and coordination between agencies take time. Satcom operators will have to work closely with telcos for backhaul and last-mile integration and that relationship is still evolving. So the potential is huge, but the path to scale is definitely not straightforward," said Munish Vaid, vice president, Primus Partners.

Speaking at India Mobile Congress (IMC) 2025, Union Telecom Minister Jyotiraditya Scindia told media that Satellite broadband services in the country will begin after companies finalise their rollout plan and the sector regulatory Trai suggests spectrum prices.

Satcom regulation in India is governed by the Department of Telecommunications (DoT) and IN-SPACE, requiring licenses for service provision and strict mandates for data security and localization.

Satellite Internet refers to the internet service provided through satellites placed in Geostationary Orbits (GSO) or Non-Geostationary Orbits (NGSO). Satcom services are designed to complement terrestrial networks, extending connectivity to remote and unserved regions across the country.

Collaboration is the Key

Domestically, public private partnerships are transforming the space sector and India is increasingly collaborating with foreign space agencies for innovations. In March, SpaceX, Starlink's parent company signed a joint venture (JV) with Bharti Airtel and Jio Platforms.

"India is truly a unique market, home to world-class technologists, innovative use cases and a government that has played a pivotal role in making technology ubiquitous. With continuous policy support for NGSO systems and proactive efforts by the DoT and IN-SPACe, the foundation for a more inclusive and connected future is being strengthened. As we expand our presence, particularly in rural regions, our goal is to complement existing services and meet India's growing demand for world-class internet experiences," said Parnil Urdhwareshe, director, Starlink Satellite Communications.

"Most of Starlink's users worldwide are residential customers in rural areas," added Urdhwareshe, speaking at the IMC in New Delhi.

Starlink's prices in India are expected to be a one-time equipment charge of approximately INR 30,000 – INR 35,000 for the hardware, with monthly subscription fees likely to start around INR 3,000. Starlink has recently obtained government approval in India and is preparing for its official launch, which could occur by the end of 2025.

The entry of global players such as Starlink, Amazon's Project Kuiper and OneWeb is going to heighten competition and increase price wars, and can compress margins for incumbent operators. While India's telecom and broadband landscape is too complex for any one player to dominate overnight, global companies bring advanced technology and investment, but local operators still have the home-ground advantage, like distribution, pricing knowledge and regulatory familiarity.

"In the long run, partnerships may matter more than competition. We may likely see global satcom players working with Indian telcos and infrastructure companies to expand coverage instead of directly fighting for market share. The real value will lie in collaboration, i.e combining global tech with local execution," added Vaid.

The Cost Conundrum

Satcom, particularly Low Earth Orbit (LEO) satellites, offers a way to bring high-speed Internet and connectivity to remote and underserved areas where terrestrial networks are not feasible. In 2024, India ranked second globally in Internet usage, yet, only 49.15 percent of its population has Internet access, with rural and remote regions remaining significantly unconnected. This reflects the gap in infrastructure. "We are now placing more than 100 satellites in a single launch. We are ensuring connectivity to the last mile citizens and enabling industrial efficiency," said Dr. V. Narayanan, chairman, ISRO and the Secretary, Department of Space (DoS).

However, high cost may pose a challenge. Reports suggest that the cost of deploying and maintaining Internet infrastructure in remote regions is estimated to be 10 to 20 times higher than in urban areas. Satcom won't be the cheapest connectivity option and it is not meant to replace fiber or mobile broadband, but it fills the gaps they can't reach. For remote villages, hilly regions, islands or border areas, satellite can be the only viable option. Eventually, government support and enterprise demand, for education, healthcare or emergency services, will also help subsidise access.

"Equipment costs and user terminals are still high, especially for rural markets where affordability matters most. As more satellites launch and capacity increases, costs will gradually fall. The bridge will come not from making satellite cheaper than 4G, but from making it available where 4G can't go. Over time, as hardware prices drop and local manufacturing starts coming in, it can become a meaningful part of India's connectivity mix," explained Vaid.

India's satellite communication market size stands at USD 3.25 billion in 2025 and is projected to reach USD 6.89 billion by 2030, translating into a 16.21 per cent CAGR over the forecast period. Accelerated growth reflects sustained government investments in rural broadband, rising defense bandwidth needs, and surging demand for video streaming resiliency, according to the Mordor intelligence report.

Companies in India's satcom sector include established operators like Jio Satellite Communications, Bharti Airtel, and Hughes Communications India, alongside global players such as satellite Internet providers Starlink and Eutelsat OneWeb, and domestic space technology firms.