

Comments of: SES

Dear Sir,

Please be informed that SES is one of the world's leading satellite operators. We own and operate a fleet of 55 geostationary satellites that covers 99% of the world's population and our services are complemented by a network of teleports around the globe.

As you are aware, SES has a long and successful association with Antrix/ISRO of more than a decade, and has been part of the Indian Satellite Eco-system by leasing the Satellite Capacity through Antrix/ISRO to various Indian DTH, VSAT and DSNG Customers.

SES is pleased to provide the following comments, for your kind perusal, with reference to the above subject.

India has population of 1.27 Billion with 262 million households spread across approximately in 1,268,219 square miles and more than two thirds of population lives in rural area. It has remote islands like Andaman & Nicobar and Lakshadweep islands and in-accessible and hilly areas in North Eastern parts of India where fiber cannot reach easily and line of sight will be difficult for terrestrial wireless communications. Therefore, the satellites play an important role in implementing Broadband services while other modes of communications have their own role to play in implementing Broadband service at the same time recognizing its own limitations to reach the last mile.

The technological advances in ground communication and satellite communication technologies have brought down significantly the prices of the ground communication equipment as well as maximum throughput that could be realized. This paved the way for the emergence of High Throughput satellites (HTS) in Ku/Ku, Ka/Ku and Ka/Ka with the use of spot beams and frequency-reuse.

Since more and more two-way FSS spectrum is becoming scarce, it is critical to reuse spectrum efficiently and thus, the concept of HTS has evolved not only to optimize the spectrum but, also to achieve higher throughput. Today, FSS Ku-band frequencies are ideally used to provide two-way communication links to the customers however, this capacity is currently being consumed predominantly by one way applications of Broadcast services in India. In view of this, Indian regulatory authorities could effectively optimize the usage of scarce orbital frequency resources, in the FSS Ku frequency band, to meet the key strategic and social applications of national importance, while the commercial sector particularly, broadcast services could ideally be served in other alternate ITU allocated frequency bands.

The HTS Satellites have the following inherent advantages:

Ubiquitous coverage

Superior Reliability of service

Infrastructure building

Cost effectiveness

Immediacy and scalability

A long term solution to last mile

Rapid provision of new services

Total Network Management

Offers business viability at any population density

Therefore, Satellite would play a critical role to meet the objectives set forth in the National Broadband Plan of India particularly, to help overcoming the Digital Divide connecting the rural and remote areas along with urban areas for holistic and inclusive growth.

Also, it could be a catalyst to roll-out various societal and commercial applications to every nook and corner of India, quickly and affordable.

Applications that can be addressed:

Consumer broadband

E-education

E-health

Rural Internet Kiosk

Solution for Communities

E-Government

Maritime

Energy Monitoring

As per the World Bank's Study, a 10% increase in broadband penetration accelerates economic growth by 1.38% in developing countries. Therefore, there is a need to create a robust infrastructure which requires active government participation and involvement by investing public funds.

Satellite would play a critical role to meet the objectives set forth in the National Broadband Plan of India particularly, to help overcoming the Digital Divide connecting the rural and remote areas along with urban areas for holistic and inclusive growth. Also, it could be a catalyst to roll-out various societal and commercial applications to every nook and corner of India, quickly and affordably.

In the Annexure, reference has been made to National Broadband Network (NBN), Australia. It is worthwhile to make a note of Australia's initiatives for implementing the Broadband services. The National Broadband Network (NBN) in Australia will be using three technologies: fiber, fixed wireless and satellite. It has a plan to connect every home, school and workplace to have an access to NBN. While 90% of the NBN customers are to receive fiber access, the remaining 10% rely on a combination of fixed wireless and satellite service. NBN has plans to implement the satellite services by launching two satellites Ka band (A\$620 Million) in 2015 and with 80 Giga bits per second per satellite. This would cover 7000 Kilometers of area covering from Coco Islands to Norfolk islands targeting 200,000 households with 12/1 Mbps.

We would be glad to provide any further inputs / clarifications, should you require so.

We sincerely thank you for your time in this matter.

Kind regards,

Raju Pulugurtha
Senior Sales Director, South Asia