

Satcom integral to success of 5G in India: BIF

- *White Paper on "Satellites for 5G & Rural Connectivity" released*
- *Need 20 times the present capacity to meet backhaul requirements*

18th August 2021, New Delhi: Broadband India Forum (BIF), the leading policy forum and think-tank for digital transformation and broadband proliferation in the country, hosted a session of The Digital Dialogues on the theme of 'Satcom & 5G – The Final Frontier' today. A BIF White Paper on *Satellites for 5G & Rural Connectivity* was also released during the session by the **Chief Guest – Mr. A.K. Tiwari, Member (T), Digital Communications Commission, Government of India**. Also present on the occasion as **Special Guests** were **Mr. Nicholas Chuberre, Rapporteur, 3GPP NTN Work Item; Shri Kishore Babu, DDG (S.R.I.), DoT and Shri R. Shakya, DDG (Satellite), DoT**.

The session witnessed the esteemed speakers deliberate on the critical aspects of the role of satellites in 5G, progress of integration of Satellite into global 5G standards, implications of technology advancements, user requirements, various new use cases and the recommended way forward for India in this vital domain. An initiative of BIF's Satcom Committee, the event saw a vibrant panel discussion amongst the government and industry stalwarts, which included Mr. P.J. Nath, Chair of the Satcom Committee (Tata Nelco), Mr. K. Krishna, Co-Chair (Hughes India), Mr. Rahul Vatts, Co-Chair (OneWeb) and Mr. Gautam Sharma, Member (Inmarsat).

Mr. TV Ramachandran, President, Broadband India Forum, shared: *"Satellite communication will play a significant role in 5G and beyond, and with future integration into emerging technology standards, it will arise as part of the mainstream, besides continuing to play its role as a complementary solution for ubiquitous coverage, emergency/disaster recovery and remote rural areas connectivity. Conservative estimates show that since we need 2 TB for backhaul capacity alone, based on the present availability, we need almost 20x the capacity to meet the requirement, thus outlining the immense potential opportunities ahead for the satcom sector."*

The White Paper titled *"Satellites for 5G & Rural Connectivity"*, is authored by Mr. Anil Tandan, Group CTO, Lycamobile UK Limited (Former CTO, Idea Cellular) and Mr. Gaurav Kharod, Managing Sales Director, South Asia and India, Intelsat. The Paper highlights the role and importance of Satellite Communications in the 5G Ecosystem, with special emphasis on serving the rural and remote areas.

"Various futuristic use cases in aerospace, maritime, agriculture, IoT, etc. beckon satellite networks to be fully leveraged, to derive optimum benefits in conjunction with 5G. There is a crucial need for Standardisation of universal interfaces between ground stations and Satellites, as well as use of Consumer Terminals across different networks, to improve affordability of Satcom," Mr. Ramachandran added.

The Key Observations/Recommendations of the White Paper are as follows:

1. **Satellite Backhaul of 5G Cell Sites** - Cellular backhaul over satellite enables mobile network operators (MNOs) to expand their coverage into geographic areas previously considered economically and feasibly beyond their reach, without much delays.
2. **IoT over Satellites** – Billions of monitoring systems as part of IoT, will be connected to the 5G ecosystem using sensors and devices (M2M), and in many instances connected via satellites through enhanced bandwidth and power efficient terminals.
3. **Universal Coverage** - Satellites provide a wide coverage to complement and extend the dense urban terrestrial coverage targeted by 5G.
4. **Resilience** - Satellites will support a resilient 5G network to mitigate the problems of overload/congestion faced by terrestrial networks.
5. **Reliability** - Given that satellites also operate in the lower frequency bands, these are ideal for high-reliability applications, including safety services.
6. **Latency** - It is important that the design of 5G air interface be universal to support varying levels of latencies through seamless management and orchestration of heterogeneous satellites and terrestrial network elements in order to support a variety of unique user experiences.
7. **Content Multicast** - An efficient satellite multicast delivery will help improve user Quality of Experience (QoE), reduce backhaul traffic load and provide immediate and on-demand content access by shifting the Content Delivery Network (CDN) closer to the user, as part of providing next-gen efficient edge computing solutions.

Enhancements in Satcom will help put the end-users in the driving seat through improved user experience and availability of a plethora of applications. This will help provide added utility and convenience for the consumers, more so in conjunction with 5G in the near future.

About Broadband India Forum

Broadband India Forum (BIF) functions as an independent policy forum and knowledge-based think-tank that works for the development and enhancement of the entire broadband ecosystem in a holistic, technology-neutral and service-neutral manner. BIF has established itself as a thought leader and a credible and effective voice, to help propel the nation to achieve the country's ambitious vision of creating a Digital India. To achieve this, BIF works to promote the rapid development of policies, so as to facilitate affordable and high-speed ubiquitous broadband throughout the country.

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