



SatCom Communiqué



From the President's Desk

Dear Readers,

Welcome to the inaugural issue of *SatCom Communiqué* from Broadband India Forum (BIF) on trends and perspectives related to the SatCom sector in India. Satellite connectivity will be a preferred choice for providing broadband connectivity because of its ubiquitous coverage, universal footprint and fast rollout.

We laud TRAI for taking cognizance of the fact that private participation be allowed to launch satellites in low and medium earth orbits. BIF sees this an opportunity for the policy makers and the industry to be aligned with respect to understanding what stands between the average Indian and their crying demand for better broadband. The proliferation of broadband services is critical for meeting the objectives of the Digital India program. Currently in the process of promoting the creation of the digital infrastructure backbone, BIF looks forward to working with the Government to achieve the ambitious targets enshrined in the Government's agenda of creating the new 'I-way', smart cities and Broadband for all.

In the **"Spotlight"** section, we discuss path-breaking and historic measures unfolding in India's space satellite sector in India. We also have views on the prospects of SatCom in India over the next 5 years in the **"Industry Speak"** section, and I would like to thank them personally for sharing their valuable thoughts. In our **"Newsflash"** section, we have summarized the significant happenings in the sector over the last few months. In the **"Upcoming Events"** section, we give you a glimpse of the proposed BIF Event on SatCom.

We hope you enjoy reading this issue!

In an effort to make this newsletter more useful to you, we would appreciate your comments and suggestions that you may have on this issue as well as topics that you would like us to feature in the forthcoming issues.

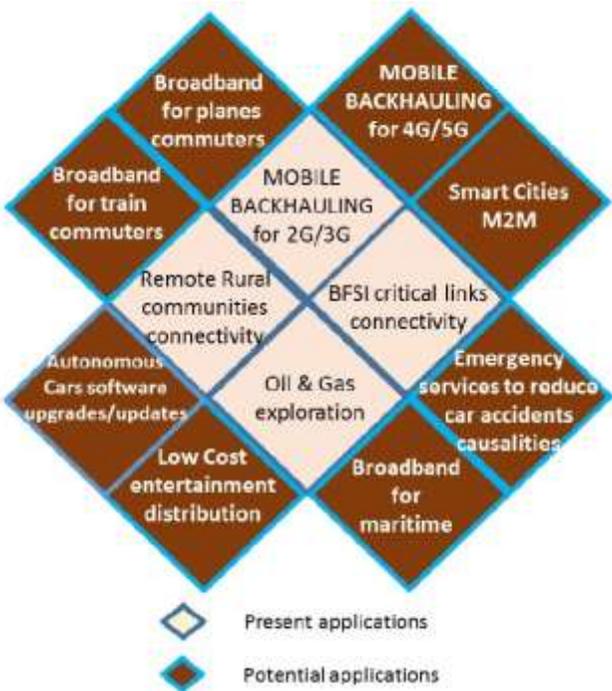
Yours sincerely,

TV Ramachandran
President,
Broadband India Forum

Foreword

By Mr. Avi Gutgold, Chairman, India SatCom Committee, BIF

There is a permanent competition between terrestrial and satellite communication in majority of the applications. Whereas terrestrial is usually the winner, the satellite is being implemented either where terrestrial cannot be implemented or as an early fast deployment strategy. There are places where Satellite is a clear winner. Broadband services on planes and ships can be provided only by satellite. Broadband on trains can be provided by terrestrial communication as well; though it depends on the train route. India, which has the largest railway tracks, many of the routes don't have terrestrial communication coverage and thus satellite communication is the only solution to provide seamless connectivity. As for Directorate General Civil Aviation (DGCA) there are 6Mn passengers on board domestic flights between Delhi and Mumbai making Delhi-Mumbai flight one of the busiest in the world.



Since 2014, Prime Minister Narendra Modi emphasized the importance of developing ports to address the surge in trade volumes. The government plans to mobilize an investment of Rs 1 lakh crore in the port sector to more than double port capacity to 3,000 million tonnes by 2025. Another field of innovation, which shall attract a lot of interest and investments, is IOT. Satcom is already being used for M2M applications such as fleet management, asset monitoring. Whereas the Cisco report predicts 50Bn devices of IOT is likely to be deployed by 2020, the NSR 2016 report on IOT predicts around 4.7Bn Satcom based IOT links to be present which is around 9.5% out of the total number of links. By 2020, Deloitte believes industries such as utilities, manufacturing, automotive, transportation and logistics are expected to see highest adoption levels of IoT in India. The government's planned investment of about \$1 billion for 100 smart cities, over the next five years, is expected to be a key enabler for IoT adoption across these

industries. In addition, industries such as healthcare, retail, and agriculture are also expected to make significant progress in IoT adoption. India has the sixth largest automobile market in the world. The autonomous car revolution is across the corner and satellite will be vital for software updates as well as for emergency services.

Currently the commercial Satcom industry in India focuses on 2G/3G mobile backhauling, BFSI services, oil & gas applications and on remote Rural community connectivity. Nevertheless, new types of requirements are evolving where Satcom plays a vital role. Adding to the challenges of the terrestrial connectivity coverage as well as the starve of the Indian for Internet (globally #1 Facebook users, #1 Google Play downloads, #2 Internet users), there will be a rapid increase for Broadband connectivity in the coming years where Satcom will play a vital role which shall result in a sharp increase in the requirement for satellite bandwidth.

Spotlight: Participation of Private Players in Satellites is Crucial for its Growth

“We should allow anyone to step in to send these satellites. These orbits are ideal to expand broadband penetration in the country, especially in the North-East.”

- Shri R S Sharma, TRAI Chairman
(Financial Express – May 2017)



Broadband India Forum (BIF) lauds TRAI for taking cognizance of the fact that private participation be allowed to launch satellites in low and medium earth orbits. BIF sees this an opportunity for the policy makers and the industry to be aligned with respect to understanding what stands between the average Indian and their crying demand for better broadband!



“The government is aware of the opportunities presented by SatCom and we hope to hear some positive news very soon.”

- Ms. Aruna Sundararajan, Secretary – MieTY
and Secretary-T (Addl. Charge)
(Business Standard - May 2017)

The proliferation of broadband services is critical for meeting the objectives of the Digital India program. As per TRAI statistics dated December 2016, total broadband connections in the country stood at 236 million and there is a long road before it reaches the far flung corners of the country. Satellite connectivity will be a preferred choice for providing broadband connectivity because of its ubiquitous coverage, universal footprint and fast rollout.

Currently in the process of promoting the creation of the digital infrastructure backbone, BIF looks forward to working with the Government to achieve the ambitious targets enshrined in the Government's agenda of creating the new 'I-way', smart cities and Broadband for all.

“We are delighted that TRAI has supported the common endeavour to roll out innovative and affordable mobile broadband services to the citizens of India through satellites. This will hasten our broadband penetration, which currently pales in comparison to the penetration rates in both the developed and developing countries.”

- TV Ramachandran, President, BIF

Many modern Broadband applications are based on distributing information to many sites located over a vast geographical area. Satellites are well-suited for delivering these services, as they allow service provisioning over a large geographical footprint, can deliver many services simultaneously and solve the expensive ‘last mile’ issue particularly in rural and remote areas. Satellite communication can also be used in conjunction with or as a complement to terrestrial infrastructure to enable complete Broadband coverage. India's terrain varies widely, from the Thar Desert in the west to jungles in the northeast. In India, Satellite technology is especially suited for far flung and difficult terrain areas like North Eastern States, Leh, Ladakh, Andaman & Nicobar Islands, Lakshadweep, etc. It would be extremely useful in areas where laying optical fiber cables or installing mobile towers are difficult. The satellites could efficiently backhaul the traffic from the local aggregation nodes (Wi-Fi hotspots) from where cables or wireless access could be used to reach the consumers. The satellites can also bring broadband services quickly to other areas, which are eventually to be covered by OFC under the Bharat Net and where OFC network is taking time to reach. As and when OFC network reaches such places, the satellite media can play the stand-by role there and the satellite capacity released from such places can be used to provide higher data speeds to other places covered by satellites.

It is clearly beneficial to the consumers and for the future growth of the broadband industry in the country. BIF is grateful that TRAI has acknowledged the primary necessity of adequate participation from private players and started to initiate efforts in this area.

Industry Speak: Prospects of SatCom in India over next 5 years



Mr. Gaurav Kharod
Country Manager,
INTELSAT

“The SatCom market in India is fairly vibrant and mature - with close to 250K terminals deployed over the last 20 years. The next imminent wave for SatCom is the bandwidth-hungry broadband applications for connecting the unconnected. Applications like the government’s Digital India reaching out to the rural-most areas, Cell Backhauls solutions for 4G/LTE to support the growing smartphone reach, In-flight Broadband Connectivity and maritime broadband, are going to be the key drivers for the SatCom market. These immediate applications could consume more than 5x times the satellite capacity currently in use. And this does not even consider the futuristic IOT, connected cars and 5G applications where satellite may have substantial role to play.

BIF’s role in opening up these markets for satellite communications is critical. The sooner these markets open up the more central would be the role of SatCom as a core technology to support these markets.”

“The government’s Digital India initiative is going to be very beneficial to our vast population. With broadband being a central pillar of Digital India, satellites delivering 1000s of Gbps will be required to ensure broadband reaches all corners of India, at competitive prices.

With the right policies and corresponding implementation, satellite systems like our ViaSat-3 can make broadband available all over India.”



Mr. Sathya Narayanaswamy
VP and Country Manager,
VIASAT



Mr. K. Krishna
VP & Head -Regulatory,
Hughes Network

“In the last 30 years, Satcom in India has seen a significant amount of change. It started off as a leased line in the sky in the pre-privatization era. The industry saw its first inflection point, when the Government brought in the NTP 1999 and allowed Ku Band. From being a thin-route VSAT, it became a Satellite broadband terminal. Proving many predictions wrong, Satcom grew leaps and bounds in the last decade. With the advent of the Ka Band and the High Throughput Satellites, Satcom is poised for yet another exponential growth.

It can play a vital role in providing internet to the masses in the unserved and the underserved areas of the country in a cost effective way. The vision of our Honourable Prime Minister to make India a Digital Highway can be realized in a time bound and cost effective manner with the help of Satcom. The Government needs to play a facilitating role to unlock the potential of this medium and ensure India is not left behind in the revolution that is taking place in this technology.”

Newsflash

BIF MEETS ISRO

Mr TV Ramachandran met Mr AS Kiran Kumar, Chairman, ISRO & Secretary, Space on May 29, 2017 and apprised him about the role that Satcom can play in Digital India and tremendous potential it offers for connecting rural India.



TVR meets Chairman ISRO in Bengaluru



BIF - World Telecom & Information Society Day

Updates and Achievements

- ISRO launched the country's heaviest rocket – Geosynchronous Satellite Launch Vehicle-Mark III (GSLV-Mk III) – along with a communications satellite GSAT-19 on June 05, 2017.
- India's Geosynchronous Satellite Launch Vehicle (GSLV-F09) successfully launched the 2230 kg South Asia Satellite (GSAT-9) into its planned Geosynchronous Transfer Orbit (GTO) on May 05, 2017.
- Broadband India Forum (BIF) held a commemorative event on the eve of the World Telecom & Information Society Day on May 16, 2017 which was presided over by Ms. Aruna Sundararajan, Secretary-MeitY and Secretary-T (addl. charge) along with Mr. N. Sivasailam-Addl. Secretary (T). BIF also submitted a proposal to Additional Secretary – Telecom on the Role of Satcom in Rural BB penetration with Comparative Pricing on June 01, 2017.
- BIF President – Mr. TV Ramachandran met with Chairman ISRO on May 29, 2017 and presented about the role that SatCom can and should play in Digital India.

Interesting Articles

Below are links to articles on promoting reforms in SatCom Policy by BIF President, Mr. T. V. Ramachandran which have been published in leading business dailies:

- Digital India needs reforms in satellite communications [\[LINK\]](#)
- The great gig in the sky [\[LINK\]](#)
- Satellite Communications can drive the broadband revolution [\[LINK\]](#)

Few other articles on SatCom that you may find interesting:

- “TRAI bats for private players in satellites” [\[LINK\]](#)
- “DOT, TRAI & Department of Space need to work closely to pave way for commercial satellite communications: BIF” [\[LINK\]](#)
- “IPSTAR selects Hughes to expand BSNL Broadband in India” [\[LINK\]](#)
- “Broadband Data worth Rs 1900 Cr wasted annually: BIF chief” [\[LINK\]](#)
- “BSNL to offer satellite phone service to everyone in India by 2019” [\[LINK\]](#)

Upcoming Events

International Summit - “India SatCom”

India SatCom 2017 – 3rd International Summit – being organized by the Broadband India Forum, offers a unique opportunity to access key decision makers and business leaders driving the development of Satellite Broadband in India. Register today to gain the knowledge and contacts you will need to make your company part of this growing market for satellite communications services.

The 3rd International Summit of “India SatCom” is proposed to be held in October/November 2017. We shall update the exact date in the first Edition of our Broadband India Forum Newsletter slated to be released in mid-July 2017.



India SatCom 2016 – 2nd International Summit

Join Us in New Delhi for India Satcom 2017:

- Learn about opportunities to provide Satellite Broadband across urban and rural India.
- Talk with key Government decision makers on policy formation, regulations and infrastructure rollouts.
- Attend panel discussions on market growth, regulatory issues, foreign direct investment policies, the role of SatCom in Digital India and other topics.
- Network with government officials, business leaders and executives from the world’s major satellite operators, manufacturers and equipment providers.

We shall be bringing you the latest updates on the policies on SatCom as they are formed in India and industries actions and reactions towards policy formation.

Broadband India Forum Newsletter is releasing on July 14th, 2017 and we shall be forwarding this to you with news on SatCom and other broadband related issues which the forum is actively engaging with the Government for the betterment of Broadband and the betterment of the country.

About Broadband India Forum

Broadband India Forum (BIF) is a technology and service agnostic think-tank that works for the development & enhancement of the entire broadband ecosystem in a holistic manner.

Registered as IPTV Forum, its brand - BIF was formed in October 2015 and is a fairly nascent but dedicated Forum with participation from all parts of the eco-system, including Technology Providers, Telecom Operators, Internet Service Providers, Value-Added Service Providers and seasoned Industry professionals who are familiar with different technologies, operations, regulations and policies. Members include, Huawei, Ericsson, Facebook, Google, Qualcomm, Intel, Hughes, Intelsat, Microsoft, Bluetown, Sterlite, Airjaldi and Tata Net among others.

The Forum's senior leadership team includes renowned and respected professionals from both Industry and Government. Mr. Shyamal Ghosh, Former Secretary-T & IT and first Administrator of the USO Fund, is the Chairman Emeritus of the Broadband India Forum. Mr. M. F. Farooqui, IAS (Retd.), former Secretary-T, is the current Chairman and Mr. T. V. Ramachandran is the President of the Forum. Mr. Vimal Wakhlu, CMD, TCIL and Mr. T. R. Dua, DG, TAIPA are the Forum's current Vice Presidents. Mr. Anil Prakash is the Secretary General. Mr. S. N. Gupta, seasoned technocrat and senior luminary who has worked in DoT and as a Senior Adviser to TRAI (Regulator) is the Treasurer. In addition, the organization is proud to have Mr. Kuldip Singh, former CMD, MTNL and Member, TDSAT; Mr. P. K. Garg, former Wireless Adviser & Member, Radio Regulations Board, ITU and Mr. Abhishek Malhotra, Managing Partner, Arthe Law, a specialist in TMT law as Honorary Principal Advisers to BIF.

BIF works exclusively to enhance the potential of the entire ecosystem to deliver broadband across the whole of India. BIF seeks to be a thought leader and a credible and effective voice of the Indian broadband industry to help propel the nation to achieve the ambitious vision of our Honorable Prime Minister of creating a Digital India. To achieve this, BIF works to promote the rapid development of affordable and high speed broadband throughout the country on a technology-neutral basis through the development of the entire broadband eco-system.

BIF functions through many specialist committees for the advocacy, coordination, facilitation and promotion of all activities with the objective of furthering the goals of the National Telecom Policy in Spectrum, Licensing & Standardization; Telecom Infrastructure; Rural Digital Initiatives; Content & Applications; Privacy, Trust & Security; SatCom; Technology Innovations & New Initiatives.

The activities of the Forum broadly relate to coordination, promotion and formulation of expert opinion on topical subjects related to Broadband. To act as a bridge between Industry on one side and Government and the Regulatory Bodies on the other, front ending several issues related to policy & regulation; conducting conferences, seminars and knowledge events; running awareness campaigns within the highest echelons of Government's policy makers on several issues; releasing media articles on issues currently pertinent to telecom in India such as Make in India, EMF radiation, Net Neutrality, Internet Telephony, SatCom Liberalization & Reforms, V band, GST, Wireless Fiber, etc.



Mr. Anil Prakash
Secretary General, BIF

“It is indeed my pleasure to be associated with SatCoM Communique. It would be our endeavor to keep you updated with latest technology, standards, innovation, policy and regulation, which embark on and facilitate speedy and affordable broadband proliferation in the country.”

