



**To:**  
**Shri Sunil Kumar Singhal**  
**Advisor,**  
**Telecom Regulatory Authority of India**  
**Mahanagar Door Sanchar Bhawan,**  
**Jawahar Lal Nehru Marg,**  
**New Delhi – 110002**

**Subject: BIF Response TRAI Consultation Paper on Inputs for Formulation of National Telecom Policy – 2018**

**Dear Sir,**

**Broadband India Forum (BIF)** is a policy forum and think-tank that works for the development & enhancement of the entire broadband ecosystem in a technology-neutral and service-neutral manner. BIF seeks to be a thought leader and a credible and effective voice to help propel the nation to achieve the ambitious vision of creating a Digital India. To achieve this, BIF works to promote the rapid development of affordable and high speed ubiquitous broadband in a holistic manner throughout the country.

BIF congratulates the Authority for bringing up this Consultation Paper on Inputs for Formulation of National Telecom Policy - 2018. The Indian telecommunications industry is one of its kind success stories. The Government policies and regulatory framework implemented by TRAI have led to phenomenal growth of the sector. This has made the sector more competitive while enhancing the accessibility of telecom services at affordable tariffs to the consumers.

Telecom services are globally recognised as one of the driving forces for overall economic development in a nation. They are also one of the prime support services needed for rapid growth and modernisation of various sectors of the economy. The Government of India recognises this fact and hence, has taken several major initiatives to provide a business friendly environment for companies in this sector. Thus, we hope that NTP-2018 will present an opportunity for making significant policy changes and for giving certainty to the growth of the sector.

A BIF Response to TRAI Consultation Paper on Inputs for Formulation of National Telecom Policy – 2018 is enclosed here with.

Thanking you,  
Yours sincerely

Anil Prakash  
Director General  
Broadband India Forum  
Suite 312-A, Deep Shikha  
8, Rajendra Place  
New Delhi- 110008, India  
M-9811155846 E. anilprakash@broadbandindiaforum.com

## **BIF Response**

### **TRAI Consultation Paper on Inputs for Formulation of National Telecom Policy – 2018**

**Q.1 Stakeholders are requested to give their comments on structure and contents of the proposed inputs for National Telecom Policy, 2018, clearly outlining the specifics along with justification.**

**BIF Response:** We are overall very happy with the structure of the proposed National Telecom Policy and feels that the Authority has covered most of the important subjects. BIF wishes to take this opportunity to highlight that the following points that should be included in the Policy:

1. A Clear Vision Statement: The Consultation Paper lays down the mission, objectives and strategies for the National Telecom Policy 2018. There is a need to define a clear over-arching vision statement. BIF suggests the following option which could serve as the Vision Statement

**“A Digital Communication Policy which is in tune with the times and is all embracing for the provision of next generation of converged communication services throughout the country to ensure inclusive growth.”**

2. Mission should include the following:

- Transitioning to a new era-from Telecom to Digital era
- Encourage innovation and new technologies.
- Promote a light-touch regulatory framework for development & encouragement for the burgeoning app economy
- To promote innovation, R & D, Global standards creation & adoption, Creation of IPRs, Local Manufacturing under Make in India for the world
- Permit proliferation of the widest range of cutting edge technologies, services and business models to increase consumer choice and welfare
- Reduce barriers to market entry for all new entrants including startups by creating a stimulus for growth of new networks and services

3. Objectives:

- Under Objectives, point c, “To enable access for wireline broadband services to 50% households in the country” – This should be expanded to include both wireline and wireless.
- Under Objectives, point f, “To develop 10 million public Wi-Fi hotspots in the country” – This figure should be changed to at least 75 Million Public Wi-Fi Hotspots. The current situation of Wi-Fi hotspots is not encouraging at all with a total number of 31,500 hotspots as of 2016. Based on the global average today of 1 in 150, India should have at least 8 Mn Public Wi-Fi hotspots today. Given the fact that the world is already moving to a standard of 1 in 20 and that there is likely to

be a rise in population in next 5 years, therefore this figure should be suitably raised to 75 Mn so that it is at par with the global average by 2022/23.

4. Point D Common Strategies **to leapfrog India amongst top-50 nations in international rankings in terms of network readiness, communications systems and services, to attract an investment of USD 100 billion in telecommunication sector, and to attain average speed of 20 Mbps for wireless and 50 Mbps for wireline internet connectivity:**

- Point (c) under the Common Strategies, “Review of license fee, USOF levy, and SUC keeping in view importance of tremendous need for enhancement of communication infrastructure” – This should include introduction of a Telecom Service Levy that will replace the current levies such as license fee, USOF levy, and SUC. BIF proposes a Telecom Service Levy (TSL), which could use the efficient GST-type methodology to avoid the dispute-ridden and inefficient AGR route and go directly to the incontrovertible revenue base of the revenue receipts from customers, which attracts GST. Let us assume that this Rs.100/-. The Central GST and State GST of 9% each takes the total bill to Rs.118/-. We now need to look for the figure for the new Telecom Service Levy which would provide the Government a revenue neutral situation. On the billed total revenue of Rs.100/-, this figure is likely to be about 8-9% - let us say this is X%. We now take Rs. X away from the base of Rs.100/- to get the net revenue to the operator. By this process, we have ensured that Government gets its GST as well as its revenue-neutral inflow. Customer has also not paid anything extra and the process is totally open and transparent. TSL would be treated like a VAT, which would avoid the big problem of double taxation. To give the direly-needed financial relief to the sector, we also propose that at least a discount of about 20% on the revenue-neutral level be provided.
- In order to clearly manifest this objective, we recommend that point (d) of the Common Strategies (contained in section “D”) be amended from “(d) *By restructuring of legal, licensing and regulatory frameworks for reaping the benefits of convergence;*” to “(d) *By identifying and removing legal, licensing and regulatory barriers for reaping the benefits of convergence;*”
- We recommend that point (f) of the Common Strategies (contained in section “D”) be amended from “(f) *By working towards One Nation – One License for services;*” to “(f) *By permitting and enabling services providers to deploy networks and services based on market conditions.*”
- We recommend that point (e) of the Common Strategies (contained in section “D”) be amended from “(e) *With the separation of network and service layers, by separating licenses/permissions for rollout of networks, and provisioning of services;*” to “(e) *With the separation of network and service layers, requiring licenses/permissions only for rollout of networks & services when accompanied by exclusive rights viz. RoW, Spectrum, Numbering Resources etc.*”
- We recommend that point (k) of the Common Strategies (contained in section “D”) be amended from “(k) *Restructuring of TRAI as converged regulator for ICT and Broadcasting sector;*” to “(k) *By bringing all converged digital infrastructure which includes IT, communications and broadcasting under TRAI’s remit.*”

- To promote innovation, we recommend that point (v) of the Common Strategies (contained in section “D”) be amended from “(v) *By earmarking unlicensed frequency bands periodically for operation of low power devices for public use*” to “(v) *By opening up of new unlicensed bands viz. 5Ghz & V band ( 60Ghz ) to permit new low cost services incl. Public Wi-Fi*”.
  - In order to clearly manifest this objective and create a policy body which is unbiased and possesses independent capacity and resources, we recommend that point (y) of the Common Strategies (contained in section “D”) be amended from “(y) *By establishing NTIPRIT as an apex institute for policy practitioners, industry, researchers, academicians*” to (y) *By establishing an independent apex institute for policy practitioners, industry, researchers, academicians.*”
- 5. Point G - Strategies to enable access for connecting to 10 billion IoT/ M2M sensors/ devices**
- In order to clearly manifest the above objectives, we recommend that point (a) be amended from “(a) *By prescribing licensing and regulatory framework for IoT/ M2M service providers*” to “(a) *By removing all regulatory and licensing barriers for the deployment of IoT/M2M services.*”
- 6. Point H - Strategies to establish India as a global hub for data communication systems and services**
- To facilitate growth in innovation in the cloud sector we recommend that point (a) be amended from “(a) *By prescribing licensing and regulatory framework for cloud service providers;*” to “(a) *By provisioning a licensing & regulatory framework that facilitates the deployment of flexible cloud based solutions to expand storage capacity, unlimited computing capability and enable access to a number of low cost innovative services*”. In this regard, it may be specifically noted that cloud services are widely deployed by start-ups and SMEs besides the Government itself, in addition to individual consumers. Any attempt to regulate what is a nascent sector today through prescriptive norms would have negative effects for these stakeholders.
  - To facilitate sustained growth in the outsourcing services sector, we recommend that point (c) be amended from “(c) *By prescribing policy for cross-border data transfer;*” to “(c) *By permitting facilitation of free cross-border data flow* to take benefit of innovation & cloud based services. In addition, we note that issues pertaining to privacy and data protection are currently under consideration of the MeitY (Ministry of Electronics and IT- Justice Srikrishna Committee on Data Protection). It is submitted that pending the approval and implementation of the Committee recommendations which shall be applicable across all sectors including telecom, point b) may kindly be kept in abeyance.
  - Lastly, we strongly advise against any policy for mandatory or forced localization of data. Numerous studies have demonstrated that such kind of policies are harmful for the Indian economy and would harm consumer choice in terms of availing the benefits of access to innovative services, as well as grossly lead to restrictions for the knowledge sector. Instead, the

Policy should look to encourage the government to incentivize the establishment of data centres within India.

7. Point D should include Spectrum Management Organization: There is a need to optimize spectrum management through creation of Spectrum Management Organizations (SMOs). Currently the spectrum management organization i.e. Wireless Planning Coordination Wing (WPC) is part of DoT and has been executing the spectrum auctions. The WPC is doing a commendable job though being over burdened with administrative related issues. There is a need to revamp the structure of WPC and to create Spectrum Development Organizations. This will help unlock the value of spectrum lying locked with these government agencies and can be put for use of larger national interest. These organizations should be strengthened and made a completely independent entity, with adequate facilities for study and research for enhanced efficiency of spectrum usage.
8. Point D should pertain to Review of Spectrum Valuation Methodology: Reserve prices play a pivotal role in the auction design. There is a need to review the auction rules for reserve prices, which are not aligned with international norms and result in non-discovery of market prices. Reserve prices should be set at levels that are high enough to keep non-serious bidders at bay, but low enough to achieve vibrant price discovery. In the past, the reserve prices were mostly linked to the previous auction prices. . This resulted in high spectrum price and it was hardly ever corrected to curate market distortions.

Calculating reserve prices correctly is critical for ensuring a properly designed auction. It must be such that it is able to steer the auction "price discovery system" to reflect the optimal value of the "band" and the "circle" in question. Currently, the prices emanating out of past auction are highly erratic and arbitrary. If not then how can the price of the 800 MHz band (with better propagation characteristics) valued at 50% of the 900/700 MHz band?

Hence, well-defined formulae based on sound assumptions will not only increase transparency in the system but also will empower the government officials with the ability to take the right decision. It also help prevent changing rules in the middle and will make the spectrum auctions more robust, thereby motivating the companies to buy more spectrum - leading to better network coverage and connectivity - enhancing consumer interests.

The formula for calculating reserve price must be declared in advance, which can help in:

- a. Avoiding/minimizing bidding distortions
- b. promoting responsible bidding
- c. ensuring optimal prices

The inputs needed for calculating reserve price for future auctions are:

- a. Auction Prices of all past years.
- b. Propagation weights of all spectrum bands
- c. Cost Inflation Index for past years

Using "Auction Prices" Adjusted to "Cost Inflation" And "800 MHz Band" (Rs Cr), the prices for all auctions adjusted to the year 2010, and mapped to the 800 MHz band can be calculated. The reserve price can be now determined by carrying out some simple steps over the information listed in the above table. These steps are listed as under.

- a. Calculate the average price for all years and for all circles individually.
- b. Add the numbers in step 1 to get a single "Pan - India" number.
- c. Readjust the price above (step 2) using the "Inflation Index" to map it to the current year.
- d. Multiple the number above with the average % revenue distribution across circles to arrive at the circle numbers.
- e. The circle price calculated above (step 4) is mapped to the 800 MHz band.
- f. Readjust the number above (step 4) with the "band weights" to arrive at the prices for the respective bands.
- g. Discount this number by a factor (anything between 20% to 50%) uniformly to arrive the final reserve price across circles.

Please note that prices calculated above are not arbitrary but based on a clearly defined principle. One might choose to tweak these principles/assumptions, but once finalized these should not be changed regularly/randomly. Doing so not only curates distortions on account of irrational bidding but also corrects for value the band and the revenue potential of the respective circles - lower bands are valued more, and so are the circles with greater revenue potential.

- Point D should include Infrastructure Status related benefits – There is a need to provide fiscal incentives to Telecom Sector that are applicable to “infrastructure designated sectors”. There is a need to incentivize deployment of Common Telecom/Digital Infrastructure in Rural areas so as to improve connectivity. Harmonious balance should be maintained between public welfare & revenue maximization for the Government. Only one time restoration charges should be imposed in case of ROW and no other rentals /costs are to be charged. There should be focus on infrastructure protection and de-risking of infrastructure and encouraging sustainable telecom practices viz. Green Telecom through industry led self-regulation.

**Q.2 Stakeholders may also suggest any other issue related to Policy Framework which stakeholders feel is important for growth of telecom sector, along with justification.**

BIF Response: We suggest following additional issues related to Policy Framework which it feels are important for the growth of telecom sector:

1. **Licensing Framework:** Licensing is one of the core elements of any communications market's regulatory framework. An effective, forward-looking licensing framework is essential for the successful deployment of value-maximizing technologies, the promotion of effective competition between operators, and for the facilitation of investment in the communications sector. There have been significant improvements in liberalizing the telecommunications sector, the law as it currently stands still bestows an exclusive privilege on the Government to provide telecommunications services. The Government has the statutory power to grant licenses to private companies in India to enable them to provide telecommunication services.

Our recommendations regarding licensing framework are as follows:

- Recognize that Indian Telegraph Act allows complete flexibility for choosing specific types of regulation/licensing/no licensing at all.
- To limit requirement of individual “licenses” or upfront levies to exceptional cases, when accompanied with exclusive rights such as access to spectrum.
- Reduce the regulatory burden on the telecom service providers by removing non-essential regulations and upfront levies
- Declare a common sunset date and align all existing licenses to make pro-rata payments or credits on LF and spectrum one-time fees as also create licenses in perpetuity.

**2. Legislative Framework:** The legislative framework in India is already well structured and organized. We can continue with the use of existing legislation including:

- Indian Telegraph Act, 1885 – for network providers
- Telecom Regulatory Authority of India Act 1997 – for licensed services
- Information Technology Act 2000 – for Internet and OTT services

But BIF is of opinion to have some changes in our existing framework, like:

- a. **Fragmentation of the Jurisdiction of TDSAT:** A Supreme Court judgment relating to the jurisdiction of TRAI and TDSAT poses new risks. In the matter of BSNL V. Telecom Regulatory Authority of India, the Hon'ble Apex Court held that that in exercise of the power vested in it under Section 14(b) of the TRAI Act, TDSAT does not have the jurisdiction to entertain the challenge to the regulations framed by the TRAI under Section 36 of the Act. Consequently, while TDSAT can hear appeals against the orders issued by the TRAI, the regulations framed under Section 36 of the TRAI Act cannot be challenged before it.

This leads to a situation where the regulations are challenged in various High Courts in the country while the orders of the TRAI, based on these very regulations, are challenged in TDSAT. Due to this fragmentation of the jurisdiction, there is a distinct risk that the same issues are litigated in two different fora and a distinct possibility that different High Courts and /TDSAT may take contradictory views on critical issues. This also provides incentive to players for forum shopping. They would be tempted to approach their forum of choice to pursue a narrow agenda or impact speed of decision making.

- b. **Need to strengthen TRAI and TDSAT:** A competent and empowered TRAI and TDSAT is a critical need to promote public interest in a dynamic industry with diverse players, technologies and business models. This task will be near impossible for a regulatory body that cannot attract and hire appropriate talent. It would be counterproductive if the TRAI and TDSAT are unduly constrained in choice of staff or the terms on which the services of such staff can be procured.

### c. For IP1

- i. Inclusion of IP-1s in the Right of Way Rules 2016 even if it requires amendment of the Indian Telegraph Act 1885.
- ii. Delink Infrastructure from Service layer and from the licensing regime.
- iii. Redefine Active & Passive Infrastructure to Common Telecom/Digital Infrastructure and Re-classify Common Telecom/Digital Infrastructure to include Antenna, Feeder Cable, Node B, RAN and Transmission System, coaxial cable, combiners, splitters, directional couplers and BTS etc. to be owned, installed, maintained and shared by IP-1s under their existing Registration without any additional fees & levies.

**3. Broadband Infrastructure:** Broadband Infrastructure is often considered as the utility of progress and accelerated growth. In fact it is axiomatic that all the 9 Pillars of Digital India rest on the foundation of Broadband infrastructure. The BB infrastructure directly impacts India's socio-economic and development goals in scale and speed. It is a given that strong and extensive fiber backhaul will support a data intensive high capacity and high speed mobile broadband ecosystem.

Following are the recommendations of BIF that can be considered for NTP-2018:

- Ensure easy funding avenues to the sector:
  - a) Setup a government led "telecom infrastructure fund" offering opportunity for everyone to invest in telecommunication infrastructure.
  - b) Permit telecom sector to issue tax-free bonds and to access long-term low-cost debt from Infrastructure Debt Funds.
  - c) Increase planned union budget allocation by a percentage of GDP for the proliferation of BB access given that this will translate into faster access and acceptance of SDG goals
- Designate telecom infrastructure as "critical infrastructure" and provide fiscal incentives applicable to "infrastructure designated sectors"
- Secure data intensive network by adhering to procurement and deployment standards such as GIS mapping, 'call before you dig'. Create a broad-based Centrally Held Guidelines for deployment of fundamental infrastructure.
- Provide regulatory support to protect existing telecom infrastructure (eg. penalize damage to towers, fiber etc.)
- Provide incentives and support for sustainable telecommunications (Green Telecom)
- Liberalize creation and proliferation of Public Wi-Fi hotspots in a decentralized approach/manner
- Encourage innovative approaches to infrastructure creation and access including through Resale, Wi-Fi, Opening Digital Terrestrial Transmitters and Virtual Network Operators
- Create an infrastructure council under the office of the Secretary that reviews infrastructure issues every six months. CXO of infrastructure companies and critical Govt. officials should be a part.
- Adherence to the implementation of the ROW must be taken up. Resolve Rights of Way issues by classifying the types of Cities and specify the levies/fees for each type of city; create a joint Centre-State council to resolve the issues along the lines of the GST Council.

- IP1s Infra Providers must be included in the ROW Regulations which has excluded IP1s so far due to so called License Issues. This has been already recommended by TRAI to DoT.
- For Common Telecom Infrastructure and In Building Solutions, there is a need take a license for so called 'Active Elements' whereas in context of Digital Infra all these elements should be seen as Common Telecom Infrastructure and cannot be segregated in this manner of Active/ Passive. This has also been recommended by TRAI to DoT.
- Mandate deployment of Common Telecom Infrastructure (CTI) while constructing all/any new highways, roads, and civil infrastructure along with that of other utilities.
- Incentivize utilities infrastructure like Power, Water, Gas to include ducts and optical fibre networks as part of their mandate to lay common telecom infrastructure as part of the new infrastructure. Mandate utility corridors in new roads and infrastructure to reduce time and cost involved in Rights of Way.
- Include FTTH and IBS as a part of building codes for certification of new buildings
- Given the significant deployment through Govt. bodies, reduce entry barrier by increasing ease of business. For faster and more accurate BB deployments, encourage technology based audit and approvals. This will also lead to reduction of regulatory grunge. Discourage manual and tedious audits and approvals.
- Ensure on time and automated payments to ensure proper cash flow thereby reducing entry barrier for new players.
- Harmonious balance to be maintained between public welfare & revenue maximization for the Government.
- Only one time restoration charges should be imposed in case of RoW (Right of Way) and no other rentals /costs are to be charged
- Focus on infrastructure protection and de-risking of infrastructure
- Encourage sustainable telecom practices viz. Green Telecom through industry led self-regulation.

**4. Consumer Protection:** BIF's recommendations for consumer protection are as follows:

- Take effective steps to protect consumers
  - a) Introduce Consumer Broadband Labelling to help inform users in a simple manner about key metrics.
  - b) Accept TRAI recommendations on creation of a Telecom Ombudsman for redressal of Consumer Grievances
  - c) Promote inclusive access to Internet by removing barriers due to gender, language, physical disabilities etc. (following e.g. W3C recommendations, where appropriate)
  - d) Permit incentives like free data to enhance broadband coverage/usage especially to low income consumers
- Net Neutrality - Ensuring an open internet:
  - a) Remove any barriers to people's ability to use, send, receive, or offer any lawful content, application, or service such as through blocking and throttling by licensed access service providers.
  - b) Mandate that providers of Internet access should be transparent about their network practices.

- c) Recognize that requirement for traffic management measures to be reasonable must ensure that providers of Internet access, in order to optimize the overall transmission quality, do not differentiate between same type of traffic.
- d) Recognize that differential pricing – more specifically, zero rating – can be offered in a non-discriminatory manner that is both consistent with the principles of net neutrality and beneficial to consumers especially in emerging markets.
- Accept TRAI Recommendations on Free Data:
  - a) Introduce Consumer Broadband Labelling to help inform users in a simple manner about key metrics.
  - b) Accept TRAI recommendations on creation of a Telecom Ombudsman for redressal of Consumer Grievances

**5. New Technologies & Innovations:** The NTP presents an opportunity to facilitate new technology trials and its faster deployment by overhauling the present permission based system for new technologies. This will help India take the lead in the global policy development process ecosystem by proactively supporting new and emerging technologies. BIF recommends the following regarding new technologies:

- Allow full play of New Technologies and Business Models:
  - a) Remove bottlenecks in deploying new technologies / Facilitating Trials and Experiments
    - i. reduce time and cost of approvals (eg. using an online process)
    - ii. facilitate access to scarce resource like spectrum and numbering for trials
    - iii. facilitate import of equipment for trials
  - b) Enable new options in access and backhaul technologies by delicensing V band and opening E band/ Emerging Technologies
  - c) Continue to adopt a technology neutral approach in rolling out broadband connectivity, which has worked very well.
- OTT Issues - Encourage unfettered provision of and access to internet content and applications:
  - a) Tap the enormous potential of the Internet economy by encouraging unfettered provision of and access to internet content and applications.
  - b) Recognize that OTTs are contributing significantly to the Indian GDP and consumer surplus:
    - i. a recent report by ICRIER shows that OTTs contributed a minimum of USD 20.4 billion (Rs. 1357.6 billion) to India's GDP in the year 2015-16, which will increase to USD 270.9 billion (Rs.18275.9 billion) by the year 2020.
    - ii. a recent report by WIK shows that OTT usage saves on average 803.9 minutes per week, which translates into an annual consumer surplus of US\$98 billion in 2017.
  - c) Recognize that OTT services and conventional telecom networks are differently situated.
    - i. Access to OTT services is impossible without the underlying network

- ii. Unlike OTTs, the network providers have exclusive right to acquire spectrum, numbering resources, interconnection with the PSTN, and the right of way to set up infrastructure.
  - iii. Same Service Same Rules Argument is not appropriate
  - d) Continue to permit free flow of data across borders to promote efficiencies and economies of scale.
  - e) Continue support for multi-stakeholder approach to Internet governance.
- M2M/IoT Services - Licensing, Spectrum, QoS, Roaming:
  - a) Continue to permit operation of M2M devices over unlicensed spectrum without 'registration' or 'licensing'.
  - b) Continue with e-KYC requirements for SIMs based M2M devices
  - c) Permit using existing International Roaming Agreements as per GSMA for M2M services.
  - d) Allow QoS requirements to be driven by market forces including SLAs between the user and the service provider
  - e) Provide dedicated Numbering Plan for SIM based M2M devices, which is aligned to the proposed DOT Numbering Plan for M2M devices.
- 5G Related issues:
  - a) Improve backhaul capacity (fiber and wireless) for 5G access networks
  - b) Identify 5G bands that are harmonized with global bands/standards
  - c) Facilitate high capacity, easy to deploy, short haul backhaul links where fiber cannot be deployed in dense urban and clustered rural areas by opening V & E bands
- **IP-PSTN mixing should be allowed as current policy of not allowing it undermines the growth and innovation and prohibits India from reaping the full benefits of convergence.**

Reasons for allowing IP-PSTN mixing:

- a) Innovative, converged services mix IP and PSTN streams
  - b) The IP-PSTN Barriers drive away innovators
  - c) The barrier is not aligned with global technological convergence
  - d) Removing the barrier will allow advanced telecom services to flourish
- **The BIFs also recommends that allowing business entities to connect their offices nodes/PoPs/Data Centres within India by acquiring & lighting their own Dark Fibres** for their internal use (without any resale or service provisioning to others) will a great innovation in services implementation, that will also help them reducing their operational cost on connectivity. As of now, it is mandated that only TSPs would provide the connectivity to customers despite the use is confined for internal network use. It will be in the interest of end users & market, in general, to allow companies to setup their private networks as long as they are not offering any services as TSPs. They should be allowed to connect multiple nodes/PoPs/DCs by acquiring dark fiber from TSPs and lit it themselves without ability to resell/provide service to others. So, enterprises should be permitted to set up their own telecom resources for internal communication.

- **Cloud Services:** The Indian government's ambitious Digital India umbrella programme also hinges on data connectivity. One of the key technologies that are important to fulfilling the promise of Digital India is cloud computing. The potential for cloud services is limitless. World over, cloud computing is projected to increase from \$67B in 2015 to \$162B in 2020 attaining a CAGR of 19%. The Indian public cloud services market had a value of USD 1817 million in 2017, which is set to grow to 4104 USD million by 2020.

Cloud computing usage among Indian enterprises is expected to create over a million new jobs by 2022. In order to harness these benefits, the government can play a leading role to create an enabling environment to facilitate new infrastructure creation and growth of the industry. The BIF welcomes a targeted and growth-friendly vision for India's National Telecom Policy 2018 with a strong focus on establishing India as a global hub for data communication systems and services. It is our belief that a minimum regulation and maximum facilitation policy is critical to incentivizing still nascent cloud computing industry in the country. We hope the extensive multi-stakeholder consultations conducted by the TRAI in this regard will lead to the creation of an environment conducive to growth and innovation in this sector. BIF's recommendations are as below:

- a) Given that India's cloud industry is at a nascent stage and requires huge investment in infrastructure to bring in economies of scale and meet increasing demand for cloud based services, the government needs to ensure ease of doing business in India for CSPs. Any heavy handed approach to regulate the sector or increased entry barriers in the form of onerous licensing will be a huge impediment for the growth of the industry and the digital economy as a whole.
- b) We suggest that authorities should look for introducing laws for data privacy, protection, and security.
- c) Proper roadmaps should be laid out on policies for cross-border data transfers.
- d) Incentivize setting up of International Data Centers (IDCs) in India
- e) This sector will need:
  - i. Internationally comparable bandwidth capacity and costs for businesses to encourage data center localization in India.
  - ii. Establishment of interconnect exchanges for data services
  - iii. Expedient availability of land, electricity, and security for data centers
  - iv. Human capital for data analytics and product development.

BIF recommends that TRAI's recommendation on Cloud Services dated 16th-August-2017 should be accepted:

- Cloud services are provided over telecom infrastructure which is already licensed and regulated, So, CSPs need not be licensed/ regulated separately.
- Primary location for the data storage should be encouraged to be in India. Alternatively, data should be allowed to be taken outside India, only to such countries that provide full, absolute and immediate legal access to it, under multilateral or bilateral agreements, specifically while dealing with sensitive personal data. Data storage outside the country should only be allowed for maintaining backups and for disaster recovery purpose.

## 6. Data Privacy & Security : BIF's recommendations on Data Privacy & Security:

- Continue to permit free flow of data across borders to promote efficiencies and economies of scale;
  - a) Indian IT/ITES industry depends on cross border data flows - if data is localized reciprocal action could severely affect Indian businesses
  - b) Forced data localization directly undermines the free and open structure of the internet. Instead of traveling by the most technically viable routes, data flows would be constrained by geopolitical considerations and regulations.
  - c) There are more efficient ways to secure data access - Creating new bilateral and/or multilateral international agreements between governments that would allow foreign companies to respond directly (outside of the cumbersome MLAT process) to requests for content made by Indian law enforcement authorities is necessary
  - d) Internet access and cross-border data flows comprise and enable international trade and are therefore subject to international trade laws and norms, the main ones being non-discrimination and transparency.
  - e) For all major international data protection instruments, recognise the need to facilitate the free flow of data, including personal data. (e.g. APEC Framework, OECD Framework, EU Directive)
  - f) Contractual freedom should be preserved.
- Develop Data Protection regime that will enable innovation & growth of India's digital sector without sacrificing user privacy;
- Focus on preventing harm & misuse of data than collection per se;
  - a) Personal information needs to be defined contextually & protections applied proportionally
  - b) User consent remains to be valid - a flexible consent regime should be developed
  - c) Cross border data flows should be promoted to enable trade and innovation
- Encourage use of encryption to enhance security for financial transactions, e-commerce, health information, civil aviation, power and secure communications
- Encryption is a critical tool that the government needs to promote privacy, national security and public safety.
  - a) Strong encryption protects against malicious actors, hostile countries, foreign intelligence agencies, and cyber criminals.
  - b) The government should promote the use of secure Indian products to compete in privacy-conscious markets.
  - c) Creating an encryption backdoor is analogous to building a bank vault with a steel front door but a perpetually-unlocked wooden back door.
  - d) It is not technologically possible to make it easier for law enforcement to access encrypted communications without making it easier for cybercriminals and foreign governments to do so as well.
  - e) Deliberately introducing backdoors in encryption technology substantially undermines the fundamental privacy and security that encryption provides.
- The government has a duty to protect national security and public safety.
  - a) Compliance with legally-valid government requests for user data is the default position of most data controllers.

- b) Creating new bilateral and/or multilateral international agreements between governments that would allow foreign companies to respond directly (outside of the cumbersome MLAT process) to requests for content made by Indian law enforcement authorities is necessary.
- Educate end users of cyber security hygiene best practices and encourage service providers to adopt cyber security guidelines prescribed by CERT-In.

**7. Manufacturing:** There are two domains in the Telecom industry: infrastructure and services. The infrastructure domain consists of the telecom equipment, the networks and the handsets. While the services sector commands nearly 60 percent of India's GDP, the share of manufacturing has been stagnating at around 16 percent since the 1990s.

In view of the continuing & critical need to keep the cost of essential communication services low, there are low or no import duties on telecom equipment. While this is one of the reasons of limited capacity in domestic manufacturing, BIF believes that the importance of the 'Make in India' program launched by the Hon'ble PM should be considerably enhanced and strengthened to boost the domestic manufacturing ecosystem. BIF's recommendations are as follows:

- **Enhance the Role of "Make in India" to boost the domestic manufacturing ecosystem.**
  - a) Make India into a Global supply chain with a strong export strategy
  - b) Encourage component manufacturing ecosystem
  - c) Put India manufacturing on the world map by encouraging specific industry that has reached a scale in capacity and capability. Example India can become fiber capital of the world
  - d) Incentivize design based manufacturing in India to increase value creation in manufacturing.
  - e) Remove infrastructure bottlenecks to attract large investment into setting up of global manufacturing hubs
- Enhance Role of Make-in-India to boost domestic manufacturing
- Encourage competitive manufacturing ecosystem
- **Network Equipment Manufacturing:**
  - a) PMA (Project Management Agency) Implementation-Need to have practically achievable Value addition thresholds
  - b) Need to link PMA with exports & recognize 'Deemed Domestic Manufacturing' as 100% local manufacturing.
- **Intellectual Property Rights (IPR)/Standard Essential Patents (SEP):** BIF's recommendations to incentivize and strengthen IPR, R&D and Standards are:
  - a) Employ globally harmonized standards to exploit economies of scale and make India competitive in the global market.
  - b) Incentivize contribution to standards by strengthening standards from India.
  - c) Strengthen the IPR regime without seeking any dilution of the SEP regime.
  - d) Incentivize local R&D.
  - e) Remove all barriers for permitting setting up of Global R&D hubs out of India



8. **SATCOM:** It costs ten to twenty times more to connect the last 10-20% population of any country, including India. Satellite communication helps connect this last 10-20% population in a very cost-effective way. The satellite service providers licensed by the Department of Telecom have an installed base of more than 250,000 terminals. They serve as the communication backbone to the banking industry, large distributed enterprises, small and medium businesses who are dependent on the internet for conducting their business (including filing of GST returns), other telecom service providers who use satellite as a backhaul medium to expand their coverage to the rural and difficult terrain areas and lastly the Government itself for the rollout of various social initiatives. Another tens of thousands of small and medium businesses are waiting to get on to the internet and want cost-effective and reliable communication. This number would grow several-fold if satellite broadband can be a cost-effective medium for the consumers (similar to countries like US, Australia, Brazil). The Government can do its bit to un-lock this potential by tweaking its policy and provide the much-needed impetus to the sector.

Broadband India Forum (BIF) has been working for the cause of proliferation of broadband and sees immense potential in the use of satellite as a medium for broadband and for acceleration of Government's Digital India program. After an elaborate consultation with its esteemed members who range from satellite providers to licensed service providers and equipment manufacturers, BIF has come up with some key recommendations that can help its cause and also help the industry grow:

- Open the supply of satellite capacity from private players aimed to ease the way of doing business and making the latest and innovative technology available to all at an affordable cost. Like in all other sectors, the Government should be involved in facilitating the growth and development of the sector rather than playing the role of an operator or an intermediary in artificially controlling the sector dynamics. Free market forces should be permitted to ensure optimal outcomes as regards procurement of capacity similar to that of the broadcast sector where the service providers are free to choose satellite capacity supplier of their choice.
- Remove all 'artificial' barriers that are impeding the growth of the industry. Today the license restricts the speed of broadband to 2 Mbps per VSAT terminal. Also, other regulations that prohibit the use of different new bands and newer technologies like the LEO/MEO and smaller flat panel antennas etc. Similarly, satellite can very effectively address a variety of applications such as multicast file transfers, connected cars, maritime broadband communication, in-flight connectivity & broadband on trains. Technology should be the only limiting factor for the provision of a satellite broadband service.
- Allow VSAT Services to be provided without any restrictions and in any combination across India, regardless of whether the service is - to extend voice and broadband services to consumers and businesses in remote areas, and/or to provide backhaul services to Telecom Service Providers or ISPs, and/or part of a larger hybrid telecom network service provided to an enterprise through a Telecom Service Provider.

- De-license the VSAT terminals so that the import/local manufacture and sale of terminals can be freely done. Simplify the SACFA/WPC compliance by making it a self-certification. For the gateways, provide a time bound and single window clearance not exceeding 60 days from the date of application. This will result in a much faster roll out of the service and reduction of costs which will help bring down the cost of the service.
- As already provided in the Indian Telegraph Act, policy and regulation of all telecommunications services via satellite should be under exclusive purview of DoT and TRAI respectively on lines of terrestrial communication services. DOS/ISRO could play a consultative role to identify a list of coordinated satellites and frequencies in line with ITU procedures, to be used for telecom networks.
- Expand the scope for existing Service Providers so that they can grow the market and proliferate satellite Broadband access across the SAARC countries, without needing an International Long Distance license.
- All uplink teleports for broadcast services should be permitted to plan for contingencies such as natural disasters by entering into arrangements with similar facilities located in other jurisdictions and transponders on alternate satellites respectively.
- Inclusion of Broadcasting Satellite Service (BSS) Plan Frequency bands so as to augment the total satellite capacity available over India
- Security Norms for Satellite Operators should be streamlined and made similar to that of other Unified Licensees

- 9. Job Creation & Entrepreneurship:** India's economy has grown impressively, with GDP growth rates rising from 5.6% in 2012-13 to 7.6% in 2015-16. The country is poised to grow even faster, with its demographic potential, high investment and savings rates, and allocation of resources for infrastructure. But its high pace of economic growth and notable progress in reducing poverty over the last decade contrasts with the persistent gaps in creating a more inclusive, productive and formal labour market. Investment in skills development will ensure that economic and employment growth is more inclusive. This is especially important in the context of India's demographic transition that has also produced a youth bulge in the working age population. Productive and formal employment generation depends on the availability of an adequately skilled labour force through sustained investments in skills development and fostering opportunities for decent job creation through entrepreneurship. To close India's skills deficit and increase employability, a range of policies and strategies are needed to address work-relevant education systems, career guidance, life-skills, and technical, vocational education and training schemes, along with on-the-job training in both formal and informal sectors.

The Government has set up the Ministry of Skill Development and Entrepreneurship (MSDE), with an enabling framework to facilitate job creation and entrepreneurship, as well as attract private investment. Steps are also being taken to attract foreign direct investment and catapult manufacturing growth. The Pradhan Mantri Kaushal Vikas Yojana (Skill India Mission) is MSDE's flagship scheme to enable young Indians to take up industry-relevant skills training and improve their employability. The government's commitment to ensuring that young Indians are ready to compete in the labour market is demonstrated by the breadth of skilling programmes it has made available: National Apprenticeship Training Scheme, Deen Dayal Upadhyaya Grameen Kaushal



Yojana, National Urban Livelihoods Mission, and the National Rural Livelihoods Mission. The National Career Service, launched by the Ministry of Labour and Employment, aims to provide job matching services in a transparent and user friendly manner.

Several national flagship schemes such as Make in India, Start-up India, Stand-up India (a bank loan programme to assist Scheduled Caste, Scheduled Tribe and women borrowers to set up a greenfield enterprise), and Digital India, have been launched to spur the creation of more productive and higher skilled micro, small and medium enterprises, which would accelerate labour demand and job creation. The Atal Innovation Mission endeavours to promote a culture of innovation and entrepreneurship by providing a platform for the generation and sharing of innovative ideas, alongside an incubator to mentor and support innovators.

So the NTP-2018 should also focus on creation of Jobs and Entrepreneurs. Even the Central Govt. has a great vision and has kick-started many mission mode projects to improve the economic activities in the country especially in rural India (Bharat) to increase the productivity and standard of living of rural masses as well as to accelerate the Gross Domestic Product (GDP) growth of the country as a whole. It is well known fact that 10% increase in Broadband access can add up to 1.4% to the GDP growth of a developing nation. To this effect, the Govt. has announced many projects; few of them are interrelated and can cascade into the growth of economic activities in rural India with an overall objective of eradicating the poverty through generation of employment for the rural youth and to provide the Urban Amenities in Rural India (PURA), under the 'RURBAN' mission of Govt. Through this policy we can impact on unemployment. So, that aspect of NTP-2018 must be considered.

- 10. Promoting the ease of innovation and doing business:** In line with the government's objectives to promote innovation and the ease of doing business in India, the Policy must clearly orient India towards consolidating its position as a global centre of innovation. This includes minimizing overlaps in jurisdictions of regulators, institutionalizing excellence in research and innovation, and encouraging competition in the market.
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