Annual General Meeting
2018
26th September 2018
The Imperial Hotel, New Delhi
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Digital disruptions and technological advancements are bound to give fillip to the Indian economy in the coming years. Telecom infrastructure providers will play a key role in shaping the digital economy of the nation which will include financial inclusion and equitable growth for all by extending their networks and services to the remotest corner of the country besides catering to the growth in urban areas.

The pent-up demand in the rural and remote regions of the country represents a huge scope for the telecom infrastructure players as well as telecom service providers. The digital transformation is becoming more of a reality than just being a concept. To spread the impact and unlock its true potential we need to create smart and robust telecom infrastructure to cater to the next generation of technologies.

The digital revolution beckons us with the advent of 5G and the country needs a robust telecom infrastructure including fibre network to meet the growing demand which can be only achieved with an active participation of infrastructure providers. The scope and boundaries of the existing registration regime needs to be expanded to allow them to lead and deliver in the era of this digital transformation. Indian telecom tower industry came out with the concept of passive infrastructure sharing which now needs to be extended to other telecom solutions such as dark fiber leasing, common ducts and in building solutions.

I extend my warm wishes to Tower and Infrastructure Providers Association (TAPIA) for their Annual General Meeting of the year 2017-18. Significant progress has been made by TAPIA through their effective advocacy across the country. I hope that the apex association comprising of leading infrastructure providers will continue to facilitate deployment of a robust telecom infrastructure to cater to the growing consumer demands and realize the Government’s program of Digital India, Smart Cities and BharatNet to reality.

(R.S. Sharma)
Telecommunications sector have been a major driver for the socio-economic development of the nation. In the past few years, the industry has connected millions of people with internet and telephone services which have significantly opened several new vistas for the citizens. The enabler for the growth and improvement in the quality of lives by the means of telecom services rely on a digital telecom infrastructure.

The contribution of telecom infrastructure providers will help the country to leapfrog into a knowledge driven economy by providing the requisite telecom infrastructure for future technologies.

In the world of Artificial Intelligence, Blockchain, IoT and M2M, seamless telecommunication services become essential. The industry is centric to realization and adoption of these technologies by laying network of infrastructure to cater to these next generation technologies. Therefore there is an urgent of robust telecom infrastructure.

A well-developed telecom infrastructure is necessary for realizing the visionary initiatives of the Hon’ble Prime Minister of Smart Cities, Digital India, Financial Inclusion and BharatNet.

Digital India has been a frontrunner in India’s marathon towards a digitally empowered society and there is a visible change in people’s mindset. Many state governments are giving a boost to Telecom Sector and Smart Cities through forward looking policies. The role of industry associations like TAIPA is crucial for analyzing the issues faced on ground and engaging with the authorities to address the bottlenecks to enhance the ease of doing business for the sector.

As the country heads towards the industrial revolution 4.0, the infrastructure providers would also be evolving with the changing industry dynamics and theme of the event ‘Infrastructure Providers 2.0: Making India Digitally Ready’ implies the futuristic vision of the sector.

I congratulate TAIPA for their Annual General Meeting 2018 and wish them good luck for the coming years.

(Amitabh Kant)
Message

Digital infrastructure and services are increasingly emerging as key enablers and critical determinants of a country’s growth and well-being. To ensure that the advantages of the new technologies are accessible to all equitably and affordably, India needs to particularly ensure that its communications infrastructure supports the entire population, whose demographic profiles vary widely across the country.

The ensuing National Digital Communications Policy, 2018 seeks to unlock the transformative power of digital communications networks - to achieve the goal of digital empowerment and improved well-being of the people of India; and towards this end one of the objectives of the policy is provisioning of Broadband to all citizens by 2022. To secure universal broadband access a “National Broadband Mission will be established soon.

Currently, India has approximately 1.5 million kilometres of OFC, and less than one-fourth of the towers are fibre-connected. In order to expand mobile and broadband connectivity across the country, it is required to take fibre to the home, to enterprises and to key development institutions in Tier I, II and III towns and to rural clusters. Mobile Tower Infrastructure with deployment of solar and green energy is also required.

Telecom infrastructure players will play a leading role in bringing technologies like Artificial Intelligence, 5G, IoT and M2M to reality as well as bridge the rural – urban divide. The vision of Digital India and BharatNet shall become reality with high speed broadband service riding on rollout fibre wherein the role of infrastructure providers becomes pivotal. Expanding coverage in the rural areas, promoting affordability and value through innovation for every customer segment will make a difference to the quality of lives.

The role of Infrastructure providers during natural calamities & emergencies is critical as the telecom services help the people stay connected with each other, besides facilitating rescue operations. I am glad to note that TAIPA has been playing a pro-active role in this regard.

I congratulate TAIPA for organizing their Annual General Meeting and wish them to enable competitiveness by driving innovation and equitable growth by leveraging the sharing model adopted by the industry to different areas of passive as well as active telecom infrastructure. I look forward to the active participation of the infrastructure providers in the National Broadband Mission to provide broadband to all citizens for the socio-economic development of the country.

(Aruna Sundararajan)
Foreword

Mr. Akhil Gupta
Chairman – Tower and Infrastructure Providers Association

Technology transition is redefining the business models of the telecom industry by encouraging the players to abandon incremental initiatives in favour of transformational innovation to cater to increasing consumer demands.

The telecom players are revisiting their strategies to take advantage of the growing demand for internet and digital services. The shift towards digital services providers from the telecom services providers augurs well for the telecom tower companies as the traditional business models are being re-shaped. The expansion plans for 4G networks and setting the stage for 5G needs roll-out of additional telecom infrastructure as well as major expansion of optical fibre transmission infrastructure. Several State policies are also increasingly focusing on next generation technologies and deployment of public WIFIs, in-building solutions, cell on wheels, and micro-sites to cater to the growing data demands. The draft National Digital Communications Policy 2018 which recommends sweeping changes in the current telecom ecosystem and focusses on enhancing the reach and quality of broadband services by strengthening mobile telecom infrastructure and enhancing fibre infrastructure, will further accelerate these deployments.

We are all aware that telecom tariffs in India have always been the lowest in the world. With introduction of 4G, the tariffs have fallen even more in comparison with rest of the world. To sustain the low tariffs which are needed to provide digital access to the common Indian across length and breadth of the country, it is imperative that the telecom infrastructure by way of towers, optical fibre transmission, WIFI and in-building solutions is shared on non-discriminatory basis between the various service providers. TRAI as well as DoT have been great supporters of Infrastructure Sharing and have taken very significant steps in this regard – particularly with the introduction of Indian Telegraph Right of Way Rules, 2016. Earlier, DoT had issued the model guidelines for the States with respect to Tower Infrastructure and the related charges.

TAIPA has been engaged with various State Governments to get the policies framed in line with the said DoT guidelines and its efforts have yielded very positive results. As on date 10 states have come out with their tower policy and 5 are in the process of finalizing the same. TAIPA's continuous and consistent efforts have also resulted in inclusion of IP-1s under the ambit of Indian Telegraph Right of Way Rules, 2016.
In keeping with the changing requirements for the Digital Networks and services, the Tower & Infrastructure companies are taking up the challenge of entering into new adjacent areas. Our members have been actively participating in the Smart City tenders and are collaborating with the operators for 5G deployment by preparing for the optimum development of small cells, in-building solutions and WiFi which can be shared between various operators. In addition, our members are also actively looking at optical fibre rollouts, especially for connecting their towers by optical fibre to meet the growing traffic originating on their towers. We believe that unless these common infrastructure elements are shared between the various operators on a non-discriminatory basis, as is the mandate for our members, India would not be in a position to achieve its full potential and goal of inclusive digitisation.

I have no doubt that TAIPA will continue to play a pivotal role in enabling ease of doing telecom business by engaging with State authorities, regulators, policy makers, consultants and academia. As the leading industry association of telecom infrastructure providers, TAIPA will enable access to new business models by the mobile tower companies and help establish a flexible regulatory environment to drive a successful transition.

On behalf of all our members, I would like to express our deep gratitude to TRAI, DoT, State Governments & various local authorities and our esteemed customers for their whole-hearted support in this mission.
Mr. Umang Das
Vice Chairman - Tower and Infrastructure Providers Association

Telecom infrastructure industry is witnessing a paradigm shift with the emergence of new technologies, increased data consumption and smartphone penetration. The strong consumer demand has led to a vibrant and competitive sector resulting in mergers and consolidations.

The telecom infrastructure players are exploring at new avenues of growth in the areas of In Building Solutions, Small Cells, Wi-Fi Hotspots, etc. which will play a vital role to translate the vision of digital future into reality. The telecom infrastructure has moved on from growth enablers to growth drivers and it is the right time to label telecom infrastructure as digital telecom infrastructure.

In the past year, Department of Telecommunications has taken some hallmark decisions such as inclusion of IP-1s in the Indian Telegraph Right of Way Rules November 2016. The hurdles faced by the infrastructure providers in rolling-out telecom sites are expected to be resolved vide the office memorandum issued by the DoT dated 22nd May 2018. Industry regulator, TRAI, recommendations on proliferation of broadband through Wi-Fi, In Building Access and Approach Towards Sustainable Telecommunications envisages active role of registered entities for proliferation of telecom services in a sustainable manner. All round development of the telecom ecosystem has been a special focus area of the industry regulator by keeping consumer interest in mind.

TAIPA has been continuously expanding and strengthening its presence across States through its rigorous efforts and effective advocacy. As a result, the past year witnessed a series of positive outcomes which were long awaited.

In the coming years, the infrastructure players’ role will be critical to meet the ever-growing demand of consumers. With 5G around the corner, the data world would evolve into another area of growth for telecom infrastructure providers. The growth in telecom services will not only lead to a hyper-connected society but also add a new dimension to visions of Digital India.

In such a scenario, the infrastructure players would play an active role in realization of visionary programs of the Government of Digital India. The coming years will bring a range of opportunities for the infrastructure providers and changes in business model is inevitable. New revenue streams in the field of fiber leasing, common ducts, in-building solutions, micro sites and smart cities will fuel the growth of the infrastructure providers. Meanwhile, industry look forward to favorable rules and regulations for laying the digital infrastructure from the State Governments and the DoT to enhance the ease of doing business for the telecom sector.
Foreword

Tilak Raj Dua
Director General - Tower and Infrastructure Providers Association

TAIPA is running its 9th year since its launch in 2010 and has established a name in India as well as globally in the telecom infrastructure industry. The past year 2017-18 has been good for the infrastructure providers with State such as Maharashtra, Haryana, UP, Odisha, Arunachal Pradesh aligning their policies with the Indian Telegraph Right of Way Rules November 2016 to streamline provisions for infrastructure creation. I also thank the Department of Telecommunications for addressing the long pending issue of including the IP-1s in the Indian Telegraph Right of Way Rules 2016 vide office memorandum dated 22nd May 2018 which will accelerate the infrastructure creation across States.

Enabling and forward-looking recommendations by TRAI regarding Approach Towards Sustainable Telecommunications, Proliferation of broadband through Wi-Fi and In Building Access will pave for new and sustainable business models by the telecom infrastructure players. Light touch regulatory regime as recommended by TRAI will foster innovation and allow new players to enter in the Indian telecom ecosystem. Infrastructure providers will partner and collaborate to proliferate Wi-Fi services and In Building Solutions thereby connecting the unconnected.

As the industry gears up to roll-out 5G infrastructure, there will be an exponential increase in the demand of data in the coming years. Emphasis will be laid on roll-out of robust telecom infrastructure to cater to the growing demand which augurs well for the infrastructure providers.

This year the draft National Digital Communications Policy 2018 was released by the Department of Telecommunications post extensive consultation across various committees, forums formed by the Government wherein TAIPA actively contributed its inputs. The draft NDCP emphasizes on creation of a robust telecom infrastructure, enhancing the scope of IP-1 and enabling ease of doing business for the infrastructure providers to connect the unconnected.
Telecommunications sector which is currently going through a phase of mergers and consolidations, is preparing the next generation ecosystem where ‘data’ is the main-stream and enabler for the upcoming technologies such as ‘Internet of Things’, ‘Blockchain’, ‘Virtual Reality’, ‘Augmented Reality’ and ‘Artificial Intelligence’. The tower companies are reshaping their business models and exploring newer business avenues such as small cells, in building solutions, fiber leasing, data centres and Wi-Fi deployments by leveraging the sharing concept. The sharing concept has been emulated world-over and countries like China have recently adopted it to accelerate the proliferation of 4G services in the country.

Transition of the tower companies from mere infrastructure providers to providers of digital telecom infrastructure will enhance their visibility and demand in the telecom ecosystem value chain as the country ushers into the digital era.

Telecom infrastructure players are going to play a key role in realization of transformative and revolutionary initiatives of the Government of India and will foster partnerships under its various programs like BharatNet and Smart City mission to enhance connectivity by creation of robust digital telecom infrastructure.
About TAIPA

Tower and Infrastructure Providers Association (TAIPA), formed in January 2010, is the apex industry representative body of Infrastructure Providers Category – I (IP-I). TAIPA actively deliberates and discuss the issues faced by the telecom infrastructure providers with the policy makers to accelerate the success of the Telecom revolution. TAIPA core members include all key players in the sector i.e. ATC India, Bharti Infratel, GTL Infrastructure, Indus Towers, Reliance Infratel and Tower Vision India; and Applied Solar Technologies and Coslight India as Associate members. TAIPA is committed to promote expansion of telecom infrastructure in the country by addressing bottlenecks faced by the industry and enabling ease of doing business.
TAIPA Committees

TAIPA is a thin and lean organization as it draws expertise from its member through various committees on issues and challenges that are being faced by the industry. The various committees in TAIPA are as follows:

- **Executive Council**: Comprises of the CEOs, MDs and Promoters. The meeting which is held quarterly lays down the strategy and roadmap for the association. The Committee is Chaired by TAIPA – Chairman Mr. Akhil Gupta.

- **Legal Committee**: The legal heads of the member companies brainstorm on the ways to reduce litigation in an amicable way & take legal recourse wherever necessary through consensus.. The Committee is Chaired by Mr. Rajiv Arora, Bharti Infratel and Co-chaired by Mr. Naresh Arora, ATC India.

- **Regulatory Committee**: Issues related to policy design and advocacy for RoW, Towers, IBS, Wi-Fi, etc. are discussed during the meetings and attended by Regulatory heads of all member companies. Committee is Chaired by DG - TAIPA and Co-chaired by Mr. Hemant Dadlani, ATC India.

- **Energy Management Committee**: The energy and O&M heads participate in the meetings and discuss their approach towards sustainable telecommunications and challenges related to powering telecom networks as well as other emerging solutions such as Solar, Wind, Biomass, Fuel-Cells, RESCO, including reduction in carbon footprint etc. The Committee is Chaired by Mr. Manoj Kumar Singh, Indus Towers.
‘TAIPA Operations Committee’ at Central level has been formed and comprises of senior management representatives of TAIPA members. This committee is Chaired by Mr. Tejinder Kalra, Indus Towers and Co-chaired by Mr. Ashwani Khillan, ATC India.

The committee primarily looks after the operational issues being faced by the industry at State/ Circle level.

To handle/ resolve the local operational issues at State level it was decided to form the Circle Tower Infra Coordination Committee (CTCC) wherein all Circle level operational issues will be handled jointly by the circle teams and same can be escalated to the TAIPA Operations Committee team.

At the initial stage CTCC were formed in 6 circles i.e. Bihar/-Jharkhand, Uttar Pradesh (West), Punjab, Haryana, Uttar Pradesh (East), Maharashtra/ Goa which has been now enhanced to 10 circles.

**Circles where CTCCs are operational**

- Bihar/ Jharkhand
- UP (west)
- Punjab
- UP (East)
- Haryana
- Karnataka
- Maharashtra /Goa
- Gujarat
- Andhra Pradesh & Telangana
- West Bengal
For effective management of both the RoW- Infrastructure policy by TAIPA and EMF issues by COAI the committee has been formed.

The meetings are attended by both Telecom Infrastructure companies and Service Providers to discuss and resolve issues related to RoW and EMF.

The prime objective is to ensure that the RoW and EMF advocacy campaigns are more impactful and will fuel the desired growth of Telecom infrastructure.

To manage effective RoW policy issues and EMF issues Circle Coordination Committees (CCCs) have been formed to widen the horizon of advocacy on both the issues. The CCC comprises of Circle CEOs of Infrastructure Providers and Services Providers at the Circle level.
TAIPA Team

TAIPA Secretariat includes dynamic, highly skilled and experienced professionals. The entire TAIPA team is committed towards successful implementation of every task and activity. The team structure is as below:

- **Tilak Raj Dua**
  Director General (DG)

- **Kapil Bhatjea**
  Sr. General Manager
  (Regulatory, Policy & Operations)

- **Avinash Vyas**
  Sr. Manager
  (North & East)

- **Wilson Norris**
  Sr. Manager
  (Govt. Affairs & Liaisoning)

- **M.S. Rana**
  Assistant General Manager
  (Finance, Admin & HR)

- **Sarita Verma**
  Sr. Manager
  (PS to Director General)

- **Bhaskar Banerjee**
  Assistant General Manager

- **Nayan Bhatnagar**
  Sr. Manager
  (West & South)

- **Ankur Chaudhary**
  Sr. Manager
  (Corporate Communication, Media & PR)

- **Mr. Anind Fouzdar**
  Consultant
  West Region

- **Mr. Harpreet Singh**
  Consultant
  East Region

- **MP Thakur**
  Manager
  (Legal)

TAIPA team is widely appreciated and recognized by all the relevant authorities.
Making India Digitally Ready

Telecommunication has been at the mainstream since India took its path towards growth in the global economy. Recently, India became the world’s sixth largest economy overtaking France. Indian economy has become a role model for several developing countries and so has been the Indian telecommunication Infrastructure industry.

Since its inception in the year 2000 with the Department of Telecommunications introducing registration certificate for Infrastructure Providers, the telecom infrastructure has been established in every nook and corner of the country. The number of mobile cell towers have increased remarkably from mere 1,00,000 towers in 2006 to 4,71,000 telecom towers as of March 2018.

The business model of ‘Sharing’ which allows the infrastructure sharing with the licensees which have fueled the growth of the telecom services and worked as a catalyst for affordable telephony by providing service providers with ready-to-use infrastructure. The model enables operators to convert their capital expenditure to a fixed and predictable operational expenditure allowing them to divert capital towards their core activities. The method of sharing the passive infrastructure has been a great success and is a time-tested model. Sharing concept in India has led to optimal utilization of telecom infrastructure and has promoted a healthy competition. The concept is being emulated world – over and is also a Harvard Business School case study. The sharing model has resulted in the savings of Rs. 23,000 crores to the industry (As per Assocham – KPMG whitepaper on Ease of Doing Business in Telecommunications Industry).

According to International Telecommunications Union (ITU), “the single biggest reason for Infrastructure sharing is to lower the cost of deploying ICT broadband network to achieve widespread and affordable access to broadband services”
The digital space has witnessed an exponential evolution in the last decade and would continue to evolve rapidly with the next generation technologies shaping the world economies. Sustaining and enhancing this economic growth, while bridging the digital divide between various sections of the society are the key national objectives for India today. The Government has also initiated several ambitious programs such as Digital India, Smart Cities, BharatNet and Skill India to realize these national objectives, which will require penetration of digital services. Rise in broadband penetration to 60% in India is expected to translate into a 5-6% increase in the country’s GDP; to the tune of ~USD 135 Bn.

Telecom Infrastructure Providers are at the helm of accelerating inclusive, equitable and sustainable growth by enabling ubiquitous connectivity and for making the nation digitally ready. Digital transformation of the country is essential to further fuel the economy which is currently growing at a rate of 8.2% (during April-June 2018) and to meet the rising aspirations of the Indian wireless mobile subscribers. We are now at the threshold of a digital revolution with focus on delivering quality broadband to the masses and leveraging its significant potential for economic growth and social inclusion. Creation of a robust telecom infrastructure which comprises not only for telecom towers, but also smarter digital infrastructure solutions will bridge the gap between “haves and have-nots” in the existing and upcoming cities.

The future cities will be built based on readily available technologies and smarter solutions which will require well laid telecom network infrastructure.
Overview of Telecom Infrastructure Industry

Telecom sector have been realized as one of the key enablers for socio-economic development across the country. The reach of telecommunication services has become an integrated part of an innovative and technologically driven society. As of March 2018, India had a subscriber base of 1.2 billion which is only second after China.

The advent of Infrastructure Providers – I (IP-1) industry has helped shaping the growth of the entire ICT ecosystem. Telecommunication Infrastructure is the backbone of ‘Digital India’ program where future technologies like mobility, analytics, cloud, Internet of Things, Artificial Intelligence, Virtual Reality, Blockchain, and Machine to Machine (M2M) etc. will be playing a key role in implementing the Digital India mission. A robust telecom infrastructure will play a key role in seamless connectivity, which is the essence of true digitisation.

In India, telecom infrastructure such as telecom towers, feeder cables, dark fibres are majorly installed by telecom infrastructure providers category one (IP-1). Department of Telecommunications under Government of India opened the registration category in the year 2000 to enhance the installation of telecom infrastructure across the country. IP-Is have played a pioneering role in shaping the industry. Telecom towers are the backbone for wireless services and provide last mile connectivity to the subscribers. The telecom tower count as on 01 July 2018 is 4,74,448 with each tower hosting multiple technology Base Transceiver Stations (BTSs) which may be 2G/GSM, 3G, 4G-LTE. There are close 18,33,842 BTSs in India as on 01 July 2018 as per Tarang Sanchar Portal. The technology wise breakup of the BTSs is as below:
The telecom towers are estimated to grow at a pace of 3-5% from 2015-2020 with a tenancy ratio of about 2.48 as per a Deloitte Report. Over the last year, significant number of telecom towers have been added. The LSA wise telecom towers in the country are as depicted below:

States with highest number of telecom tower sites include:

- **Andhra Pradesh**: 37400
- **Maharashtra**: 36400
- **Bihar**: 33600
The country with a population of more than 1.2 billion has internet penetration of only 31% which is less than the global average of 62%. Thus, there is a need to augment the existing telecom networks by rolling out additional sites to provide citizens access to digital services. The telecom infrastructure players have been making all possible efforts to roll-out telecom towers in order to meet the growing demand and bring a greater number of people under the digital umbrella. A glimpse of how the telecom infrastructure industry has grown over the past years is as below:

![Growth of Telecom Infrastructure](image)

*Source: Tarang Sanchar, TAIPA Analysis*

The year on year growth is as below:

<table>
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<tr>
<th></th>
<th>March 2016- March 2017</th>
<th>March 2017 – July 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower Additions</td>
<td>11,000</td>
<td>31,000</td>
</tr>
<tr>
<td>BTS Additions</td>
<td>2,43,000</td>
<td>3,76,000</td>
</tr>
</tbody>
</table>
Thus, during the period March 2017-July 2018, on an average close to 1000 BTSs were installed daily and 2550 telecom towers were added monthly to connect the unconnected.

With the emerging technologies, roll-out of 4G networks, and multi-fold increase in data demand will need additional tower sites. The impact of the growth drivers will be tremendous with the tenancy ratio projected to reach almost 2.48 as per a Deloitte report. Some analyst projects that the tenancy ratio to rise to 2.9 by 2020 fuelled by the rise in the number of internet subscribers. The sector in the past year witnessed consolidations of the leading telecom players; which resulted in a slow growth momentum for the industry. The structural changes witnessed in the industry is expected to stabilize in the coming year with operators and infrastructure providers looking at new digital business models. As per TowerXchange, the total number of telecom towers in the country are forecasted to reach almost 6,00,000 by 2020.
Mergers and Acquisitions: The past year witnessed the much-anticipated and successful merger of Voda – Idea as well as acquisition of Viom Networks by ATC India. Intense competition and profitability pressures in the Indian telecom industry have led to consolidation reducing the number of competing entities, strengthening financial muscle to face aggressive competition, and to meet the high capex requirements for rolling out data services. The consolidation in the sector is expected to improve capital efficiency with companies emerging with stronger balance sheets. It will also result in optimum resource utilization which might result in the exit of tenancies for removing the duplications post-mergers but it will enhance the operational synergies.

The slow-down followed by the mergers and consolidations is temporary and with the emergence of technologies such as 5G, AI, VR, Blockchain and IoT etc. the roll-out of new sites will catch momentum presenting significant business opportunities for the IP-1s.
Global Tower Industry Glimpse

The telecom tower industry globally is emerging as a significant driver of growth. The tower industry as an independent industry has gained prominence in the past years in the countries like India, China and U.S.A. Tower Sharing has gained momentum and has been a trend setter. Sharing concept has been one of the key growth drivers of the telecom industry with the benefits such as cost reduction and faster data roll-outs.

The global telecom tower market is forecasted to register CAGR of 17.63% during 2018-2023. Emergence of new technologies, increasing penetration of smart phones, rising data usage is creating demand for additional telecom infrastructure. Asia-Pacific accounts for the highest volume of towers in the market, accounting for around 71.92% of the total towers in 2017. High penetration of smart devices is leading to high consumption of data in developing countries, such as China and India, which is driving the growth of the market in the region. Asia-Pacific accounts for more than 50% of the total internet users across the globe.

The Asian Tower Co landscape is as below:

![Global mobile data traffic (ExaBytes per month)](source)

![Selected Asian tower market size comparisons, Q4-2017](source)
On the lines of TAIPA in India, The China Independent Tower Alliance (CITA) has been in partnership with private towercos, telecom infrastructure builders, equipment and service providers, design consulting firms, academic and research institutes, and more. Its current membership consists of more than 60 organizations.

**CALA region:** The Tower Co landscape in CALA region as Journal of record for the international tower industry, Issue 22, April 2018 is as below:

**Selected estimated CALA tower counts**

![Diagram showing tower counts in different CALA regions]
**Sub-Saharan African market:** Independent towercos own 59,801 (or 41%) of the region’s estimated 146,609 towers in the Sub-Saharan African Market. The demographic dividend of young and growing population, low mobile penetration in comparison to other regions, and insufficient geographical coverage presents significant opportunities for Towercos to grow. In addition to meeting the growing demand, the focus of tower owners is also on enhancing operational efficiencies, improving site uptime and optimizing both opex and capex.  

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*Source: [TowerXchange](https://www.towerxchange.com)*
Infrastructure Providers 2.0

The growing digital landscape is fast shaping the evolution of new and emerging technologies. ICT enabled transformation is the key to achieving economic growth, boosting national competitiveness, and ensuring social well-being.

The sector is being re-shaped by the active consumer demands, innovation and competitive forces. New and emerging technologies such as 5G, Artificial Intelligence, Cloud Computing and, Internet of Things etc. are shaping up the telecom and other allied sectors.

Telecom Infrastructure industry has been at the forefront making the technologies a reality and pivotal for the success of various Government initiatives like Digital India, Smart Cities and, Financial inclusion etc. The sector contributes over 6.5 percent of the country’s GDP annually. Indian Mobile Industry is likely to contribute US$ 400 billion to the country’s GDP by 2020.

Enabling street level coverage by using next generation tower roll-out models will represent another area of growth for the Indian tower industry. Newer concepts like RAN Sharing and Network Cooperation; provisioning of IBS, Small Cells, Wi-Fi Offloading; are some of the areas that are being explored by Infrastructure Providers and will be a win-win for all stakeholders. Moreover, to bring efficiencies at the industry-level, Infrastructure Providers have already worked extensively on Opex reduction through Commercially viable Models; Fixed Cost model; Rent cost reduction; Field force utilization; etc Energy Management initiatives like Clean energy sources; Energy efficient equipment; O&M Process automation i.e. Site Analytics management skills, etc.

The growth in the Indian economy fuelled by the upcoming technologies will allow the infrastructure providers to expand vertically and leverage their sharing business models in the other areas of In Building Solutions, Wi-Fi Hotspot infrastructure, Fibre leasing, Common Ducts and Smart Cities etc.

I. In Building Solutions

An estimated 75 - 80 per cent of mobile traffic either originates or terminates inside a building. In view of the in-building data consumption trends, it is important to provide quality indoor telecom services in residential multi-story buildings, commercial complexes, hotels, and airports etc. Relying on an outdoor network to serve indoor devices results in low quality signals, call drops and intermittent coverage. Thus, in-building solutions (IBS) have become as vital for buildings as water or electricity.

IBS ensures the efficient usage of spectrum by data offloading from macro cell sites. From the operators’ perspective, effective indoor connectivity will be a key differentiating factor in the face of increasing competition. IBS solutions provide an opportunity to improve the quality of service (QoS) inside densely populated buildings, thus driving enriching customer experience.
There is a significant opportunity for the infrastructure players to build neutral host last-mile IBS infrastructure, which can cater to multiple operators. It is in the best economic interest of the industry, if IBS infrastructure is installed by infrastructure providers Category-I (IP-1s) and subsequently, fairly shared by multiple telecom service providers (TSPs).

In Building Solutions opens revenue stream for the telecom tower companies however there are some regulatory hurdles that are yet to be resolved to streamline the issues.

To provide telecom network coverage inside commercial and residential complexes and large public places, the TSPs/IP-1s must gain access to in-building facilities and infrastructure. In India, a building owner or builder enters into an exclusive contract with one or more TSPs to install IBS for providing seamless network connectivity.

TRAI has released its recommendations on In Building Access by the TSPs recommending IBS to be installed and shared on a non-discriminatory basis by the TSPs and IPs which is under review with the Department of Telecommunications (DoT).

I. Fiberization and Fiber Leasing by TowerCos

Data explosion, requirement of high speed internet and smartphone penetration will accelerate the demand for fibre deployment for providing superior network connectivity and last mile coverage. With less than 25% towers fiberized, fibre leasing market represents a USD 2.6 bn market by FY 20. The estimates imply that fiberized towers will increase from 90,000 to 3,30,000 by FY 20\( ^v \). Fiberization of existing telecom infrastructure has the potential to bring substantial social and economic benefits to governments, citizens, end-users and businesses through increase in productivity and competitiveness, improvements in service delivery, and optimal use of scarce resources like Spectrum.

![Fiberisation of towers in India](image)

*Figure Source: Assocham-KPMG whitepaper on Ease of Doing Telecommunications*
The upcoming cities will be built based on readily available optical fibre cables, next generation telecom infrastructure and technologies. This will require deployment of fibre to facilitate improved data access to the citizens. ‘Access to Broadband’ has become a priority for the Government and the industry, which can be achieved by laying OFC and connecting the towers to fibre. Significant efforts need to be made in order to reduce the digital divide in India and to connect the unconnected, especially in the rural and remote areas.

According to a report by ResearchAndMarkets, the fibre market is projected to grow at a CAGR of 17% through 2023 in India. Growth in the market is majorly expected to be backed by rising investments in OFC network infrastructure by the Indian government to increase internet penetration across the country, which is in line with the government’s initiatives such as Smart City Mission and Digital India Program. Moreover, growing demand for OFC from IT & telecom sector, rising number of mobile devices, increasing adoption of FTTH (Fiber to the Home) connectivity and surging number of data centers is anticipated to fuel optical fiber cables market in India over the coming years. Today, India lies way behind in the Fibre (per KM) per capita at 0.09 whereas countries like Japan, US, are at 1.35 & 1.34 (Fiber per KM).
Infrastructure sharing in mobile towers has been successful in rapid network expansion and the same should be replicated for wired networks, i.e., OFC. A common duct wherein the infrastructure providers creates ducts, deploys OFC which can be shared by the multiple service providers on a lease/rent basis can be an additional area for generating revenue for the tower companies. This will lead to cost efficiencies for the service providers as they would be able avail ready-made fibre infrastructure which would only need activation. The IP-1s are well equipped to follow the sharing model as they provide neutral host platforms for providing wireless services by the TSPs. A similar model needs to be replicated in case of optical fibres by the IP-1s.

India has approximately 1.5 million kilometers of OFC and less than one fourth of the towers are fibre connected. A breakdown of the fibre laid by various players is as below:

- BSNL : 670,000Kms
- RJio : 270,000Kms
- Airtel : 240,000Kms
- Tata : 128,000Kms
- PGCIL : 40,000Kms
- Railtel : 37,000Kms
- GAIL : 17,000Kms

*Source: Research Reports, Media articles*

While India has embarked on one of the world’s largest rural optic fibre roll-outs in the world, aiming to connect 6 lakhs of its villages by broadband through the BharatNet initiatives. A robust competitive landscape for laying of telecom infrastructure will be essential for the revolutionary technologies including 5G, cloud computing, IoT, AI and M2M etc.

The model suggested for laying common duct by the IP-1s which can be shared by the multiple TSPs on rent/lease basis in a non-discriminatory manner will serve the needs of the future and accelerate the access to new technologies.

Fiberization to connect the unconnected is an important tool to facilitate socio-economic growth, while ensuring service quality and environmental sustainability.
III. Wi-Fi Infrastructure

Wi-Fi services offer customers fast peak wireless data transfer speeds and improve indoor coverage. It is estimated that the total of 44% of mobile data traffic is estimated to be off loaded to Wi-Fi and small cells by 2020.\(^i\)

The number of Wi-Fi hotspots that have been deployed across the country stands at 90890. The state/UT wise breakdown of the Wi-Fi hotspots deployed is as below:\(^ii\):

![State/UT wise summary of Wi-Fi Hotspots funded by USOF](image)

*Source: Lok sabha unstarred question no. 25 to be answered on 18th July, 2018, DoT, Ministry of Communications, Government of India (Benefits of Broadband Services in Gram Panchayats)*

Developed markets such as the US, the UK and France have about 30% of their total public data offloaded to public Wi-Fi networks as opposed to India’s 16%. A successful public Wi-Fi market in India could see over 600 million people experiencing a public Wi-Fi service which will require over three million access points to be rolled out in the country including tier three cities and villages.\(^iii\) Deployment of Wi-Fi hotspot is necessary to realize the potential of Digital India by bridging the digital divide as the cost of Wi-Fi would be cheaper compared to 3G or 4G services. Sharing of Wi-Fi infrastructure can facilitate offloading of traffic on to the Wi-Fi networks, thereby easing network congestion on mobile networks in high density public footfall areas.

The provisioning of Wi-Fi services needs to be unbundled wherein the registered entities provide the shareable neutral host infrastructure and licensed operators provide the end to end services to the consumers. Thus, it is another area of opportunity wherein infrastructure players are working to facilitate shareable passive infrastructure for Public Wi-Fi Hotspots.
IV. Smart Cities:
The objective of the Smart Cities Mission is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a sustainable environment and application of ‘Smart’ Solutions. The mission will enable development by harnessing technologies and telecom services for creating smart outcomes. Smart cities will involve smart infrastructure, smart governance, smart energy & environment, smart buildings and housing, smart mobility and smart health. Information & Communication Technology (ICT) will play a critical role in creation of smart cities. As more people shift to the urban cities, it is projected that urban India will contribute nearly 75% of the national GDP in the next 15 years. Thus, it is of immense importance that we plan our urban areas well which are well connected digitally and otherwise.

The smart city mission of the Government of India aims to transform cities and improve public life through quantum jump in the quality of services being provided, simplifying governance and enhancing city functionaries. A city will be transformed to smart city by maximizing the reuse of existing infrastructure (ICT/Non-ICT), creating a backbone for smarter initiatives for the future and modernizing service delivery. The objective is to provide decent quality of life to the citizens.

The status of smart city mission is as below:

<table>
<thead>
<tr>
<th>Total Winning Proposals</th>
<th>Total Urban Population Impacted</th>
<th>Total Cost of Projects (₹ Cr.) (Including Other Cost - O&amp;M, Contingency, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>99,630,069</td>
<td>203,172</td>
</tr>
</tbody>
</table>
For connected cities, it is important to leverage towers and embed smart devices like computerised sensors into the urban fabric, collect information in real time, send it for processing by intelligent analytics systems with the results being used to optimise key city services such as transport systems, energy supply and healthcare etc. Ensuring the circulation of data to key organs within the Smart City will be the job of carriers and mobile operators.

This will drive the evolution of mobile broadband networks to HetNets i.e. heterogeneous networks that leverage an evolved macro cell layer complemented with integrated small cells to provide seamless outdoor coverage on the streets. This will result in a tremendous increase in the demand for creating micro and small cell sites.

Interconnected approach with public involvement will make cities smarter and transform India to a advanced country. Smart cities don’t essentially mean new cities, or added infrastructure, but incorporating smart technologies for the current cities offering a better standard of living for the masses.

Thus, the realization of smart cities and digital India mission is of prime importance for the government and the industry to transform India into a digital empowered society and a knowledge-based economy. The key areas wherein IP-Is can contribute to make the cities smarter includes:

- **Intelligent Poles (iPoles) and Telecom Infra**: Intelligent Poles (iPoles) are basically poles with multitude of smart components integrated with Central command and control Centre for aiding emergency management in case of any disaster or mishap, as well as monitoring city environment and disseminating public information.

- **Public Wi-Fi**: Deploy Access Points at the selected hotspots to provide Public Wi-Fi. IPs to provide shareable infrastructure.

- **Optical Fiber**: To provide huge bandwidth to the Wi-Fi users, Intelligent Poles, 5G, and other new technologies etc. and as required for future Smart Services/providing Backhaul to Telecom, underground Fiber shall be laid across the city at the pre-defined routes.

- **Street Level Infrastructure**: IP-I and municipal bodies will have to work together to roll-out street level infrastructure to enhance street level coverage.
The year that was 2017-18

The past year has seen many positives for the industry which has been a result of the consistent efforts made by the TAIPA team along with the continuous support from all IP members and their circle teams. Today, telecom infrastructure can be even found in places where the winds of developments have not reached yet. This has been made possible by creating an enabling environment for the industry to operate through regulatory advocacy.

Some of the key milestones that the TAIPA team has achieved would not have been possible without the support from the Central and State Government on key issues that have been hindering business operations of tower companies across the country.

A. **State Policies**

The proactive approach by TAIPA have resulted in alignment of mobile tower policies of several States with the Indian Telegraph Right of Way Rules 2016. The result is a continuous effort made by TAIPA through rigorous follow-ups with the Government departments across the States.

The government has played an enabling role and have initiated crucial reforms by addressing some long-pending issues like amending Right of Way Rules, directions for security of telecom towers, guidelines for laying OFC across national highways through common ducts by DoT to NHAI, enhancing the availability of government land and buildings by Department of Post and Ministry of Defence, The following States have amended their policies and aligned it with central government guidelines.

I. **Arunachal Pradesh:** The state released its policy which has provisions as per the central government RoW 2016. Arunachal Pradesh is one of the key States in the North Eastern regions which has enabling policy and will expedite the infrastructure deployment to extend quality mobile telephony services to the masses.

TAIPA is in continuous dialogue with all the States in the North-East region for issuing enabling guidelines/policies for telecom infrastructure installation.

II. **Assam (Guidelines for granting Right of Way to Telegraph Infrastructure 2018):** The policy for Assam was released on February 2018 which is aligned with Indian Telegraph Right of Way Rules 2016 with enabling provisions such as reasonable fee charges, provision for online single window clearance portal and availability of Government land and buildings.

III. **Haryana (Haryana Communication and Connectivity Infrastructure Policy):** The state is amongst the first few states that have notified the policy which is aligned with the Indian Telegraph Right of Way Rules 2016. The policy has enabling provisions such as security of telecom infrastructure, online single window clearance mechanism, availability of government land and buildings and no restriction on location. There are implementation issues in the policy which have been taken up with the State Government and are being addressed.
IV. Maharashtra (Telecom Infrastructure Policy): The revised policy was released after almost four years of persistent struggle and efforts by TAIPA. The policy released in February 2018 has provisions for single window clearance mechanism, deployment of infrastructure on government land and buildings, minimal fees for tower and RoW permission, and dispute resolution mechanism. The policy is expected to be notified soon.

V. Odisha (Odisha Mobile Towers, OFC and Related Telecom Infrastructure Policy 2017): The State has released a revised policy in September 2017 which has become the benchmark policy for telecom infrastructure installation across the country. The Government has adhered to the industry inputs and because of the consistent efforts made by TAIPA, the policy has several forward-looking provisions like reasonable charges for permission, government land and buildings, In building solutions, cell on wheels, and dispute resolution mechanism.

VI. Rajasthan: The Urban Development and Housing Department, Rajasthan Government notified the Rajasthan Tower Policy on 09th February 2017 that is aligned with Indian Telegraph Right of Way Rules 2016. The policy includes both IPs and TSPs. The notification has been the result of continuous efforts from TAIPA.

VII. Tamil Nadu (Government Order): The Government of Tamil Nadu has released a Government order during February 2018 for deployment of telecom infrastructure on Government land and buildings which clearly brings out that the State should follow the RoW Rules 2016 for issuing permissions. However, as per the order, levy and collection of track rent for telecom infrastructure to be continued in accordance with the existing guidelines in the State in addition to the administrative expense laid out under the RoW Rules Nov. 2016.

VIII. Tripura (Government Order): The government order released by the Tripura is aligned with the Indian Telegraph Right of Way Rules 2016. The release of the Government Order would accelerate the deployment of telecom infrastructure across the State by the infrastructure providers.

IX. Uttar Pradesh: The largest State in India released the guidelines for deployment of telecom infrastructure in the State in June 2018. The guidelines which are aligned with the central government rules and regulations will accelerate the deployment of both underground and over ground infrastructure creation in the most populated Indian State to enable proliferation of the telecom and allied services thereby leading to social inclusion, financial inclusion and economic growth in the state.

B. Policies under discussion:

I. TAIPA is working with the State Governments of West Bengal, Gujarat, Goa, Delhi, Himachal Pradesh, Manipur and Telangana to issue / align their State Infrastructure policies with the Indian Telegraph Right of Way Rules 2016.
II. Department of Post Guidelines for installation of mobile towers on Post office Buildings: After prolonged follow-up, Policy released by DoP includes IP-I in the policy. The issues in the DoP policy such as advance licence fee of six months or Rs. 3 lakhs as security for installation of each tower, additional 40% of sharing charges, initial permission for 3 years only, to be extended to ground based towers etc. The same have been taken up with the concerned authorities and TAIPA is expecting an early resolution of the same by the Government authorities. Needless to mention that this is a hallmark step towards provisioning of government land and buildings for telecom infrastructure deployment. TAIPA would need government support for its implementation.

III. Ministry of Defence Guidelines for installation of telecom towers in Cantonment/Military Stations: Pending for a long time, MoD finally notified and released Guidelines for Installation of Communication towers in Cantonment/Military Stations Guidelines dated 26th February 2018. The policy covers the allotment of defence land on lease for towers as well as permission to use land for placing Cell on Wheels. This will help address the coverage gaps and reduce the call drops that the consumer face in and around the cantonment and military areas. There are some minor issues regarding sharing and restriction on location which are under discussion with Ministry of Defence for ratification.

C. States with draft policies: Post continuous efforts made by TAIPA towards policy alignment, the key States such as Uttarakhand, Punjab, Madhya Pradesh, Karnataka and Meghalaya have formulated and released their draft telecom infrastructure policies which are in advanced stages of finalization after considering TAIPA inputs and suggestions.

D. Central/State Government Policies/Initiative:

I. Guidelines by Ministry of Environment, Forest and Climate Change: Ministry of Environment, Forest and Climate Change (Wildlife Division) has issued the guidelines dated 19 February 2018. The Guidelines for laying of underground optical fiber cables (OFC) inside Protected Areas were being followed up for a long time.

II. Common Utility Duct Guidelines by Department of Telecommunication: The Department of Telecommunication formed a Working Committee Group to formulate guidelines for common utility duct along national highways. TAIPA was a part of the Working Group and facilitated technical inputs. Because of the effort, inputs and regular follow-ups, the technical guidelines by the DOT for common ducts policy across the National Highways.

E. Key Updates on Regulatory/Operational Issues:

I. Formation of Online Single Window Portal by States: States such as Haryana and Assam which have already aligned their policies with the RoW Rules 2016 have started the development process for online single window clearance portal in order to process the applications and grant of permissions. The online window portal would reduce the administrative burden to a great extent despite providing timely approvals as stipulated in the respective policies. Haryana government has completed the task of
online portal creation and made their portal live in March 2018. TAIPA has been nominated as a partner with these States to facilitate the development of online portal.

II. Exemption for Mobile Towers DPCC regarding banning of DG sets: Delhi Pollution Control Board released an order dated 18th October 2017 regarding banning the DG sets at mobile tower sites in Delhi. The industry uses DG sets for backup purposes only as it is required to provide uninterrupted power supply to telecom networks 24x7. In case of network outages, the DG sets provide electricity to the networks in emergency cases. Because of the follow-ups with the appellate authority EPCA to intervene and withdraw the order, EPCA exempted the mobile towers allowing DG sets for backup purposes only.

III. Progress on New Delhi Municipal Council (NDMC) Guidelines: NDMC policy has several issues such as high permission fees, monthly charges, and restriction on location. TAIPA held various meetings with the top-most officials in the Council and as a result of which TAIPA’s request to formulate a Working Group comprising of industry members were adhered to. The working group formed is working towards formulating a policy which is aligned with the Indian Telegraph Right of Way Rules 2016.

IV. Progress on MCD Mediation Settlement: Despite the mediation settlement signed with the concerned parties in 2017, the municipal bodies continues to seal towers thereby disrupting telecom services. Regular meetings were held with all the three MCD commissioners (South, East & North)/ Special Secy – LG Office for faster implementation of mediation agreement. Post several meetings, all three MCDs (South, North & East) issued office order/instructions/directives to their zonal officials to implement the mediation agreement and directed their respective departments not to take any further coercive actions against mobile towers. Further, regular follow-ups and coordination with all three MCD’s is being done for smooth implementation of the Mediation agreement.

V. Amendments to Gujarat 4G Policy dated 10th October 2012: The 4G circular dated 2 October 2012 which was only applicable to a specific operator with a specific technology restricted a level playing field, discrimination against other industry players and limited fair competition practices. With regular persuasion, follow-ups and submissions, the circular is now amended and extends to all the IP-Is and TSPs vide order dated 06 March 2018 from the State’s Urban Development Department.

VI. West Bengal Government formed a Special Committee for clearance of Mobile Tower installation and allied issues under the jurisdiction of Kolkata: Due to lack of Uniform State Telecom Infrastructure Policy in West Bengal, Infrastructure providers were facing many issues during installation of Mobile Towers in Kolkata. TAIPA approached West Bengal Government for formulating the Uniform Policy for entire State on priority as same has been pending from a long. TAIPA also suggested to form District level committees to resolve the permission related issues till the time Policy is being notified. Post TAIPA suggestion, a Special Committee was formed by West Bengal Government for resolving the mobile tower installation & allied issues in Kolkata. A directive in this regard was issued by IT department, Government of West Bengal to all DC’s in Kolkata to convene the Special Committee meetings with Infrastructure Providers & Service Providers for resolving the issues being faced by them.
VII. Kerala Government forms Working Group to formulate deployment of telecom infrastructure on Government land: The Kerala Government – IT Department has formed as Working Group Committee to formulate guidelines for deploying telecom infrastructure on government land and buildings. TAIPA is an active member of the Working Group and have advocated the need for tower sharing, no restriction on location and reasonable charges for permissions. The formulation of these guidelines is in advance stage and regular meetings are being held. Further, the previous rules and regulations which had unimplementable clauses have been withdrawn based on TAIPA submissions and meetings.

VIII. Cancellation of Discriminatory Tender by Kozhikode Corporation: Discriminatory tender was released by Kozhikode Corporation for installation of pole sites in the corporation area which had restrictive conditions such as restriction on sharing, high security deposit, etc. The same was taken up with the concerned Government authorities by TAIPA and as a result, the tender was withdrawn.

IX. Provisioning of IBS in government buildings of Haryana: Haryana Government nominated TAIPA as the nodal point for allocating the IBS sites amongst IPs and TSPs on mutual sharing concept. In the initial phase Haryana Government shared 6 Mini Secretariat sites with TAIPA for allocation. All 6 locations were allocated by TAIPA to the concerned IP-1s through mutual consensus amongst IPs & TSPs where IBS was installed successfully. This entire process has helped the government and industry for faster roll-out of IBS services thus increasing connectivity throughout the Haryana state.

X. Direction/Orders to different departments of Assam, Haryana Odisha and Rajasthan Government regarding Policy implementation: States like Rajasthan and Odisha have taken a lead to align their policies with the Indian Telegraph RoW Rules 2016. However, the implementation of the policies down-the-line across different departments was a challenge that was being faced by our members. Industry Associations jointly took up the matter with the concerned State authorities and as result of which directions/orders were issued to government departments to implement the policy and follow the rules as stipulated in the policy but the issues still persist. The senior government functionaries of Haryana vide video conference directed all districts official to follow the guidelines and grant permissions within the defined time period.

XI. Issues resolved in Assam post TAIPA intervention: Post notification of Assam Policy, 2018, there were delays in issuing the permissions by Government authorities specially for issuing permissions for installation of towers on Government Land & buildings. Post TAIPA intervention Sr. DDG, LSA- Assam issued a directive to all District Nodal Officers for issuing permissions insuring mandatory sharing of telecom towers by the concerned IP/TSP.

F. Key Updates from Department of Telecommunications:

I. Inclusion of IP-I in the Indian Telegraph Right of Way Rules 2016: The Department of Telecommunication released the Indian Telegraph Right of Way Rules 2016 dated 15th November 2016. The Rules were not extended to IP – Is who are at the forefront for installation of telecom towers in the country. Finally, after nearly two long years of follow-ups, meetings, and engagements with the DOT, IP-Is have been included in the Right of Way Rules 2016 vide Office Memorandum dated 22nd May 2018.
This is a remarkable and forward-looking decision taken by the Department of Telecommunications. IP-1s have been facing difficulties in rolling out telecom infrastructure as Department of Telecom (DoT) notification RoW rules included only licensed telecom service providers. The inclusion of IP-1 was long pending and much needed and timely. This will expedite the provisioning of telecom infrastructure in every nook and corner of the nation. The clarification will provide impetus, required thrust and augurs extremely positive for upcoming technologies like 5G, AI, IoT etc.

II. DoT communication regarding enhancement of Scope of IP-1: The scope of IP-1 services was enhanced by DoT vide its letter dated 9th March 2009 which propagated sharing of infrastructure. In a complete reversal approach, vide the letter dated 28th November 2016, DoT prohibited IP-1s to own and share some elements of infrastructure like antenna, feeder cable, Node B & RAN etc. However, clarification provided by DoT vide their letter dated 13 June 2017 to industry states that IPs can install active elements on behalf of Telecom licensees but cannot own it. Further, the draft NDCP by the DoT also recommends scope enhancement for IP-1s.

TAIPA has taken up the matter with DoT and are awaiting suitable resolution.

III. DoT Communications dt 07.12.2017 on various key industry issues re Ease of Doing Business: Several submissions along with various representations have been made on the key issues for tower infrastructure sector, resolution of which will result in Ease of Doing Business for the sector. A similar submission dated 13th June 2017 was submitted to Telecom Minister, DoT Secretary, Revenue Secretary, IT Minister and the PMO based on which DoT responded as follows:

i. Exclusion of Telecom towers from availing Input Tax Credit under GST bill – In its letter to the Revenue Secretary, DoT states, “prima facie, it appears that the treatment of not allowing the input tax credit for tower infrastructure providers goes against the basic principle of GST to avoid cascading effect of taxes.” Further, it states that the Department of Revenue should look into the matter of allowing Input Tax credit for Telecom Tower Infrastructure Providers in light of the basic principle of GST to avoid cascading effect of Taxes.

ii. Levy of Property Tax by treating mobile towers as land & building – In its letter to the Chief Secretaries of All State Governments, DoT states, “it is noted that the property tax is the sole purview of the State Governments, and thus is levied-collected-regulated by the State Governments only. However, the arbitrary and excessive taxation on the telecom tower industry may lead to the adverse growth of the telecom sector which may hamper the efforts of the GoI to transform India into a Digitally empowered society.” The letter further requests the Chief Secretaries to address the issue and take necessary steps to provide ease of doing business for the telecom tower infrastructure industry.

iii. Regarding the availability of Government Lands & buildings for installation of telecom infrastructure, DoT letter to the State Governments requesting them to facilitate the rollout of telecom infrastructure.
iv. **Infrastructure Status Benefits** – The DoT has requested us to provide details of the specific benefits/entitlements sought under the ‘Infrastructure Status’ for the telecom tower industry. The same is being once again submitted and the matter is being pursued.

IV. **Draft National Digital Communications Policy**: DoT released the draft National Digital Communications Policy 2018 on 01st May 2018 for public comments. The policy focusses on transition from physical to digital communication infrastructure and deployment of a robust telecom infrastructure. The policy would have a far-reaching impact on the industry and will define the nature of the Indian telecom sector in the coming few years as it endeavours to generate 40 lakh new jobs by 2022, draw $100 billion foreign funds into the telecom sector and provide broadband speeds of 50 Mbps for all Indians. The policy will implement Digital India in totality by leveraging the potential of telecom infrastructure and services as the key enabler to connect the unconnected. Lays out policy and principles framework to enable creation of a vibrant competitive telecom market to strengthen India’s long term. Addresses issues related to all the stakeholders, i.e., Infrastructure Providers, Telecom Service Providers, Equipment Providers, Manufacturers, etc.

The three broad pillars of the policy are:

### Connect India
- Universal broadband coverage at 50 Mbps
- 1 Gbps connectivity to all Gram Panchayats of India by 2020 and 10 Gbps by 2022
- Enable 100 Mbps broadband on demand
- Public Wi-Fi Hotspots; to reach 5 million by 2020 and 10 million by 2022
- Ensure connectivity to all uncovered areas

### Propel India
- Attract investments of USD 100 Billion
- Increase contribution to Global Value Chains
- Creation of Globally recognized IPRs
- Train/ Re-skill 1 Million manpower for building New Age Skills
- Expand IoT ecosystem to 5 Billion connected devices
- Accelerate transition to Industry 4.0

### Secure India
- Comprehensive data protection regime for digital communications
- Ensure net neutrality principles
- Develop and deploy robust digital communication network security frameworks
- Build capacity for security testing
- Address security issues

Envisages active role by IP-1s and addresses the following issues
- Extending incentives and exemptions for the construction of telecom towers
- According accelerated Rights of Way permissions for telecom towers in government premises
- Encourage sharing of active infrastructure by enhancing the scope of Infrastructure Providers (IP) and promoting deployment of common sharable, passive as well as active, infrastructure;
- Incentivising the use of renewable energy technologies in the communications sector
- According Telecom Infrastructure the status of Critical and Essential Infrastructure at par with other sectors
• Rationalising taxes and levies on Digital Communications equipment, infrastructure and services
• Addressing security issues across layers: Infrastructure Security (physical infrastructure)

V. Centralized RoW portal by the Department of Telecommunications:
As per the Indian Telegraph RoW Rules 2016, the State’s government need to formulate their policies in accordance with the rules and develop an online single window portal within a year from the issuance of the Rules. This web-based system of states will work as single window clearance to IP-1s for establishing Telecom Infra. This will also benefit the applicants to keep track of status of the application submitted online viz. delay in giving permission, pricing issues & deemed approval etc.

To accelerate and track the status /development of the State’s online portal, DoT is developing centralized RoW portal. The objective of the online centralized RoW portal is mainly to pull (or push) the data from/to the web portal of each states to keep the track of ROW clearance by the States and make an informed decision. For this purpose, the web systems of the states are to expose Application Program Interface (APIs) so that centralized RoW portal can access to the State web system data. To achieve & maintain the objective of centralized system, all the States have to adopt uniformity and standardization in the meta data structure & APIs etc.

TAIPA representative has been nominated by the DoT to design and develop the business requirement document (BRD)/ Software requirement workflow for design & development of centralized RoW portal and co-ordinate with the State Governments for linking of their respective portal with the centralized RoW portal accordingly.

VI. Report by the High Level Forum prepared by the Steering Committee: A 5G High Level Forum was set up by the Government in September 2017 to articulate the Vision for 5G in India and to recommend policy initiatives and action plans to realize this vision. TAIPA was a part of the Steering Committee and actively contributed inputs towards the role of IP-1s in enabling 5G services in India. The report released by the Steering Committee formed by the DoT emphasize on an active participation of the Infrastructure Providers in creating robust infrastructure for 5G networks, enabling street level coverage, dedicated budget allocation towards telecom sector, mandatory sharing of telecom infrastructure, extension of infrastructure status benefits, enhancing regulatory certainty, and ensuring security of telecom infrastructure.

VII. RoW Advocacy Programs to be led by DoT – TAIPA: This is yet another step by DoT in collaboration with TAIPA to accelerate alignment of State’s policies with the Indian Telegraph RoW Rules 2016. The Rules lay down critical principles like one-time administrative fee, single window clearance, deemed approvals and defined time-period of approvals to grant RoW to install underground and over the ground telecom infrastructure in the States and UTs. However, even after the release of RoW Rules of November 2016, the telecom infrastructure industry continues to face tremendous challenges in rolling out the critical telecom infrastructure due to lack of enabling policies in the States.
To streamline the issues and expedite alignment of policies with the central government Rules, nationwide RoW advocacy are being planned with the DoT. The events will be led by the DoT, facilitated by TAIPA to create awareness amongst relevant State Government authorities to formulate telecom infrastructure policy in line with RoW Rules, 2016 for smooth and faster rollout of robust telecom infrastructure in the States.

G. TRAI Recommendations & Response:

I. TRAI Recommendations on its Consultation Paper on Inputs on National Telecom Policy 2018: TRAI released its recommendation on 02nd February 2018 which included key inputs provided by the TAIPA. Based on the submission made by TAIPA, TRAI released its recommendations and shared them with the DoT. The inputs recommended by TRAI were included in the draft NDCP 2018 which have resulted in a comprehensive and forward-looking document. The key inputs of TAIPA submission which were included in the recommendations by TRAI are:

- Inclusion of IP-I in RoW Rules 2016
- Enhancing scope of IP-I,
- Emphasis on deployment of digital communication infrastructure,
- Infrastructure status benefits,
- Faster rollout of telecom infra,
- Promote sharing of infrastructure, online RoW portal,
- Rationalization of taxes and levies etc.

II. TRAI Recommendations On “In Building Access by TSPs”

TRAI had released the recommendations on In Building Access by TSPs on 20 January 2017 allowing both IPs and TSPs to deploy IBS. The recommendations also promote sharing of In Building Telecom Infrastructure and mandates that TSPs/IPS to share the in-building infrastructure with other TSPs. TRAI also recommends including provisions in the National Building Code of India to facilitate Telecom Installation inside a building. The recommendations are pending with the DoT.

III. TRAI Recommendations on “Ease of Doing Telecom Business”:

TRAI recommendations released on 30 November 2017 addresses general issues like Import License for wireless equipment, WPC clearance for Demonstration and license and Experimental license, Trading of Access Spectrum, Issues related to M&A, SACFA and EMF have also been addressed which will likewise impact Infrastructure Providers too.

IV. TRAI Recommendations on “Approach Towards Sustainable Telecommunications”

TRAI issued a consultation paper on ‘Approach towards Sustainable Telecommunications’ on 16 January 2017 seeking views of the stakeholders on issues like:

- Approach for calculating the carbon footprint
- Need for auditing the carbon footprint of a telecom network by a third-party auditor and its mechanism
- Formulas suitable for calculation of Carbon footprints from Grid supply and DG Sets
• Options available for renewable energy solutions, support to industry for effective implementation of RET/Energy efficient solutions
• Methodology for setting new Renewable energy targets in the telecom sector and the timeframe for achieving these targets etc.

Considering the submissions made by TAIPA, TRAI recommended that the service provider should voluntarily adopt RET solutions, energy efficient equipment, and efficient storage solutions. The recommendations released by TRAI dated 23 October 2017 are forward looking and enabling and will pave the path towards a sustainable telecommunication. Some of the key highlights of the report include:
  • Voluntary adoption of RET solutions for industry
  • Service Providers should be free to implement any of the RET solutions as per the feasibility and suitability on the specific locations, energy efficient equipment and high capacity fast charging storage solutions, etc.
  • No independent third-party audit. Report on carbon footprint reduction to be submitted annually.
  • Service providers should evolve a ‘Carbon Credit Policy’ in line with Carbon credit norms with the objective of achieving the reduction in Carbon footprint target
  • RET deployed in telecom network, irrespective of the source of funding of RET project, should be counted towards savings from overall carbon emission
  • The government should consider passing all possible benefits related to deployment of RET power to the Service Providers as per extant government schemes.
  • Recognizes lithium ion battery as the next generation storage technology because of higher energy densities, reliability, safety, low maintenance costs and the ability to operate in a wide range of environmental conditions for long periods.
  • Deployment of such energy storage technology solution will reduce the dependence over use of diesel generators.
  • The recommendations emphasis on energy storage solutions and highlights the following advantages of the Li-ion batteries.

- Higher energy density, Longer life, Low maintenance cost
- Lithium-ion batteries offer longer float life over VRLA batteries
- Provide more energy in less space
- much lighter than other types of rechargeable batteries
- better performance and high reliability
- discharge capacity does not reduce on each charge/discharge cycle
Energy Scenario in India and Need for Efficient Energy Storage Solutions

ICT sector’s contribution to carbon emissions is miniscule — only around 2% of global CO2 emissions are contributed by ICT and by 2020 the ICT is expected to account for about 3% of the global GHG emissions worldwide. As per an All India Study conducted by M/s Nielsen (India) Pvt Ltd for Petroleum Planning and Analysis Cell (PPAC), diesel consumption Mobile Tower constitutes just 1.54% of the diesel consumption. Agriculture sector accounts for around 13%.

Improved Grid Power Supply: In the past, the Government has made progressive reforms on electrification of non – electrified areas which has helped the industry to further reduce its reliance on diesel. Overall power availability has increased, and the load shedding has reduced.

Storage Solutions for Powering Telecom Networks

Energy storage technologies have huge potential to significantly transform Indian telecom towards a greener, more resilient and reliable energy solution. Advanced energy storage technologies can play an important role in renewable integration, energy access, electric mobility and smart cities initiatives organized by the Indian Government apart from being alternate energy solutions for telecom sector.

Energy storage solutions such as Li-ion batteries have been increasingly contributing as backup energy sources for telecom network. According to the IESA estimates, India has potential to integrate over 300 GWh of energy storage during 2018-25 with telecom being a major stakeholder. Telecom has started towards battery diversion with 25% of market share leading to about 5 GWh capacity at present. Li-ion demands will surpass the demand of other storage solutions by 2025 thus presenting an opportunity for the companies to invest in telecom sector. Telecom tower industry is fully committed to reduce its reliance on diesel by adopting energy efficient storage solutions and renewable energy technologies.
Update on Legal Issues

TAIPA continues to take up matters impacting the infrastructure providers through consensus. The approach of TAIPA has always been to resolve the matters through effective advocacy and reduce the burden of litigation. However, there are some key areas wherein the matters are litigated for an effective and forward-looking resolution of the issues.

- **Tax matters** viz. Entry Tax, Cenvat, Vat etc
- **Arbitration related cases for recovery of exit amounts**
- **EMF related issues in Rajasthan, Maharashtra and various PILs**
- **Matters related to Property Tax: Majorly in Maharashtra and Gujarat**
- **State Tower Policy Related Matters: Pending for Maharashtra, Chandigarh, Punjab and Haryana**
Summary – The year that was 2017-18

1. IP-1 inclusion in Indian Telegraph Right of Way Rules 2016 vide office memorandum by DoT dated 22 May 2018


3. Amendments in Gujarat Policy ensuring level playing field

4. Cancellation of discriminatory tender by Kozhikode corporation for deployment of high masts

5. Development of online single window portal by States of Haryana & Assam and Centralized portal by the DoT. TAIPA is partner with States and DoT for roll-out of portal
6. Positive recommendations by TRAI on Sustainable Telecommunications suggesting voluntary adoption of RET, Deployment of Wi-Fi through registration model and recommendations on IBS

7. draft NDCP released by DoT addressing major issues of IP-1 such as enhancement of scope of IP-1, security of infrastructure, rationalization of taxes & levies, etc.

8. Directions for implementation of the recently released policy across Government departments on the basis of TAIPA submissions

9. TAIPA nominated by Haryana Government for allocation of government buildings for IBS deployment for a faster roll-out.

10. RoW advocacy programs in advanced discussion with the DoT. The objective is to spread awareness in States for adoption of RoW Rules that have enabling provisions to foster infrastructure creation.
TAIPA Initiatives and Activities

• **Energy Management Initiatives:**

  Infrastructure Providers are the key players in the telecom ecosystem who deploy passive telecom infrastructure such as towers, OFC, cables, duct, micro sites, IBS. Energy forms a significant component of telecom tower site operations as the sites are required to be operational 24x7 all through the year. As per license conditions, a telecom operator needs to maintain a network availability higher than 99.95%. Assured power 24x7 is, therefore, a pre-requisite for any telecom tower site. Although electricity situation is improving, it is still erratic in several pockets of the country. This forces the telecom sector to use Diesel to generate backup power not as a choice but as a compulsion resulting in huge financial burden upon telecom players just to meet the deficit of power supply & maintain the QoS & network uptime. Apart from adding financial burden on the sector, Diesel also adds to the carbon emissions by the sector which is prime concern for the industry. Going green has become a business priority for the telecom industry as the energy costs are as large as 25% of total network operations cost.

  Telecom sector is energy intensive sector and the IP-I are modernizing the way telecom networks are powered. As a serious player and responsible citizens, we require the need for steps to reduce the carbon footprint of telecom sector. The sector is taking bold steps to reduce diesel usage at telecom tower sites by using alternative energy efficient sources as power backup solutions. The key initiatives include:

• **Initiatives by the IP-1s**

  I. **Passive Infrastructure Sharing:** This have led to reduction in energy intensity and carbon footprint for the sector. Passive infrastructure sharing has led to over 25% of energy saving for a two tenancy sites over a non-shared site.
II. Renewable Energy Solutions: The telecom tower industry is aggressively aiming to use alternate energy resources to reduce its dependence on diesel. Since the RET ecosystem has matured, it makes business sense to deploy RET at feasible locations. Tower companies continue to make efforts to adopt energy efficient solutions and reduce cost. Solutions such as Solar, Wind and Biomass are gaining traction for the Telecom Industry. Replacement of diesel with renewable sources also provides a way for increasing energy efficiency.

III. Diesel Free Sites: While focussing towards green telecom, IPs continuously strive to reduce diesel consumption at sites. Telecom Tower Companies have made more than 1.05 lakh sites diesel free (sites that consume only a litre a diesel a day) impacting the diesel usage at telecom tower sites. IP-Is are keen on deploying existing and emerging technologies to make the Sites diesel free. **Currently, over 20% of the sites are diesel free sites.**

![Year on Year increase in no. of Diesel Free Sites](image)

IV. Indoor to Outdoor Sites – Air Conditioners consumes about 25-30% of the total energy used at an indoor site. Accordingly, technologies such as Free Cooling Units (FCUs), etc. are being deployed which converts an indoor site to outdoor. This brings in significant energy demand reduction at the site. The industry has converted a significant number of indoor sites to outdoor sites saving enough energy. Conversion to outdoor BTS from indoor BTS has led to savings of more than 4 tons of CO2 emissions/site.

![Year on Year increase in no. of ID to OD sites](image)
V. Free Cooling Units (FCU) along with other technologies like Sleep mode BTS etc. also have led to reduction in per connection carbon footprint reduction.

VI. Efficient Energy Storage Solutions: To reduce diesel usage at sites with intermittent and low power availability, efficient storage solutions are required as compared to traditional storage. To optimize energy usage and reduce diesel consumption, the industry has installed high efficiency energy storage systems such as Li-ion batteries, advanced VRLA batteries, flow batteries, thermal energy storage solutions at several sites. Li-ion batteries have found the most application at tower sites owing to their compact size, quick charging and slow discharge features.
TAIPA Energy Summit 2017:

TAIPA along with the support of COSLIGHT organized its Energy Summit on 26th September 2017 themed as ‘Sustainable and Green Telecommunication through Make in India Initiative’. The event emphasised on the manufacturing and deployment of green energy storage solutions in India because of the limited electricity availability in rural as well as urban geographical locations. Telecom industry committed towards developing green sustainable telecommunication ecosystem has already deployed around 1.5 lakh diesel free sites i.e. sites consuming less than 1 litre diesel per day. Further, energy storage solutions are all set to generate 4.7GW for telecom towers by 2022.

To ensure 99.95 percent connectivity time in 24 hours of the day one of the operators’ license requirement and with the rollout of advance technologies such as 4G, 5G, artificial intelligence and virtual reality etc. the need of high capacity energy storage solutions such as Lithium-Ion and advanced VRLA batteries etc. will rise, making India the 2nd largest user of Li-ion batteries in next 2-3 years.

The event witnessed eminent presence of Mr. R S Sharma, Chairman, TRAI followed with senior government officials and Industry players. To add to this list of eminent speakers such as Shri Sanjeev Banzal, Advisor, TRAI and Mr. G K Upadhyay, Member-T, Department of Telecommunication (DoT) shared their expert views around the green energy initiatives.
• **TAIPA Annual General Meeting 2017:**

TAIPA Annual General Meeting 2017 was held on 20th September 2017 at Hotel Shangri-La, New Delhi. The AGM witnessed august presence of Shri N. Sivasailam Special Secretary – DoT, Sh. Devender Singh, Additional Chief Secretary – Haryana and IT Secretary Odisha. Dr. R.S. Sharma also shared his thoughts vide his video message. The dignitaries shared their thoughts and views on the importance of telecom infrastructure for socio-economic development of the nation and the need for States to align their policies with the Central Government Rules.
• **TAIPA External Engagements:**
We have been increasing our outreach through engagements with other associations and leading industry players. TAIPA is recognized as a distinguished association of the telecom infrastructure providers and is invited to share thoughts on the importance of telecom infrastructure across various events organized by the Government and the industry in India and abroad. A glimpse of some of the events wherein TAIPA and its member companies participated is as below:

*Mr. Akhil Gupta, Mr. Amit Sharma and Mr. TR Dua interacting with Shri Manoj Sinha, Hon’ble Minister of State for Communications (I/C) and Minister of State for Railways*

*Mr. TR Dua with Shri Ram Lal Markanda, Hon’ble Minister for Agriculture, IT and Tribal Development, Himachal Pradesh*

*Mr. TR Dua interacting with Shri Manoj Sinha, Hon’ble Minister of State for Communications (I/C) and Minister of State for Railways*
CSR Initiatives by TAIPA members:
TAIPA member companies have been catering to several CSR initiatives and these activities reflect the vision and values which the member companies gives importance to.

Indus Towers: The four pillars of their CSR are Environmental Sustainability, Promoting Education, Empowering Women and the Swachh Bharat initiative.

Empowering women is one of the core focus area wherein Indus has helped in the setting up homes and hostels for women and orphans. They have been actively promoting preventive health care and sanitation as part of the Swachh Bharat campaign. Some of the key initiatives include:

I. Imparting Digital Literacy: Digitally equipped centres at 25 locations across 14 States to impart digital literacy and other vocational programmes to the underprivileged. The project is run in partnership with the Digital Empowerment Foundation.

II. Educating the Girl Child: Through partnership with IIMPACT, Indus aims to support 110 primary learning centres in villages that have a high concentration of schoolgirls between the age group of 6-14 years.

III. Lighting up Lives: The Indus-TERI partnership is focused towards clean and affordable lighting to villages through Solar Charging Stations and Solar Micro Grids through the PPP model to facilitate livelihood opportunities in the target villages and to mitigate CO2 emissions.

IV. Rehabilitating Abandoned Children: The project supports the running expenses of 280 parentless and abandoned children living in 28 family homes of SOS children’s villages across 14 locations in India.

V. Every Child in School and Learning Well: Indus Towers has partnered with Pratham education foundation for the Learn Out of The Box (LOTB) programme. Aims to enhance the learning levels of students in low-income schools through the introduction of technology and is Spread across 9 states on India. The programme proposes to implement the intervention in 1000 schools.

VI. Training in Digital Literacy: Our partnership with Hand in Hand (HIH) has a special focus on Digital Training. HIH is in the process of imparting training in digital literacy to 44,400 women and 5,600 youth across three districts of Tamil Nadu.

Bharti Infratel: Bharti Infratel CSR vision aims at building an empowered society through education, community development and environment sustainability. Bharti Infratel has several social outreach programs that address the challenges of education, sanitation, livelihood and environment. The various CSR programs of the company include:
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<th>Program</th>
<th>Goal</th>
<th>Lives Impacted</th>
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| **Education – Satya Bharti School Program**  | Support Education of Marginalized Children                          | • 6 States, 254 Schools  
• 45114 Students, 1654 Teachers  
• 50% Girl Students, 75% SC/ST/OBC  
• 69% Female Teacher                                                   |
| **Education – Satya Bharti Quality Support Program** | Enhancing quality of education in Govt. Schools                     | • 517 Schools/ 11 states  
• 1,73,572 Students, 6,363 Teachers  
• 50% Girls, 48% Female Teachers                                        |
| **Education – Bharti Infratel Scholarship Program** | Provide financial support to students with disabilities for higher education | • 184 students from Northeast, 38% girl students  
• 50% Orthopedic, 30% Visual & 30% Hearing impaired students  
• 44 have completed course  
• 1st Career counseling session held in Meghalaya (Tura & Shillong)  
• Created linkages with employment exchanges in Assam                       |
| **Sanitation – Satya Bharti Abhiyan**        | Contribute in making India Open Defecation Free (ODF)               | • 17,628 toilets (rural Ludhiana)  
• 614 toilets (urban Ludhiana)  
• 82 toilets (rural Amritsar)  
• 1010 Villages (surveyed)  
• 792 Villages (toilets constructed)  
• Toilets at 11 Urban local bodies  
• 14 Girls toilets (government schools - Rural Ludhiana)  
• 90,481 Total Beneficiaries                                                                 |
| **Safe Water Facilities – FLOW**             | Provide access to Safe Water & Create Awareness on WASH             | • 63 Schools, 6 Cities  
• 37000+ Students  
• 3000+ Parents & Teachers                                                                 |
| **Skill Development – Telecom Gurukul**      | Provide skill to marginalized youth & support them in becoming self-reliant | • 98 youth completed training as Tower Technician & Rigger  
• 89 offered employment in different telecom companies  
• Acceptance of loan-based training model                                                                 |

Source: Bharti Infratel
GTL Infrastructure: For GTL Infrastructure CSR means much more than extending the commitment to all the stakeholders including the society. They believe that it is an integrated approach towards operating in an economically, socially and environmentally sustainable manner. GTL Infrastructure supports Global Foundation through non-financial means and employee volunteerism. The areas of contribution include:

- **Disability**
  - **Imparting Soft Skills**: Job Oriented Skills and Personality Enrichment
  - **Netra**: Computer Literacy for the Visually impaired

- **Education**
  - **Gyan IT**: 1800 Gyanjyot Scholarships awarded
  - **Gyanjyot**: Computer Labs in 52 rural schools

- **Health**
  - **Swachh Shala Abhiyan**: Sanitation facilities benefiting 1,200 students
  - **Arogya**: 46 free health check-up camps benefitting 6,360 people
ATC India: ATC India is committed towards ensuring that their activities extend beyond business and include initiatives and endeavors for the benefit and development of the community and society. The CSR initiatives are aimed at enhancing value creation in the society and in the community, through their services, conduct and initiatives, to promote sustained growth for the society and community, in fulfilment of their role as a socially responsible corporative.

ATC now covers more than 100 villages with its CSR sites, the initiatives include:

- **ATC India’s Digital Village:** Digital Village leverages the space, security, uninterrupted power supply and broadband link from a tower site to provide critical access to digital literacy and other services in healthcare, agriculture, banking and e-Governance domain. Tower companies partners with the appropriate solution providers (such as telecom operator, IT companies, Social Media companies, rural NGO’s and Banks etc.) for providing e-Education, eHealth, e-Banking and e-Governance.

- **Digital Learning Centers:** These centers are developed in and around the ATC tower sites, located within rural and underprivileged communities, to provide basic digital literacy and associated skill-sets. It provides a medium for understanding how digital technologies can be used to drive meaningful actions. These centers provide ‘guided’ digital learning opportunities for individuals (both students and adults) who want to invest in their future.

- **e-learning with Hill in the Wall Learning (Hiwel) stations:** Hiwel Learning Stations are designed to allow learning to seep into the remote and inaccessible areas to bridge the digital divide. These Learning Stations provide an effective e-learning solution to the underserved children by creating a pedagogy model consisting of shared outdoor public computers, incorporating self-protective hardware and software.
Telecom – Helping Rescue Operations in the times of Disasters:

Telecom infrastructure has been at the forefront of providing telecom services such as voice and internet which are used in our day to day activities. The role of telecommunication services becomes even more essential in the times of natural calamities like floods, earthquakes etc as it is the only medium to stay connected with your loved ones and inform about your whereabouts for rescue operations. The importance of communication for effective response in natural disasters has long been recognized by emergency managers in the past calamities/disasters such as floods in Chennai, Mumbai rains, Gujarat earthquake, floods in North East region.

A well-designed communications and information infrastructure which functions during a crisis can significantly enhance the resilience of communities exposed to risk. This has been acknowledged by India’s policy-makers as well, as the Department of Telecom has laid out a Standard Operating Procedure with clear instructions on what needs to be done by all stakeholders. In the time of such calamities, telecom infrastructure providers have played a remarkable role and made all efforts to keep the communication services up and running. A glimpse of efforts made to restore services is as below:
Media Coverage:

TAIPA has been active on the brand building and communicating thought leadership through its media advocacy. Over the year, TAIPA has become a prominent industry voice and have raised several key issues faced by the industry through the various media channels to draw attention of the various stakeholders.

The Senior leadership team of TAIPA expressed their opinions through industry story participations, authored articles and interviews to media on a range of topics such as non-inclusion of IP-Is in RoW policy, electricity related issues, coercive actions by municipal corporations in Maharashtra, Pre-budget recommendations, raising issue of diesel pilferage in Punjab, green sustainable telecommunication needs, non-availability of Inputs Tax credit mechanism and pending State tower policies etc.

Further, to create brand recall and spreading positive sentiments series of interviews were published in some of the leading news publications such as The Economic Times, Business Standard, Mint, The Financial Express, India Today, Tele.net, Voice & Data and Communications today etc.
Webinars:

TAIPA organized webinars on some of the key issues to highlight the status of the industry and way forward on the key issues. The webinars were acknowledged by several industry experts.
Approach towards sustainable telecom is a fundamental responsibility

In the last two decades, telecommunication has emerged as a key driver of economic and social development in an increasingly knowledge intensive global scenario. The Indian telecommunication sector has undergone a revolutionary transition in the last two decades to become the world’s second-largest telecommunication market with more than 1 billion subscribers connected through 4,50,000 towers with the investment of around 4 lakh crore. As per the government report, the mobile sector’s contribution to GDP which is presently 6.5 percent and will increase to 8.2 percent by 2020.

Most importantly, for Government’s vision of Digital India and Smart Cities, telecom infrastructure is the backbone as it is the backbone for facilitating connectivity across the wide geographical locations of India. Apart from this, advanced technologies such as 5G, artificial intelligence, IoT and virtual reality will also be a significant contributor to develop a robust telecom infrastructure to address the growing need of data.

Hence, there are no doubts that while the growing telecom market in India telecom towers are required to be operational 24x7 to provide uninterrupted quality services to the subscribers for which continuous power supply is required. Also, it is a license requirement for the operator to ensure facilitation of 99 percent connectivity uptime in 24 hours of the day. Telecom industry faces issues because of erratic or limited electricity availability in rural as well as urban geographical locations of India. Thus, in order to provide continuous connectivity to mobile towers, the telecom industry has to install alternative means for powering up telecom networks vide Diesel generators, battery banks among others.

Moreover, the electricity for mobile towers are provided on commercial tariffs not on industry tariffs which increases operational cost for the infrastructure providers.

As per the 2014 study conducted by PPAC Nielsen, 70 percent of diesel and 98.6 percent of the transport sector, agricultural sector is another major diesel consumer with around 13 percent and consumption by other segments is around 17 percent. This comprises of industry 9.02% (of which industry gen sets 4.06% and others for industrial purposes 4.96%) and others (6.45%) comprising of gen sets for non-industrial purposes and civil construction etc.

It is worth highlighting that mobile towers diesel consumption out of total is only 1%. Out of 12 identified sectors as the industry has been taking some useful initiatives to reduce carbon emissions, energy savings, efficient use of capex and improved aesthetics. Few of them are

- Compatibility with the model of the tower co is linked with the objective of ‘sharing’.
- Under the sharing concept, the towers are shared on a non-discriminatory and transparent basis.
- Diesel-free sites, industry has installed nearly 90,000 diesel-free sites, i.e., sites which consume approximately a litre of diesel a day.
- Significant energy storage solutions to optimize energy usage. The industry has installed high efficiency batteries such as Li-ion, advanced VRRA batteries, etc. at a number of sites.
- The industry has converted significant number of indoor sites to outdoor sites saving sufficient amount of energy and diesel consumption.

A recent consultation paper released by TRAI, on approach towards sustainable telecommunications majorly aims to address the critical issue of climate change and prospects of contribution from telecommunication sector. The consultation paper discusses energy efficiency in modern telecommunication networks and directions for optimizing network performance in terms of energy demands and further discusses to seek the methodology for measuring carbon footprints and calculation of emission and approach for implementation.

Telecom sector with the investment of around 4 lakh crore at this point of time is facing through the serious process of mergers & acquisitions and the industry is exploring new business ventures like in-building solutions and public WiFi which would require further investments to stay relevant in the market. Now, this mandate would also require huge investments which will eventually make deep into the telecommunication industry’s pocket.

While on the other hand, deploying Renewable Energy Technologies (RET) like solar, wind and fuel cells etc., is still not feasible for operating telecom tower site considering its distributed nature and small capacity at a point location. Moreover, the cost of generation, infrastructure and maintenance of RET are also very high hence not viable and not a feasible option.

As carbon emission is minimal by mobile towers, so the focus should be on framing policy and regulation around the use of green energy solutions across the sectors and should not be confined to telecom sector only. And as far as the telecom sector is concerned around promoting concept of RESCO model, it should have strong impact for distribution of electricity in the rural areas and smaller
Tower industry to have more mergers and acquisitions

The Indian telecom sector, with a subscriber base of over 1.1 billion, is passing through one of its toughest phases. It is presently contending with dwindling revenues and high debt burden to service that is increasing the possibility of mergers. The government has taken some initiatives to sort out the pending issues. Its main motive is to ease the pressure from the sector and enable it to attract large investments.

BE’s Ayantika Halder spoke with Umang Das, Vice Chairman, Tower and Infra Providers Association and Chief Mentor, American Tower Company, regarding the prospects of the sector.

Umang Das

Q. How has the telecommunication sector performed in 2016?

A. The telecom sector has emerged as a key driver of economic and social development in the increasingly knowledge sensitive global economy. The Indian telecom sector has undergone a revolutionary transition in the last two decades to become the world’s second largest telecom market with more than a billion subscribers who are connected through 450,000 towers. In recent years, the sector has been one of the key enablers for both rural and urban development. It has constantly been one of the highest contributors to the national GDP over the last decade. It is expected to contribute around 8.2% or ₹14 lakh crore to the GDP by 2020. One of the major problems of the sector is that it does not have the liberty of levying high tariffs. Indian telecom tariffs are one of the lowest in the world.

2016 was packed with significant developments such as the 4G roll-outs across the country, which initiated the deployment of advanced infrastructure and technology. The tower roll-out is increasing at a rate of 3-5% year on year, having installed more than 13 lakh BTSs (base transceiver stations) by 2016. The mobile network infrastructure sharing has emerged as one of the key industries. It has taken several eco-friendly initiatives such as the installation of 89,000 diesel-free sites along with bringing in innovations like the use of fibre reinforcement polymer. Further, the year 2016 witnessed 21 mergers and acquisitions (M&A) in Asia Pacific out of which seven M&A were recorded from India.

Q. What are the major challenges faced by the sector? What kind of interventions can boost the sector?

A. The Indian telecom tower industry has invested around ₹2,50,000 crore to create a robust telecom infrastructure. However, there are a few challenges that threaten the sector such as an uncertain policy and regulatory environment, coercive actions against mobile tower installations, location restrictions for mobile tower installation, site clearances and documentation requirements across states, multiple fees levied on tower installation, issues related to electricity supply for telecom towers, dividend distribution tax, VAT/ CST, customs duty, and corporate tax. The issues are being addressed by the government.

The overall industry is poised for growth as the government has taken initiatives like adequate spectrum availability through spectrum auctions, initiated policy around the installation of towers on government land and buildings, which will help improve call drops and coverage related issues. Right of Way rules, amendments in framing by-laws which allow installation of towers on residential buildings and got in place directions from the CPCB (Central Pollution Control Board) exempting stand-alone DG set up for 1 MVA, etc. All this will lead to the creation of a robust telecom infrastructure.

In order to align with the broader objectives of ‘Digital India’...
Outlook for 2018

Tilak Raj Dua
Director General, TAIPA

The year 2018 will be the year of mergers packed with a lot of actions, developments, discussions, investments, and expected deployments. The year will present the bouquet of business opportunities for the Indian telecom industry because of policies like Digital India, Make in India, and Swami Ji. Further, the industry will follow its commitment toward turning the Digital India mission into a reality by connecting the unconnected and empowering every citizen of India with the power of internet.

National telecom policy (NTP): The policy aims to achieve 900 million broadband connections and high-quality services that attain average speeds of 20 Mbps for wireless and 50 Mbps for wired broadband connectivity. The goals also include developing 10 million public Wi-Fi hotspots and placing India among the top-25 nations in international rankings of network readiness, communications systems, and services. Other objectives include enabling access for connecting to 30 billion IoT and M2M sensors and devices and attracting USD 100 billion investment in the communications sector. In order to achieve this, it is needless to mention that the new policy will focus on ease of doing business and on the deployment of telecom infrastructure extending seamless connectivity across the nation.

Clarity on regulatory uncertainty: With the new national telecom policy and extensively supportive policy/regulatory environment, the industry is highly optimistic that the year 2018 will settle down the regulatory and policy uncertainties such as exclusion of IP-3s from RoW policy, absence of uniform RoW policy in states, restrictions on the extent of IP-3s, lack of infrastructure status benefits pending since 2012, nonavailability of impact tax credit mechanism under GST regime, prioritization of RFS connections for mobile towers on preferential tariffs, and security of mobile towers etc.

Consolidations: With the approvals on mergers and acquisitions of telcos/infrastructure expected only next year, synergies and operational efficiencies will follow the sector thereby improving revenue ratios and rationalizing multiplicity/duplication of the towers.

Extensive rollout of newer technologies: To meet the growing data demands, the telecom tower industry is extensively exploring opportunities to roll out 5G, Wi-Fi hotspots, small cells, street furniture, etc. in order to optimize and monetize consumer and business services on mobile devices across 4G, 5G, and Wi-Fi networks.

Proliferation: With less than 20 percent towers licensed, the fiber licensing market represents over USD 500 million opportunity over the next year and rising to USD 2.6 billion by FY 20 in order to deliver high-speed internet, supporting advanced technologies such as 5G, VR, IoT, AI, and making visionary initiatives of Digital India into a reality. BhartiNet will contribute substantially to this connectivity mission.

- Smart cities: Provisioning of telecom infrastructure by the Indian government toward provisioning of M2M, LoT, artificial intelligence, robotics, etc. will support the Smart City projects of Delhi, Pune, Chennai, Indore, Vadodara, Indore, and Pune a reality soon.

- 5G: The government has already created a forum with expert members drawn from academia, industry, MoIT, DoT, etc. and committed INR 1000 crore to set up a testing bed for 5G as well as standards pertaining to 5G in the country in collaboration with the IIT, Madras. Government is keen to provide suitable enabling conditions/roadmap framework for experimentation, standardization, research, and learning for experimentation on 5G technology in the country. Looking at the current telecom infrastructure status landscape, in order to make 5G a success story, infrastructure providers will play a significant role in development of state-of-the-art robust network architecture.

Furthermore, in view of rapid technological advancements and emergence of new technologies such as LoT, 4G, M2M, 5G, etc., the policy may also focus on facilitation of these emerging technologies, cyber security framework, and protection of interests of consumers to benefit end users as well.
NDCP 2018: A RAY OF HOPE FOR THE TELECOM TOWER INFRASTRUCTURE INDUSTRY

Tilak Raj Dua
Director General, TAIPA

enabling 100 Mbps broadband on demand, provisioning of public Wi-Fi hotspots to five million by 2020 and 10 million by 2022

• Propel India. This talks about attracting investments of USD 100 billion in the next 5 years, increasing contribution toward global value chains, creating globally recognized IPRs, training/re-skilling one million manpower for building new age skills, expanding the IoT ecosystem to five billion connected devices and accelerating transition to industry 4.0. This seems to be a conservative figure if we compare with China which spends close to 70-80 billion USD per year

• Secure India. This talks about a comprehensive data protection regime for digital communications, ensuring net neutrality principles, developing and deploying robust digital communication network security frameworks, building capacity for security testing, and addressing security issues of physical infrastructure.

The Indian telecommunication sector has gone through a revolutionary transition in the last two decades to become the world's second largest telecommunications market. We have a telecom network comprising 4.71 lakh telecom towers housing 18 lakh BTS which enables connectivity with more than 1.2 billion subscribers. Further, the telecom sector contributes nearly 6.0 percent to India's GDP and the policy envisages enhancing the contribution to 8.0 percent by 2022.

The Indian telecom tower infrastructure industry continues to face challenges that are a deterrent to telecom infrastructure roll-out. Issues such as Absence of State Tower Policy aligned with Central Government Rules/ Guidelines, delay in issuing permissions due to lack of online single window clearance, restriction on location of telecom infrastructure, exorbitantly high and multiple charges, ad hoc coercive actions by local bodies, dispute resolution mechanism (setting up of JTC & DTC) etc. are some of the key challenges being faced by the telecom infrastructure industry.

These hindrances have slowed down the deployment of telecom infrastructure as the sector could install only around 21,000 mobile towers during the annual year 2016-17. Now, with the draft NDCP 2018, the industry sees a ray of hope as the policy addresses some of the key issues of industry by:

Digital India is unfolding and India's digital footprint in the world is fast growing with a potential to reach 1 trillion USD by 2025.

Undoubtedly, the National Telecom Policy rechristened as the NDCP 2018 is an overarching forward-looking and reformative comprehensive draft policy to transform India into a digital society. The policy has a 360-degree focus keeping in view the entire telecom ecosystem for enabling futuristic technologies such as expansion of 4G, 5G, fibreisation, cloud computing, block chain, M2M, IoT, AI, and VR etc. The draft policy broadly focuses on enabling the ease of doing business and envisages light touch regulations, easy compliance, rationalization of taxes and levies, Right of Way (RoW) approvals at the state level and security of physical infrastructure etc. The policy envisages transition to a digitally enabled society by deployment of digital infrastructure and services as they are the critical enablers of a country's growth and well-being. With the objective of creating a vibrant competitive telecom market and strengthening India's competitiveness, the policy will serve the digital needs of the aspiring nation.

The draft NDCP 2018 is based on three pillars, that is, Connect India, Propel India, and Secure India.

• Connect India. This talks about universal broadband coverage at 50 Mbps, 1 Gbps connectivity to all gram panchayats of India by 2020 and 10 Gbps by 2022,
RoW Roadblock

Need for uniformity in state-level policies

The Indian telecom sector has copied several other markets globally in terms of user base and data usage. However, the sector still has a lot of catching up to do in terms of deployment of critical telecom infrastructure. Telecom operators and tower companies continue to face bottlenecks, most of them policy related, in setting up telecom infrastructure. There is no uniformity in the norms followed by different states for tower installations or fibre roll-outs. Approval processes are cumbersome and exorbitant rates are charged by various agencies. As a result, several key cities like Delhi, Mumbai, Bengaluru, Chandigarh, Jaipur and Patna have far fewer towers than are needed, as is evident from the growing call drop situation in the country.

The Department of Telecommunications (DoT) issued right-of-way (RoW) rules in November 2016, which provided for no restriction on the location of telecom towers, a single-window clearance mechanism, a defined time period for approvals, the appointment of nodal officers, nominal administrative fees and approval from the authorities concerned. More than a year has passed but these rules have failed to bring any notable changes in easing the RoW process for telecom players. One of the reasons for this could be the failure of various states to align their existing rules and practices with the central government policy. State governments have a big role to play in implementing the new rules and bringing the desired change in the infrastructure roll-out mechanism. However, only a handful of states such as Jharkhand, Rajasthan, Odisha, Haryana, Maharastra and, most recently, Assam have introduced a policy framework that focuses on addressing service provider grievances and easing the roll-out of telecom infrastructure.

Snapshot of state policies

Jharkhand
The Jharkhand government released the Jharkhand Communication Towers and Related Structures Policy in December 2015 to foster the development of communications and information technology (IT) infrastructure in the state. The policy specifies various initiatives to ease the installation of mobile towers. It provides for a single-window clearance system for all new and pending applications for the installation of new mobile towers. It also allows for mobile towers to be set up at all types of government and semi-government, residential, industrial and institutional buildings, and on open land. Further, the policy states that the sealing of towers and electricity disconnections will not be permitted without the consent of DoT’s telecom enforcement, resource and monitoring cells.

Rajasthan
The Rajasthan government released its draft telecom infrastructure policy in February 2016. As per the draft, mobile towers cannot be installed on premises which are 15 metres or less from the boundary wall of schools (excluding colleges and universities), hospitals or sports grounds, within a 500 metre radius of a jail campus, or within a distance of 300 metres from the notified boundary of any protected monument. Further, the draft policy prohibits the setting up of telecom infrastructure towers without permission from the commissioner or executive officer in municipal areas, the secretary of the Urban Improvement Trust and the development authorities in urban areas, and the subdivisional magistrate in rural areas. A no-objection certificate from the traffic police is also mandatory. Damage to roads due to the erection of infrastructure-based mast, and laying of underground cables and the need for filling up pits will be addressed by the concerned local bodies, which will charge infrastructure providers double the rate of the restoration cost of the damaged portion.

Odisha
The state government recently notified the Odisha Mobile Towers, OFC and related Telecom Infrastructure Policy, 2017 to regulate the installation of mobile towers and laying of optical fibre cable (OFC) in the state. The policy lays strong emphasis on streamlining the application process, granting approvals within a reasonable time frame, rationalising the procedures and liberalising permission fees. It also seeks to encourage development of telecommunication networks in the remote, hilly and left-wing extremism-affected areas of Odisha, and augmentation of terrestrial broadband connectivity in urban and rural areas. The directive has also removed all restrictions on the location of tower installations unless ordered otherwise by courts or relevant authorities. As per the policy, the licensee can also share the towers with multiple telecom service providers (TSPs) for installing antennas and other active equipment.

Haryana
The Haryana Communication and Connectivity Policy, 2017 seeks to encourage the adoption of the latest technologies in the telecom sector like fibre-to-the-home and innovative business models such as the open access network. As per the policy, the permission for RoW or right of use and the installation of the associated infrastructure will be provided to an eligible applicant on a non-exclusive basis. However, given the space constraints for RoW for multiple service providers in any specific area, the first-come-first-served principle...
DoT includes tower cos in right of way rules, industry welcomes move

ET Bureau | May 23, 2016, 09:52 P.M. IST

NEW DELHI: The telecom department has clarified that tower providers will be considered as licensees under right-of-way rules, addressing a major demand of the industry that had been kept out of the purview of these rules so far. The industry welcomed the move, which it said would help infrastructure providers to set up the base for future technologies including 5G.

Tower companies have set up more than 4.71 lakh towers mounted with 13 lakh base stations as of this month, extending seamless network connectivity to India's 1.2 billion subscribers.

The right-of-way rules allow online filing of applications in a bid to ease the pain that the sector faces in building infrastructure. They are expected to help companies get land from state governments and local bodies within a stipulated timeframe, with standard procedures set for telecom companies and government authorities to follow.

The Department of Telecommunications had issued rules on setting up of telecom towers and laying of cables in November 2016, providing a framework for granting approvals and settling disputes in a time-bound manner, as well as improving coordination between companies and government authorities. However, it kept tower and infrastructure providers outside the purview of the regulation even though they are the ones that set up the required infrastructure for telcos.

“It is clarified that under clause 2 (d) of the said rules, ‘licensee’ includes infrastructure provider category I (IP-I) authorised to establish and maintain dark fibre, right of way, duct space and towers and give them out on lease, rent or sale basis to telecom service providers on mutually agreed terms and basis,” DoT said in a notice on Wednesday.

“It is reiterated that IP-I registrants shall in no case work and operate or provide telegraph service, including end-to-end bandwidth as defined in the Indian Telegraph Act, 1885, either to any service provider or any other customer,” DoT added.

The Tower and Infrastructure Providers Association, which represents companies such as Bharti Infratel, Indus Towers, ATC India, GTL Infrastructure, Reliance Infratel and TowerVision, lauded the government’s decision. It said the move reinforced and recognised that infrastructure providers were an essential part of the overall telecom ecosystem.
b. Tower operators seek special treatment from electricity boards

Tower operators seek special treatment from electricity boards

By PI | Updated Mar 26, 2017, 01:09 PM IST

READ MORE ON | Tower Operators | Telecom | TAIPA | Electricity | Bharti Group

BHUBANESWAR: Termed power issues as a major challenge before them, telecom tower operators have sought special treatment from electricity supply utilities across the country to ensure efficiency in telecom sector.

“We want all state governments to direct their electricity boards to give special treatment to telecom sector and lower operators,” said Ashi Gupta, Chairman of Towers and Infrastructure Providers Association (TAIPA).

Power problem happens to be a major challenge before the telecom sector in different parts, particularly eastern region, said Gupta who was here to participate in a workshop organised by the TAIPA.

Gupta, who happens to be the Vice Chairman of Bharti Group and Executive Chairman of Bharti Infratel Limited, said the tower operators are keen to create a robust telecom infrastructure in eastern region for which proper availability of power is essential.

While the power scenario in Odisha happens to be highly satisfactory, in some other states telecom tower operators are hit by non-availability of electricity or erratic supply, he said.

Another challenge before the telecom tower operators in the region has been insuring and Moody’s menace in the region, Gupta said adding that there has been considerable improvement in the situation in recent times following effective steps taken in the states.

Stating that the number of towers sites in eastern region at present stood at 77,856, he said this needs to double by April 2018 to 2 lakh tower sites.

While moving towards achieving the goal of installing the desired number of towers, the operators often face restriction on location of cell sites, high fees being levied apart from multiple levies like registration, sharing and renewal, said a senior TAIPA functionary.

Delay in getting clearances and requirement of multiple NOCs from various departments also affect the work of telecom tower operators in the region, he said.

The region also witnesses frequent fibre cuts, high incidence of taxes on cellular towers and complicated, cumbersome and time consuming procedures, said Gupta and other TAIPA officials.

Some of the common issues faced by telecom tower operators in the eastern region are restrictions of tower installation near water bodies, schools, hospitals, religious places, railways, high tension electrical lines and heritage sites, they said.

Optimistic about expanding their network, Gupta said states like Odisha have been showing reason for cooperation and assistance to the telecom tower operators in a dynamic manner.
Tower operators seek spl treatment from electricity boards

Sun, 26 Mar 2017-12:32pm, PTI

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(This article has not been edited by DNA's editorial team and is auto-generated from an agency feed.)
Soon, telecom towers on Defence land to improve call quality

Soon call drops around cantonments will become past, with the Ministry of Defence allowing putting up of towers on the Defence land to improve mobile call quality.

According to various sources, companies will be allowed to install towers in cantonments including in Delhi, Meerut, Amritsar and Agra. The decision was taken by the government in October during the Indian Mobile Congress, which was simultaneously approved by the Cabinet and recently in February, the Ministry of Defence also agreed to the policy.

What policy says
The policy will cover allotment of defence land on lease for static towers, permission to use Defence land on licence basis for placing cell towers on wheels, permitting use of rooftop of government buildings/private buildings, including private lands for grant of permission in cantonments and Military stations to access service licences and companies registered with Department of Telecom as infrastructure provider.

Some of the priorities include leasing of Defence land for static mobile towers and for licence for use of Defence land for placing cell towers on wheels, licence for rooftop towers for Defence Canton Board buildings, licence for static tower on private lands/buildings other than Defence-owned buildings.

In the first instance, Expression of interest will be invited by Cantonment Board in a cantonment and Station headquarters in a military station for installation of static towers and placing cell towers on wheels, at locations decided by interested Access Service Licencees and IP-1 firms.

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Infra sharing model
Earlier also, similar process was followed in government buildings/lands and MoUs were signed between the parties. “This will definitely improve the call drops,” the official added. The Indian Infrastructure Sharing Model has been evolving worldwide. Even China, with over 10 lakh mobile towers, currently has only around five lakh towers under sharing model.

“We welcome the recent notification of the revised policy for the deployment of telecom tower and telecom infrastructure in military stations/cantonments issued by the Ministry of Defence, which has been long pending,” Tilak Raj Duas, Director General, Tower and Infrastructre Providers Association (TAIPA), said.

The implementation of the guidelines will help improve the coverage gap and reduce call drops in military stations and cantonment areas. Duas said, “It will also facilitate the public for making the use of the digital infrastructure. Besides, it will fulfil the objective of Digital India and broadband for all.”
Policy for telecom infra in defence areas notified

RISHI RANJAN KALA
New Delhi, March 29

THE GOVERNMENT HAS notified the policy for establishing telecom towers and related infrastructure in areas under the Ministry of Defence (MoD). It will not only allow companies to easily set up towers, but also share infrastructure in these areas.

The MoD owns more than 17.50 lakh acre of land, of which around 1.37 lakh acre is spread over 62 notified cantonments and around 15.96 lakh acre is outside these cantonments.

"MoD has notified the policy for telecom towers in its area. The Department of Telecom (DoT) was also consulted on this. Like in other parts, MoD-controlled areas also need towers to match up to the rising demand, especially for data. Besides, companies can also share the infrastructure in these areas," a senior government official said.

Post notification, telecom towers companies will be installing towers in cantonments in Delhi, Meerut, Ambala, Agra, Bangaluru, etc. This will help check problems related to call drops and call disruption, the official said.

Confirming the development, another official said this was decided by the government in September last year, which was later approved by the Cabinet. It was notified by MoD in February this year.

The policy covers allotment of defence land on lease for static towers as well as permission to use land on a licence basis for placing cell towers on wheels, permitting use of rooftops in government and private buildings, including private land in cantonments and military stations to companies registered with DoT as infrastructure providers, the official said.

"It also stipulates approvals in 60 days, site allocation through tender process as well as lease rental to be decided through a bidding process. Another positive feature is that MoUs can be inked between tower companies for sharing. For instance, BSNL or Indus can install a tower that can be shared by Bharti Airtel and Reliance Jio," he explained.

Telecom tower industry body TAIPA has hailed the development. "This will help improve coverage gap and reduce call drops in and around military stations and cantonment areas. It will also facilitate the public for making use of digital infrastructure. Besides, it will fulfill the objective of Digital India and broadband for all," TAIPA director general Tilak Raj Dua said.
D. TAIPA seeks support for enabling ease of doing business for Infrastructure Players; Lists down 10 key issues

DoT brings mobile tower firms under licence for rolling out infra

The telecom licence holder obtained permit to meet their infrastructure requirement and handed it over to IP-1 players for execution.

By: PTI | New Delhi | Published: May 23, 2018 9:51 PM

10 SHARES

Telecom infrastructure: 10 key issues to streamline for enabling ease of doing business

NEW DELHI: It is evident to acknowledge the significance of telecom infrastructure and telecommunications services in transforming society into an intelligent knowledge intensive community, according to Tower and Infrastructure Providers Association (TAIPA) note.

"While on the other hand, advanced technologies such as 2G, 3G, 4G, 5G, IoT, MDM, virtual reality and artificial intelligence etc. is ready to take society on the next level altogether," according to TAIPA, which represents mobile tower companies, has submitted a letter to Telecom Regulatory Authority of India (TRAI).

"However, the Indian telecommunications sector with 1 billion subscribers connected through more than 4,30,000 towers with the gigantic investments of around 4 lakh crore is going through the most critical time witnessing mergers and acquisitions, high licensing fee, losses and hyper competition etc," the letter said.

"All these factors, blunted together, are eventually impacting the development of robust telecom infrastructure which is the backbone for rolling out the advanced technologies as these technologies have no meanings without the critical telecom infrastructure being in place," TAIPA mentioned in its letter.

"The Indian government has been very pro-active and some of the major regulatory initiatives have been undertaken especially for the telecommunication sector. The enabling and forward-looking policies adopted by the Government of India is duly supported by the industry," it said.

"Considering the overall health of sector, there are 10 key issues which needs to be streamlined on the urgent basis which will help enabling ‘ease of doing business’ and improving the overall health of the sector," it added.

- Inclusion of Infrastructure players under Right of Way rules, 2016
- Allowing IP-1s to create telecom infrastructure on Government land and buildings
- Requiring license for Rooftop-Degree and Revalidation of Common Telecom Infrastructure
- Inclusion of tower towers under input tax credit under GST Bill
- Off set licence fee paid on input services to avoid double taxation
- Variance of import duty of Lithium-Ion Batteries for Electric Vehicle via e-Visa Telecom Tower application
- Changing property tax remissible towers
- Extending Infrastructure benefits
- Uniform tower installation policy in states
- Streamlining on-ground operational challenges
E. Tower industry to see boost in M&A's this year

The tower roll-out is increasing at a rate of 3-5 per cent year on year.

**Tower Industry to see boost in M&As this year**

Updated: April 16, 2017 1:08 PM IST
By ANS Feeds

The year 2017 will be the year of innovation, disruption and transformation, it will also witness mergers and acquisitions (M&As). "This is likely to transform society into a knowledge-led and connected one," Dua said.

He said the development of robust telecom infrastructure with the proliferation of in-building coverage, ICT, 4G and public WiFi will lead to accessibility to affordable high-speed internet for the common man.

The expansion of 4G networks, affordability, penetration of smartphones and surge in data demands have opened up new opportunities for the telecom tower industry.

"In the next few years, growth in data demands will pave the way for infrastructure providers to establish and maintain in-building solutions, small cells, public WiFi and federation of backhaul networks," Dua said.

All these opportunities for tower companies will play a significant role in reducing rental and energy costs besides many other advantages like savings in capital expenditure and faster rollouts.

Regarding the much-talked-about issue of call drops, Dua said the Indian telecommunications sector has significantly picked up to curb call drop issues by adding around 1,500 BTS (base transceiver stations) per day.

The sector has installed additional 212,917 such stations across the country during the period from June 2016 to February 2017, taking the total number to 1.5 million, he said.

Further, to ensure quality of service, seamless connectivity and spectrum efficiency India would need around 100,000 towers in the north-east alone, in addition to the 450,000 in operation.
Long power cut may disrupt mobile services in Delhi: TAIPA

New Delhi, Nov 9: Long power cuts due to grid failure or a natural calamity can cause disruption in mobile telephony services in Delhi NCR any time as use of generator sets for powering towers has been banned till March 15, telecom infrastructure players have cautioned.

The Delhi Pollution Control Committee following a decision of Environment Pollution (Prevention and Control) Authority has imposed ban on generator sets running on petrol, kerosene or diesel till March 15, 2018.

Telecom infrastructure industry body TAIPA said that though mobile towers are deployed with high-capacity batteries including fast charging to extend backup, these cannot run for long in case of long power outage due to grid failure or a natural calamity.

“Mobile towers cannot solely rely on battery backups which may lead to disruption in services in event of power supply failure,” TAIPA Director General Tilk Raj Dua told.

He said that as the EPCC has allowed use of generators for essential services such as hospitals, railways, airports and elevators, mobile infrastructure should also be included in the list of essential services.

“Mobile towers are also critical infrastructure enabling telecommunication services to connect people with various emergency services in any unforeseen situation and should be included in the list of essential services,” Dua said.

Under the new Quality of Service norms, effective October 1, telecom operators may face a maximum penalty of Rs 10 lakh for call drops which will now be measured at mobile tower level instead of telecom circle level.

TAIPA has also allowed use of generators for essential services such as hospitals, railways, airports and elevators.

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“Mobile towers are also critical infrastructure enabling telecommunication services to connect people with various emergency services in any unforeseen situation and should be included in the list of essential services,” Dua said.

He said that besides power, telecom services, telecom operators are required to comply with rules of Telecom Regulatory Authority of India to maintain round the clock network availability with 99.95 per cent uptime.

“In case telecom companies don’t comply with quality of service norms of TRAI, huge penalties are imposed on service providers,” Dua said.

Under the new Quality of Service norms, effective October 1, telecom operators may face a maximum penalty of Rs 10 lakh for call drops which will now be measured at mobile tower level instead of telecom circle level.
Success of Digital India, financial inclusion lies in making Internet omnipresent: Bharti Infratel

The success of Narendra Modi government’s ambitious Digital India and financial inclusion programs lies in making Internet connectivity available in all parts of the country, a top Bharti Infratel executive Wednesday said.

Bharti Infratel is a mobile infrastructure company of Sunil Mittal-driven Bharti.

For the success of Digital India and financial inclusion, Internet should be made available to every corner of the country," Bharti Infratel chairman Aarti Gupt said at the Tower and Infrastructure Providers Association (Télécom) annual event.

The telecom department has been asking telecom service providers to expand their network for better service quality infrastructure firms, on the other hand, say operational issues such as Right of Way (RoW) impeding the network expansion.

Two states Odisha and Haryana have recently come up with comprehensive guidelines to facilitate telecom infrastructure with quicker clearances, single-window system and dispute settlement mechanism.

"It is imperative that there is rapid data network rollout and despite tariffs are virtually nothing, government thinks IUC can further come down," he added.

Bharti executive’s reference to Interconnection Usage Charge (IUC) came at a time when sector regulator Telecom Regulatory Authority of India (TRAI) has made a sharp cut of 8 paise from the current 14 paise per minute making incumbents uneasy.

Gupta, however, further declined to comment on the subject.

"Rollout of networks is a problem especially in rural and semi-urban areas and requires large investments and infrastructure sharing can only help," he said.

The tower companies, according to him, have invested more than 1 lakh crore in a decade to roll out mobile towers. With a total of close to 4.3 lakh telecom towers, industry has converted nearly 1 lakh sites to diesel free.

The industry, according to him is working hard to save diesel and looking at alternative energy resources such as solar, wind and Lithium-ion batteries.

Gupta said that the sector is looking at government to ensure grid power supply to operate telecom tower sites in the upcoming National Telecom Policy (NTP) 2018.

The department led by Manoj Sinha is aggressively working on a new telecom policy to be unveiled by March next year, and is expected to address most of the sector’s issues with an aim to reinvigorate the industry.

"The new policy will ensure Digital India, Make in India and Skill India and support R&D and manufacturing which would not just for the country alone but for the global market," telecom department’s additional secretary N. Sivasubramanian said.

The government, according to him, is expecting broader suggestions from all stakeholders in the making of new policy.

The chairman RS Sharma in a video address said that there was a need for independent infrastructure players to come on board, and infrastructure sharing, he said, would be competitive with the competition at Point-end.

"New technologies such as 5G, machine-to-machine (M2M) communications require further investment in network," the regulator added.
Policy & Regulation
Robust telecom infrastructure is the key to realise digital India mission, says TAIPA at its AGM 2017

TT Correspondent | 23 Sep 2017

Tower and Infrastructure Providers Association (TAIPA), apex industry association representing leading telecom tower and infrastructure providers with AITC Telecom Infra, AITC India Tower & AITC Telecom Tower, Indus Towers, GTL Infrastructures, Tower Vision India, Bharti Infratel and Reliance Infratel, in its Annual General Meeting 2017 emphasised the need of a robust telecom infrastructure to realise the Digital India mission as telecom infrastructure will enable various futuristic technologies such as 5G, IoT, M2M, artificial intelligence and virtual reality etc. It is imperative to develop ‘state of the art’ network architecture just like other infrastructure facilities such as water, sewage, railway, roads and transportation etc. as telecommunication services nowadays have become an integral and essential necessity of our daily lives.

The Annual General meeting witnessed participation by senior Government officials and industry players. To add to this list of eminent speakers, IT Secretaries of Haryana and Odisha presented their insights on policy implementation of their state and framework. Leading knowledge partners from Deloitte and Ernst & Young shared their views on the Roadmap and Regulatory Support for Expediting Robust Telecom Infrastructure.

In a written message, congratulating the industry association, Aruna Sundararajan, Chairman, Telecom Commission and Secretary (T), Department of Telecommunication (DoT) said “Indian Telecommunication Sector has been at the core of social and economic development of this country and telecom infrastructure sector has been the bedrock for a Digital Economy. Telecommunication and Telecommunication Infrastructure is the backbone of ‘Digital India’, where future technologies like mobility, analytics, cloud, Internet of Things (IoT), Machine to Machine (M2M) Communications are playing a key role in implementing the Digital India vision. A robust telecom infrastructure will play a key role in seamless connectivity, which is the essence of true Digitisation.”

The dignitaries also discussed key concern areas of the industry such as non-discriminatory access to Right of Way and inclusion of IP-1s in the RoW notified rules; extension of benefits under infrastructure status to tower industry; availability of Government resources such as Land and Buildings on a fair and non-discriminatory basis to both TSPs and IPVs for installation of telecom infrastructure and alignment of States tower installation guidelines with the DoT guidelines/RoW Rules of November 2016.

In a video message R S Sharma, Chairman, TRAI said “I have been one of those who have believed that in the converged environment there is need of independent infrastructure players which will ensure orderly and stable growth of infrastructure. Further, it will also bring in economy of scale and the cost effectiveness due to the sharing of infrastructure at the backend. I also believe Infrastructure Players must have an active role in the provisioning of common duct, in building solutions, public Wi-Fi and fibre lay etc.”

“The success of Digital India, financial inclusion lies in making internet available at the bottom of pyramid. The telecom infrastructure industry faces glitches in network rollout especially in rural and semi-urban areas. Apart from this, it is very important that government ensure grid power supply to operate telecom tower sites in the upcoming National Telecom Policy (NTP) 2018,” said Akhil Gupta, Chairman of TAIPA.

“The overall development of telecommunication services in the past few decades has been phenomenal with the help telecom infrastructure supporting these services at the backend. With the government’s thrust on Digital India and Smart Cities, it is needless to say that industry will unfold more new business avenues in the forthcoming time,” said Tilak Raj Dua, Director General, TAIPA.

Further to that, government should also ensure priority EB connections and quality power on preferential tariffs rather than the commercial tariffs, Safety and security of telecom infrastructure is another long-pending demand of the industry.

“In order to realize these flagship programs of government, it is imperative that sustained investments in this sector are safe-guarded which will only happen with due regulatory and policy support from the Government,” added Tilak Raj Dua.

During the Annual General Meeting, the industry reiterated its commitment towards green sustainable telecommunication to reduce its reliance on Diesel as an alternative energy source by deploying long-life, fast-charging Lithium batteries; shifting of indoor sites to outdoor; alternate energy sources like solar, wind, etc. These efforts have already resulted into the conversion of over 100,000 sites as Diesel Free Sites consuming less than 1 litre of Diesel per day.

“The growth in the Indian telecom and telecom infrastructure sector has been fuelled by various policies and regulatory reforms undertaken by the Government with a view to enable Ease of doing Business. As far as the telecom infrastructure is concerned, it needs to be leveraged to enable all citizens and businesses, both in rural and urban areas, to participate in the ‘Online’ economy thereby ensuring equitable and inclusive development across the nation,” said Umang Das, Vice Chairman, TAIPA.
HH. Mobile tower players welcome Odisha’s new tower policy

NEW DELHI, SEP 24: * Time-bound approvals and minimum charges for erection

* Comprehensive tower policy

* To address issues such as call drops, network outage and connectivity gaps

* Bring down abnormal charges and cumbersome processes of local authorities

The new mobile tower policy of Odisha, which prescribes time-bound approvals and minimum charges for erection, is a comprehensive framework that will help address telecom infrastructure issues in the state for next 15-20 years, an industry body said.

The Tower and Infrastructure Providers Association (Tapa) has also urged other states to take a leaf out of the Odisha’s policy and bring down hefty charges for setting up of mobile towers.

“The Odisha tower policy is one of the most comprehensive tower policies across the nation. It is capable of addressing telecom infrastructure needs for next 15-20 years. The policy indeed will be able to address issues such as call drops, network outage and connectivity gaps etc,” Tapa Director General Tilak Raj Dua told PTI.

“Other states should learn from Odisha. In Maharashtra, Punjab and union territories, charges for installing mobile towers range between Rs 90,000 to Rs 5 lakh besides rent. We have made various representation to authorities in these states and UTs but there has been no resolution till date,” Dua said.

Telecom companies have frequently highlighted that abnormal charges and cumbersome processes of local authorities in states are roadblocks in setting up of towers which results in poor signal and call drops.

Odisha announced its mobile tower installation policy ‘Odisha Mobile Towers, OFC and related Telecom Infrastructure Policy 2017’ in the mid of the month.

Local authority

The state government has made it mandatory that local authority will have to issue permit for installations of mobile towers within 60 days of receiving application from the company in case there are no disputes.
Odisha Bags Tower Trophy

© 2017-Sep-22 | New Delhi

Tower and Infrastructure Providers Association (TAIPA), the Industry Association for leading Telecommunications Infrastructure Providers have lauded the most comprehensive Odisha Mobile Towers Policy.

Speakers spoke at length and appreciated the new Policy of Odisha, which is a comprehensive one and progressive in nature.

Industry Interactive Session on “Robust Telecom InfrastructureKey to Realize Digital India” was organized by TAIPA at New Delhi on 20 September.

Odisha has been honoured for its progressive Policy, which is meant to streamline the process of application and grant of permission for installation of Mobile Tower, Laying OFC, In-Building solutions and other telecom infrastructures within specified time line.

In fact Odisha Government has formulated Odisha Mobile Towers, Optical Fibre Cable (OFC) and Related Telecom Infrastructure Policy, 2017 recently, which aims to encourage the development of telecommunication infrastructure in remote, hilly and critical Left Wing Extremist (LWE) Affected areas.

TAIPA has Members such as Bharti Infratel, Indus Towers, ATC Towers, GTL Infrastructure, Reliance Infratel and Tower vision.

Ashok Kumar Meena, Secretary, Electronics & Information Technology received the Award.

Mr. Meena gave out details on the Policy Framework on Odisha Mobile Towers, OFC and Related Telecom Infrastructure.

One of the major objective of the Policy is to establish modern telecommunication infrastructure to provide high speed internet in Gram Panchayats and Villages, said Mr. Meena.

Policy aims to ensure good quality internet in the areas where mobile connectivity exists and also improve terrestrial Broadband connectivity in Urban and Rural Areas.

Mr. Meena said the Policy aims to improve Tele-Density of the State, which is 81.06 and is less than the National Average of 93.23.

Tele-Density is a standard measurement for growth of telecom service, which is number of subscribers per 100 population.

State Action Plan and District Action Plan are being formulated under the Policy, said sources.

Though Telecommunication is a Central subject, the State Government has come out with such a Policy for facilitating Infrastructure Providers and Licensed Operators in Telecom Sector.

TAIPA Chairman, Akhil Gupta chaired the Meeting and spoke on Tower Industry Way Forward and Wish List for NTP 2018.
Odisha’s Telecom Infrastructure Policy 2017: Role Model For Other States

By IW News Service | Sep 24, 2017 | Economics, Nation |

Bhubaneswar: The Odisha Mobile Towers, OFC and related Telecom Infrastructure Policy-2017 is going to be a role model for other states in the country.

Appreciating the Odisha’s Policy, the Tower and Infrastructure Providers Association (Taipa) has urged other states to adopt it. Stating that the Policy is comprehensive, the Taipa said that the provisions of time-bound approvals and minimum charges for setting up of towers will help telecom infrastructure in the state to grow in the next 15-20 years.

Odisha Policy, announced in September 2017, has made it mandatory that local authority will have to issue permit for installation of mobile towers within 60 days of receiving application from the company in case there are no disputes. In case the application is rejected, the local authority will have to inform the company within seven days of disapproving it along with reason. As per the policy, firms are required to pay one time permission charges of Rs 10,000 for installing mobile towers on ground or on the rooftop in urban area and Rs 5,000 for rural area. The Odisha government has allowed mobile tower companies to install ground base in government premises for paying charges in the range of Rs 100 to 300 per square feet in urban area. Besides, it has prescribed no charges for mobile towers mounted on vehicles. Companies putting up tower in vehicles only need to inform about the tower before 15 days of installation.

“Other states should learn from Odisha,” said the Taipa director general, Tilak Raj Dua. Tower installation charges are very high in states like Punjab, and Maharashtra, he said adding that the charges range between Rs 50,000 to Rs 5 lakh besides rent.
I. Tower companies turns to PMO for resolving issues

After DoT, mobile infrastructure companies turn to PMO for intervention

In a letter to the Principal Secretary, Niravendra Misra, dated June 23, Taipa director general Tish Raj Dua said that at a time when international community is looking towards India as a growing economy, such “deterrents” were uncalled for the sector.

The group’s demand for a direct intervention comes after the former has made various representations to the telecom department (DoT), Nit Aayog, and the Cabinet Secretary between March and June 2017 over few critical issues that according to it might helped mobile infrastructure growth amid Narendra Modi’s ongoing flagship Digital India umbrella initiative.

ALSO READ: No input tax credit by GST Council a backward step: Taipa

The telecom infrastructure companies which have doubled the tower spread from 2.20 lakh in 2000 to 4.5 lakh towers in 2017, have been primarily demanding “implementation of infrastructure status and infrastructure providers (or IP-1) inclusion in the Right-of-Way (RoW) policy.

In a letter to the Principal Secretary, Niravendra Misra, dated June 23, seen by the ETTelecom, Taipa director general Tish Raj Dua said that at a time when international community is looking towards India as a growing economy, such “deterrents” were uncalled for the sector.

Infrastructure lobby group, however, added that “adverse measures” were creating immense hindrance to the Centre-driven big-ticket programs such as Digital India, financial inclusion initiative Pradhan Mantri Jan Dhan Yojna (PMJDY), as well as Smart City project.

The industry group added that “regulatory uncertainties” were inhibiting the rollout of essential and critical infrastructure as well as damping investor confidence.

In October 2012, United Progressive Alliance or UPA-II government has allowed infrastructure status to mobile tower providers with an aim to make them eligible for viability gap funding, higher limit on external commercial borrowing, lower import duties and exemptions on excess duty on telecom infrastructure equipment.

ALSO READ: Taipa seeks Trai support for enabling ease of doing business for infrastructure players

The UPA-II announcement followed the formation of implementation committee that included representatives from the Reserve Bank of India (RBI), Securities and Exchange Board of India (SEBI), Insurance Regulatory and Development Authority (IRDA) and the Planning Commission.

Even after five years, telecom infrastructure providers fate hangs in balance.

The telecom department, in its Right of Way (RoW) policy, unveiled on November 18 last year, allowed only a ‘telecom service licensee’ to seek permission for infrastructure deployment.

Meanwhile, sector watchdog Telecom Regulatory Authority of India (Trai) in March 2017 has asked the department to ‘revise’ RoW rules and added that it would not only affect provisioning of duct and optical fibre cable, but would also result in slowdown of tower installation.

“Mobile infrastructure, a key to all wireless digital initiatives, has taken a backseat by the telecom department (DoT) which is only adding to the woes and making it impossible for tower providers to sustain amid squeezed teco budgets,” a person familiar with the matter said.

Amid heightened concerns over network coverage and call drops, the government had in August 2015, allowed mobile towers implementation on state-owned buildings or premises after a discussion between the top officials of the telecom department (DoT) and the Ministry of Urban Development (MoUD).
J. Telecom industry welcomes Kerala High Court order allowing construction of mobile tower near SHUP School
CHANDIGARH NEEDS TWICE AS MANY TELECOM TOWERS

4G Is Here But Network Infra Has Not Moved Forward In 4 Years

Here are some numbers worth keeping in perspective. India has 4.6 lakh mobile network towers, of whose only 5,000 are in Chandigarh. While use of data has grown up 20 times, the infrastructure has lagged behind the needs of the 12 lakh citizens in the city, which aspires to become a Smart City.

According to Tower And Infrastructure Providers Association (TAIPA), the sector body of industry that creates telecom’s digital infrastructure to improve the overall network coverage, the Chandigarh city would need to double the number of mobile towers.

Till that happens, Chandigarh will continue to have 3G telecom black holes, called dark spots in technical parlance. Call drops while moving, calls not connecting at all, and low or zero data speed can only be fixed by adding more towers.

There is, however, a major hurdle in getting these towers. “The Chandigarh tower policy, 2015 is a lifeless framework and is not at all implementable in its current allusive as it imposes number of restrictions and regressive provisions,” TAIPA has responded in an email to TOI.

It has been more than 4 years that despite industry’s numerous representations and discussions, regulatory policy still imposes issues such as non-availability of government land and buildings, restriction on location of telecom towers, restriction on the height of the tower, the lack of single window clearance, and an exorbitant fee of Rs 10 lakh for a TAIPA-based licence.

The policy was challenged in the Punjab and Haryana high court, which ordered a status review. It has been a no-forward movement on this front ever since the city council’s proposals on the guidelines issued by the Centre. There has, however, been no change. Earlier, planning the ETP’s policy on cellular signal towers, the top industry bodies—Tower and Infrastructure Providers Association, Association of Cellular Telecommunications Service Providers of India (AUSPI) and COAI—had written to the DoT secretary and the administrator to suspend the policy.

In technical parlance, a ‘dark spot’ is a region with weak mobile network signals. These are areas where call drops are frequent and calls get disconnected easily. The city of Chandigarh has a significant number of dark spots, which has led to poor network coverage.

TAIPA has expressed concern over the Chandigarh tower policy, 2015, which is a lifeless framework and not at all implementable in its current allusive as it imposes number of restrictions and regressive provisions.

The need for more towers in Chandigarh is pressing, given the city’s growing population and increasing demand for mobile services. The regulatory framework should be revised to facilitate the installation of new towers and improve network coverage across the city.
L. Advocacy on State tower policy not aligned with Right of Way rules, 2016:

States not aligning mobile tower rules with DoT norms: TAIPA
PRESS TRUST OF INDIA

NEW DELHI, JANUARY 24: Telecom operators continue to face problems in installing mobile towers in States due to tough rules being imposed on them, which are also not aligned with the Centre's norms, Tower and Infrastructure Providers Association (TAIPA) said on Friday.

“Except five States – Haryana, Jharkhand, Rajasthan, Kerala and Odisha – none of them have aligned their Right of Way (RofW) rules for telecom infrastructure with that of the Department of Telecom’s instructions.

“This is creating huge impediments in installation of mobile towers, in turn affecting quality of service,” said TAIPA Director General Tilak Raj Dua.

Quality factor

The DoT had issued a Ref policy in November 2016, which provides no restriction on location of telecom towers, a single window clearance mechanism, a defined time period for approvals, appointment of nodal officers, nominal administrative fees and deemed approval, exclusively supporting the Digital India mission.

Dua said mobile tower firms are facing major problems in Gujarat, Madhya Pradesh, Punjab, Karnataka, Himachal Pradesh and Maharastra.

“Some State governments have given us the opportunity to express our view, but some don’t give us any chance. If (more) mobile towers are installed, call quality will increase in these States,” he said.

“Some actions by States will hinder the government’s visionary flagship programme of Digital India, Smart Cities and Mission Bhawani,”

TAIPA, whose members include Bharti Infratel, Airtel Towers, GIL Infrastructure, Reliance Infratel, Indian Towers and Tower Vision, said industry players have been taking up their issues with the Punjab government since 2013, Himachal and Maharashtra since 2014, and with Karnataka, Madhya Pradesh and Gujarat governments since 2015, but in vain.

Penanteing policy

Dua said the draft policy of Madhya Pradesh has been pending for notification since 2014 and imposes multiple fee series of up to Rs 1 lakh, restricts locations of towers and mast height, offers limited government land, lacks single-window clearance and provides permission only for five years.

The draft of MP policy eventually hinders the momentum of tower installation across the State, he said.

“Gujarat’s policy focuses on installation of towers only for all technology rather than the holistic development of telecommunication infrastructure.

Dua said even the existing RoW policy of Gujarat imposes multiple fees such as annual renewal fee, security deposit, one-time charges for telecommunication infrastructures installation and escalation of annual fee by 10% per annum after every three years.

Additionally, the policy imposes exorbitantly high charges for laying optical fibre cable (OFC) ranging from Rs 5,000 to Rs 1,40,000 per running metre which amounts to Rs 1 lakh per km, while the charges prescribed under the Indian Telegraph Right of Way (RoW) is Rs 4,000 per km for laying OFC and Rs 10,000 for deploying telecom towers,” Dua said.

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M. Pre-budget recommendation from FY18-19:

Telecom services cost may rise by 10% in absence of tax relief

The Telecom and Internet Providers Association has sought extension of some tax benefits that are granted to some non-telecom Infrastructure firms and amendments in Goods and Services Tax.

The telecom body of India expects 50,000 mobile tower installations in coming fiscal with considerable tax implications and in absence of concessions from the government, cost of mobile services may become dearer by 10 per cent.

“The passive infrastructure industry is expected to install around 50,000 towers during coming fiscal year and the taxes paid on each tower is around Rs 1-1.5 lakhs.”

“ICTP director general T Sing Raj said in a letter to Central Board of Excise and Customs chairperson Varanjan N Sanyal.

The Tower and Infrastructure Providers Association (TIA) has sought extension of some tax benefits that are granted to some non-telecom infrastructure firms and amendments in Goods and Services Tax.

The industry body sought inclusion of telecom tower in the definition of plant and machinery for the purpose of input tax credit, extension of deduction allowed under Section 54AD of the Income Tax Act to telecom infrastructure firms for investment made on procuring equipments manufactured in India, levying of GST on transaction value of services such as battery banks, air conditioners, diesel generators etc.

Telecom infrastructure body, whose members include Bharti Infratel, Indus Towers, Airtel etc. has asked the government to apply same interest rate as paid on delay of tax refunds by the government and charge it for delay of tax payment made by the assessee.

Das said that the mobile tower companies have invested over Rs 2.5 lakh crore to set up over 4.5 lakh towers in the country and makes a direct contribution of more than Rs 5,000 crore annually in corporate income tax and service tax.

“Further, our industry invests more than Rs 16,000 crore annually in equipments manufactured in India like towers, shelters, batteries, air conditioners, DG sets, power management systems etc.,” Das said.

TIA has sought from the Ministry of Corporate Affairs (MCA), Education Ministry (EC), and Secondary and higher education (RIEC) to be used as any other credit of excise or service tax under the GST regime, as the law provides carry forward of Central Credit. In the previous indirect tax regime, EC, RIEC and KEC were covered under the definition of gross credit, the letter said.

The mobile tower body has sought clarity on rate applicable for debit and credit notes pertaining to invoices raised during the pre-GST period, and demanded that the applicable tax rates should be at the same rate at which invoice was raised to avoid undue tax benefits.
Draft tower policy pending for over 2 years

Chronicle Reporter, Bhopal

Tower and Infrastructure Providers Association (TAIPA), industry association for leading Telecommunication Infrastructure Providers such as Bharti Infratel, ATC towers, GTL Infrastructure, Reliance Infratel, Indus towers and Tower Vision, today highlighted that draft policy of Madhya Pradesh is pending for notification since 2015 and imposes issues such as multiple fee levies of up to Rs. 1 lakh, restriction on location of towers, limited land availability of 100 sq. mtrs. on Govt. lands and restriction of mast height up to 20 mtrs on Govt. lands, lack of Single Window Clearance, multiple NoCs and permission of installation is limited to a period of 5 years only etc., which eventually hinders the momentum of tower installation across the state. The draft tower policy pending for notification since 2015 is not at all aligned with the Department of Telecommunication Indian Telegraph Right of Way (RoW) policy notified by central government in November, 2016.

The RoW policy dated November 2016 has enabling features such as no restriction on location of telecom towers, single window clearance mechanism, defined time-period for approvals, appointment of Nodal officers, nominal administrative fees and deemed approval etc. extensively supporting the Digital India mission.

While highlighting the issue, Mr. Tilak Raj Dua, Director General, TAIPA said “The states should align their policies with guidelines issued by centre in order to ensure deployment of critical telecom tower infrastructure across the state. Issues such as call drops, network outages and connectivity gaps etc. are being faced by the subscribers due to the number of limitations imposed on the mobile tower installation, hindering tower installations across the state.”
O. Advocacy on State Tower Policy - Gujarat:

Gujarat’s RoW policy only favors 4G technology: Taipa

Taipa represents mobile tower firms such as Indus Towers, Bharti Infratel, American Tower Corporation (ATC), Tower Vision and GTL Infrastructure— that deploy infrastructure for— Bharti Airtel, Vodafone India, Idea Cellular and Reliance Jio for telephony services.

Muntazir Abbas | ETTelecom | January 03, 2018, 12:58 IST

NEW DELHI: The Tower and Infrastructure Providers Association (Taipa) believes that the telecom infrastructure policy formulated by Vijay Rupani-led BJP government in Gujarat was unfair and needs overhaul in tandem with Centre’s Right-of-Way (RoW) norms.

Taipa represents mobile tower firms such as Indus Towers, Bharti Infratel, American Tower Corporation (ATC), Tower Vision and GTL Infrastructure— that deploy infrastructure for— Bharti Airtel, Vodafone India, Idea Cellular and Reliance Jio for telephony services.

“The Gujarat state needs to notify a tower policy, aligned with RoW rules issued by the Central government in order to ensure seamless tower installation across the state irrespective of any particular technology,” Taipa Director General Tillak Raj Dua told ETTelecom.

The state policy notified in October, 2012, according to industry insiders, was biased to favour billionaire Mukesh Ambani-owned pure play fourth-generation (4G) technology operator Reliance Jio Infocomm.

Based on a proposal of Reliance Industries’ Infotel Broadband Service Limited (IBSL) which procured Broadband Wireless Access spectrum in 2010, the 21-page guideline talks about deploying telecom network for ‘4G services’ alone.

IBSL was later acquired by the Reliance Industries and renamed to Reliance Jio which commercially launched 4G services in September 2016.

The norms, according to the telecom infrastructure lobby group, only regulates provisioning of 4G services by laying fibre and erecting poles rather than focusing on holistic development of telecom infrastructure.

**ALSO READ:** Reliance Jio’s buying of RCom’s assets could bolster its 4G footprint, says Goldman Sachs

The policy imposes exorbitant charges for laying the OFC cable ranging from Rs 1000- Rs 1500 per meter which contradicts the charges prescribed under the RoW rules notified on November 15, 2016 by the Union government, Taipa added.

Gujarat, the home state of Prime Minister Narendra Modi, however, needs to double the number of mobile towers currently deployed in order to connect the unconnected and ensuring seamless network for government-to-citizen (G2C) services such as Digital India, according to Dua.
After Bharti Infratel-Indus merger, tower industry set to see further consolidation

India's telecom tower industry is expected to see more consolidation after the Bharti Infratel-Indus Towers merger, a development that could eventually restore some of their pricing power, though they would also need to diversify their business for growth.

Tower companies have frequently faced challenges such as right of way, fear of radiation and rising fuel costs. Consolidation among telecom service providers, triggered by the entry of Reliance Jio Infocomm Ltd in September 2016, has added to their woes.

"Tower companies in India grew as there were many telecom operators earlier, which resulted in higher tenancies. With consolidation among telecom operators, tower companies face lower tenancies and eventually they will also consolidate. Going forward, tower companies have two options—either diversify and get into areas like Smart Cities and utilities, or move up the value chain and get into small cells, etc, " Amresh Nandan, research director, Gartner, said.

After the merger of Bharti Infratel Ltd, the tower arm of Bharti Airtel, and Indus Towers, the combined entity will own more than 183,000 towers and will create the world's largest tower company outside China.

The merger will help Bharti Airtel Ltd, Vodafone India Ltd and Idea Cellular Ltd, which came together in 2007 to form Indus Towers, easily pare their stakes in the combined entity to raise funds to invest in their struggling telecom operations and cut debt.

With revenue streams of tower companies largely dependent on telecom service providers, a turnaround of the industry is some time away.

"While in the near term, earnings and return ratios are largely shielded, we are cautious on the long-term outlook. With operators likely to remain under pressure, there may be stress on growth and margins for tower companies too," brokerage Jefferies India said in a note on 25 April.

Moreover, with Airtel and Vodafone sharing controlling rights of the merged entity, it would give them the leverage to negotiate for lower tower rentals. "The lack of pricing power in the near term will trickle down to smaller tower firms which would also not be able to charge higher rentals," a Mumbai-based analyst said, requesting anonymity.

In the tower industry, at present, ATC owns or operates over 68,000 tower sites, in India with final approval pending to acquire another 10,000 standalone towers from Idea Cellular, BSNL owns 66,000 towers, Reliance Communications has 43,000 towers which it plans to sell to Reliance Jio, while GTL Infra has 27,000 towers. TowerVision India and Ascend Telecom Infrastructure are other smaller players with 8,500 and 4,000 towers, respectively.
Q. TAIPA welcomes draft NDCP 2018:

Draft NDCP 2018 – TAIPA Terms it Saccharine for Developing a Robust Telecom Infrastructure

The draft NDCP 2018 acknowledge the significance of ‘Sharing’ concept followed by Telecom infrastructure providers; emphasises on the sharing of ducts, fibres, active and passive elements and towers etc.

Niloy Banerjee  •  May 3, 2016

Tower and Infrastructure Providers Association (TAIPA) lauded the draft NDCP 2018. The premier body in its official release mentioned that the draft NDCP 2018 will be a boon for the development of a robust telecom infrastructure.
Karnataka facing call drops due to lack of mobile towers, policy: TAIPA

Issues such as call drops, network outage and connectivity gaps etc are being faced by the users due to the absence of comprehensive mobile tower installation policy.

PTI | July 18, 2018, 21:21 IST

NEW DELHI: People in Karnataka are facing call drops, network outage and connectivity due to lack of mobile towers in the state and absence of comprehensive policy to install them, according to industry body TAIPA.

According to Tower and Infrastructure Providers Association (TAIPA), the state currently has around 29,000 mobile towers and needs to double these numbers in order to address the growing demands to address and embrace future technologies such as 5G, Internet of Things, Virtual Reality and Artificial intelligence etc.

“Issues such as call drops, network outage and connectivity gaps etc are being faced by the users due to the absence of comprehensive mobile tower installation policy. We hope the new government will certainly address these issues and facilitate robust telecom infrastructure in the state,” it said.

Even the draft mobile tower policy of the state, which TAIPA feels is not implementable, has been pending for notification for more than two years.

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In the Digital journey of India, Karnataka will lag behind due to the absence of comprehensive mobile tower policy. Current draft tower policy is pending for notification for more than 2 years and is not at all implementable,” TAIPA said.

Taking the lead, TAIPA, whose members include Bharti Infratel, AIC towers, GTL Infrastructure, Reliance Infratel, Indus towers and Tower Vision, said that Karnataka’s draft policy is not aligned with the Right of Way rules, 2016 issued by the centre.

It said that the draft rule of the Karnataka government on installation of new Telecommunication Infrastructure Towers Regulations, 2015, still pending for notification, imposes restriction on the location of towers and imposes requirement of multiple documents for clearance such as completion certificate, sanctioning plan of the building, etc and lack of provision of single window clearance as laid under the rules of centre.

“The registration fee (prescribed in the draft) ranges from Rs 50,000 to 10,000 whereas it is prescribed as 10,000 rupees for administrative expenses under the Right of Way rules, 2016 notified by Central Government,” TAIPA said.

The mobile tower body said that other Indian states such as Kerala, Jharkhand, Haryana, Odisha, Rajasthan and Assam have aligned their tower policies with the central government guidelines. PRS BAL BAL.
S. Advocacy on sealed mobile towers in Delhi state:

More call drops expected in Delhi: Tower infra association

Civic body seals more than 550 towers and refuses installation of new ones

OUR BUREAU
New Delhi, April 17

Call drops in the national capital may become more frequent in the coming days as the city authorities have sealed more towers and are not giving permission for putting up new towers.

The Tower and Infrastructure Providers Association (TAIPA) on Tuesday said municipal corporations in Delhi have sealed 566 mobile towers out of a total of 11,500 in the city, despite a fee deposit of ₹48 crore is lying with the civic bodies.

It said 11,500 towers in Delhi are not enough as they cater to more than 58 million wireless telecommunication subscribers and these towers are shared among operators with the average tenancy ratio of 2:2. About 1,150 mobile tower sites are ready for deployment, but they are still awaiting permissions, TAIPA said.

“Non-implementation of mediation settlement and lack of comprehensive tower policy in Delhi is creating knotty situations for the development of telecom infrastructure. It is high time that the telecom infrastructure need to be treated as the essential critical infrastructure like others such as roads, transport and water supplies as the formation of new Digital India solely depends upon the enhanced telecom infrastructure,” Tilak Raj Dua, Director-General, TAIPA said.

He said the telecom tower industry has held numerous meetings with municipal corporations of Delhi to discuss the implementation of mediation settlement and the issues industry have been facing for more than eight years now.

The Delhi Tower Policy, 2010, was challenged by the telecom industry in the Delhi High Court as it had imposing provisions such as exorbitant permission fee of ₹5 lakh for five years only and ₹1 lakh per service provider for sharing and restriction on locations.

“These avoidable delays in implementation of policies, notification of policies and suo-moto coercive actions on sealing the mobile towers leads to solemn issues such as slow internet speed, network congestion and call drops,” he said.

Therefore, there is an immediate need to notify a comprehensive mobile tower policy for enabling speedy installation of telecom infrastructure in Delhi, he added.
Important Issues

Despite various government reforms in the past years, there is a need for more focused intervention to support the growth of telecom tower sector. TAIPA continues to make the best efforts to address the following bottlenecks to enhance the ease of doing telecom business. Addressing these issues will accelerate the creation of telecom infrastructure and realize the ambitious visions of Digital India by connecting the unconnected.

• Adoption of RoW Rules by the State Governments: State governments, in practice, are yet to align their policies with the central government guidelines, resulting in a severe impediment for faster roll out of telecom infrastructure in respective states. There are many states that are yet to initiate the adoption of the uniform way of working as per the Central Government RoW Rules 2016. Multiple guidelines across the states for tower installation creates chaos and confusion on the ground leading to delay in installation of telecom infrastructure. A sharper focus on bringing uniformity in guidelines across central government, state government and local municipal bodies is important to enable ease of installation of telecom towers in both general and in government premises, providing a level-playing field to IP-1s for telecom infrastructure provisioning. TAIPA will continue to engage with the State governments along with the support of DoT for adoption of the ROW Rules 2016.

• Implementation of Policies aligned with the RoW Rules 2016: In the past year and a half there are almost 10 states that have issued revised guidelines which are more or less aligned with the Indian Telegraph Right of Way Rules 2016 except some issues. However, the policies in some states are yet to implemented down the line which have resulted in delay in roll-outs of towers and issuance of permissions as per the revised guidelines. Thus, TAIPA will continue to approach the respective States’ Governments to issue necessary directions to departments and municipal bodies for following the revised policy in letter and spirit.

• Inconsistent levies of property taxes across municipal corporations and State governments: Telecom towers are being considered as fixed assets/ buildings and are subjected to levies such as property tax, etc. The issue of arbitrary and exorbitant property tax on telecom towers at different rates/amounts by different local authorities including Municipal Corporations, Municipalities and State Governments etc. has been on a rise. For instance, in Maharashtra, the property tax varies from 40% to 125% across Municipal Corporations. Increase in property tax results in difficulty to acquire land in premium areas for installation of telecom towers. It becomes difficult for the IP-1s to extend coverage to areas where there is a high density of subscribers, resulting in frequent call drops and coverage issues. The imposition of property tax on mobile towers is coupled with coercive actions such as sealing of towers, disconnection of power supply, nuisance at sites, use of force and damage to telecom sites etc.

TAIPA seeks reclassification of telecom towers as movable infrastructure and formulation of guidelines to ensure uniform property tax rates across various states and regional authorities to reduce complexities in the existing tax framework.
• **Enhancement of Scope of IP-1s:** IP-1s own and facilitate telecom infrastructure sharing amongst TSPs in a non-discriminatory manner. The terms of reference of Registration Certificate of IP-1s need redefinition to enable the IP-1s to own, install and share such multi-functional common telecom infrastructure as per the emerging market requirements for multi-service providers such as surveillance, street lights, Wi-Fi hot spots, small cells and advertisements etc. The model of infrastructure sharing practiced by the IP-1s is critical for implementation of IBS, DAS, etc. and cater to the emerging technologies which can be achieved with the scope enhancement of IP-1s.

• **Lack of infrastructure status benefits:** A robust communications infrastructure is the backbone for many other sectors in the economy and hence it has been accorded with the infrastructure status. However, the following benefits have not yet been passed on to the IP-1s:
  - Availability of Funds at Concessional Rates
  - Priority electrical connections on preferential tariffs
  - Allowing higher ECB limits to fulfil Working Capital requirements
  - Funding for Renewable Energy
  - Extending Viability Gap Funding (VGF) facility
  - Providing accelerated depreciation and tax holidays
  - Lower import duties and excise exemption

IP-1s make sizeable investments towards tower installations, RoW permissions, maintenance and security of tower site, power and fuel costs etc. Most of the infrastructure projects like roads, ports, airports etc. have been provided with the above support besides equity funding from the Government of India. Compared to other essential infrastructure, benefits attached with ‘infrastructure status’ are not passed on to IP-1s which leads to poor connectivity and low penetration in rural areas as funds are not available at concessional rates. Thus, Government must pass on the benefits under the ‘infrastructure status’ to the telecom tower industry as well. With the benefits attached to ‘infrastructure status’, the industry would be able to enhance its existing capabilities and facilitate in building an ecosystem fit to support and raise the digital quotient of the country.

• **Power Related Issues:** Currently, electricity supply is perhaps one of the major challenges faced by the telecom sector impacting the 99.95 per cent uptime as mandated by DoT. Non-availability of un-interrupted electricity supply for the telecom towers to operate seamlessly hinders network operations. Around 40 per cent of the sites face load shedding of up to 12 hours. Lack of seamless power supply for telecom towers leads to substantial downtime degrading the quality of service and largely impacting connectivity. On an average, a single telecom tower with three tenants having a downtime impacts at least 4,000 subscribers. The government needs to improve the grid electricity provided to telecom towers by prioritising new electricity connections, ensuring a continuous supply at par with emergency services and providing preferential tariff structure.
TAIPA continues to engage with the sector regulators at the Central and State level to improve the electricity condition for the telecom towers to provide seamless connectivity to the consumers. Since IP-1s are telecom infrastructure providers and not energy providers, it is the Ministry of Power’s prerogative to ensure quality electricity supply at affordable tariffs to the telecom tower sites. Amount of up to INR 3,000 crore per year can be saved in terms of power and fuel cost if the electricity availability at the site is increased up to 20 hours a day. Increased availability of electricity or use of alternative energy sources would result in negligible diesel consumption at the site in turn resulting in reduction of carbon dioxide emissions by up to 24.88 lakh tons per annum\(^{xvii}\).

- **Security of Critical Telecom Infrastructure:** Cases of vandalism and thefts at telecom tower sites are on the rise. The issue of diesel pilferage is also rampant in some pockets of the country. The countrywide diesel pilferage accounted for INR 2,200 crore three years back. This results in additional burden on the operations and maintenance of the telecom tower companies. Due to lack of stringent security norms to guard telecom infrastructure, there has been an increase in the number of vandalism / theft cases resulting in substantial downtime. The telecom industry is capital intensive and critical to operations of many other industries such as IT, Finance, Health, etc. Destruction or disruptions of this critical telecom infrastructure would not only undermine the operations of other sectors but also hinder government’s responsibility of providing internet services. In view of this, TAIPA continues to engage with State Governments for a need to define the security framework for telecom infrastructure assets such as fibre and telecom towers deployed across the country.

- **Exclusion of telecom towers from availing Input Tax Credit:** The Goods and Service Tax (GST) Bill 2017 released on 28 March 2017 has made specific changes in the credit provision in the context of Telecommunication Towers. Under the GST Bill 2017, the Input tax credit (CENVAT credit) (under the heading plant and Machinery) is not be available to tower infrastructure providers. It is estimated that this move will have huge impact on the cost of services. Infrastructure Providers will need to include the component of this additional tax implication in its overall costs structure thereby raising the cost of services to TSPs and in-turn would result in significant tax cascading impact, which will be passed on to the end consumers.
Way Forward

The future of Indian TowerCos rests on the exponential rise in data traffic and harnessing emerging business opportunities. Rapid expansions of 4G will drive the increase in tenancy ratio. Various emerging technologies such as internet of things, machine to machine communication, artificial intelligence, augmented/virtual reality and connected devices have led to an increased demand of a robust and scalable infrastructure.

Additionally, government’s thrust on launch of 5G services, digital India, smart cities, Bharat Net, proliferation of 4G services will boost the demand of roll-out of telecom infrastructure such as fibre cable, telecom towers, small cell solutions, Wi-Fi networks and IBS. The physical infrastructure needs to be robust to meet the growing need and demand of ubiquitous connectivity.

Going forward, the introduction of 5G services, along with the explosion of internet-of-things/everything, will bring the need for infrastructure sharing which is expected to emerge as a key trend.

The next generation telecom infrastructure will be one of the core pillars in transformation of India into a digital economy. Telecommunication services is a catalyst to empower citizens by providing them with transparent governance and services (education, health, legal, financial and safety) at their fingertips.

Regulatory focus is also needed to improve the implementation of the RoW rules to facilitate time-bound and hassle-free single-window clearances for the requisite backhaul. To achieve this, clear rules will have to be chalked out by the government with fair-play guidelines for building owners, IP-1s, TSPs and other players in the ecosystem.

The Digital India and Smart Cities mission can be realized to its true potential only when the infrastructure for ‘last mile’ connectivity has been established. In order to accelerate the deployment of telecom infrastructure and bridge the digital divide in the country. The government need to consider the following recommendations to address issues and concerns of the telecom infrastructure industry. It is needless to mention that presence of a robust telecom infrastructure will accelerate the realization of Digital India Mission.

- Alignment of guidelines by the States with the Indian Telegraph Right of Way Rules 2016 for seamless deployment of telecom infrastructure.
- Availability of resources such as Government Land and Buildings on a fair and non-discriminatory basis to both TSPs and IPs for installation of telecom infrastructure.
- States should ensure security of telecom infrastructure by introducing Strict penal provisions State’s tower installation policy to mitigate risk and damage to assets and bring the culprits on the books.
- There is need to rationalize the fee structure that is being charged by different State Governments on the pretext of installation of telecom towers. Additionally, there are several other penalties that the industry is subject to pay such as Property Taxes, Sharing Charges, etc. despite no such charges mandated by the Central Government.
- The government should extend the benefits of infrastructure status to tower industry which are already being provided to other sectors.
• In order to digitize the country in its entirety there is a need to re-classify/ redefine ‘Common Telecom/Digital Infrastructure’ to include Antenna, feeder cable, Node B, RAN, and Transmission Systems. And, the same should be allowed to be installed by IP-Is under the purview of its registration certificate.

• It is critical to ensure that grid connectivity and availability to telecom towers is increased. The government should consider improving grid electricity to telecom towers and ensure that EB connections and quality power is made available on preferential tariffs. Implementation of net metering policy and amendments in open access regime for the telecom tower sector need to be considered

• Regulatory certainty needs to be ensured to boost investors’ confidence towards the sector.

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