Digital InfraCo – unlocking the tower power

January 2022

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Digital Infrastructure Providers Association

EY
Building a better working world

देवुसिंह चौहान
DEVUSINH CHAUHAN

राज्य मंत्री
संचार
भारत सरकार
Minister of State
for Communications
Government of India

MESSAGE

I am delighted to note that Digital Infrastructure Providers Association (DIPA) is organizing their Annual Flagship Event on 21st January 2022 on a contemporary and relevant theme "Robust Digital Infrastructure – Key to Digital Transformation".

Telecommunications sector in our country has been growing in leaps and bounds since last seven years. The Government under visionary leadership of the Hon'ble Prime Minister Shri Narendra Modi is committed to take the sector to next level. Recent historical telecom reforms under the guidance of the Hon'ble Minister of Communications, Electronics & IT and Railways Shri Ashwini Vaishnaw are the testimony of the Government's commitment. These will give much required support to the Industry. Several initiatives of Modi Government like Atma Nirbhar Bharat, rollout of 5G, taking optical fiber to each of 6 lac villages of the country, Broadband Highways etc. need a world class telecom infrastructure.

Therefore, role of DIPA is very appropriate in above context. I am sure DIPA will take all necessary steps to meet the expectations of every service provider and stakeholder. I would urge you to take up strategic issues during above event to make our telecom infrastructure the best in the world, which will lead the digital transformation.

I wish all the success to Annual Flagship Event of DIPA.

(DEVUSINH CHAUHAN)

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भारतीय दूरसंचार विनियामक प्राधिकरण
Chairman
TELECOM REGULATORY AUTHORITY OF INDIA

Message

With the end of another year and the beginning of a fresh new one, we can appreciate that we have faced major challenges in lieu of the pandemic striking. But as a country, we've continued to grow. I see DIPA continuously striving to make the best of everything and it is always a pleasure to see them on top of everything.

I get immense pleasure in congratulating DIPA on another successful year despite the ongoing pandemic.

The Telecom Industry has done a commendable service to the nation by keeping the networks up and running during the current crisis. Various unsung heroes worked on-site even during the pandemic putting their lives at risk to ensure the provision of the needed services throughout the country.

As the world walks towards 5G, the deemed demand for the infrastructure is seen to be on the rise. The Telecom Infrastructure Industry has perceptively moved towards "Infrastructure Sharing" which will provide not just cost and energy efficiencies but also aid in significantly reducing the go-to-market time for the 5G services.

Moving forward, the telecom industry's role is going to evolve and grow as per the demands and requirements of the digitizing economy. With the widespread coverage of the Telecom Infrastructure in the country, the dream of full-fledged digital economy is seemingly becoming more achievable.

5G deployments will need support through various digital infrastructure components like Small Cells, Wi-fi, In-building Solutions and Data Centres. Tower Densification and Fiberisation will play a crucial role in 5G rollouts. Going forward, I see a greater role for DIPA and its members in achieving the visions of the "Digital India".

I once again congratulate DIPA on continuously aiding and ensuring the evolution of the Telecom Infrastructure sector in line with the needs of the economy and wish them many more successes in this new year.

(P.D. Vaghela)

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Government of India
Ministry of Communications
Department of Telecommunications

Azadi Ka Amrit Mahotsav

MESSAGE

As we move towards a refreshing new year, we would like to congratulate Digital Infrastructure Providers Association (DIPA) on another successful year and their various milestones achieved.

With more than 6.5 lakhs Mobile Towers housing approximately 22 lakh BTSs PAN India, we have seen the telecom infrastructure growing at an increasing pace over the years and providing connectivity to near and far regions across the country.

As we see the world moving towards 5G, the role of the Telecom Infrastructure industry is seemingly growing more especially with the novice concept of "Infrastructure Sharing". With the costs of 5G deployment seemingly rather high, the telecom infrastructure industry is set to provide cost as well as energy efficiencies in the upcoming deployments.

We hope to keep working with DIPA on various requirements of the fast-digitizing economy and to work towards achieving the vision of the "Digital India" mission.

We, with continued association with DIPA and support from our Telecom Infrastructure industry, hope to walk miles in achieving our targets for the upcoming year, specially, in proliferating telecom services, in rural and remote areas and rolling out of 5G services.

(K. Rajaraman)

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Mr. Akhil Gupta
Chairman, Digital Infrastructure Providers Association (DIPA)

FOREWORD

We started out in 2010 as a representative body for Infrastructure Providers and we have had an eventful journey. I would like to first of all thank all our members for their continuous support and efforts in helping us reach where we are today. Our basic theme of sharing infrastructure with all service providers on a non-discriminatory basis has already resulted in savings for the service providers running into billions of dollars in capex and opex over the last decade.

We have seen Telecom Infrastructure Industry evolve through the challenges posed by continuously emerging technologies and innovations. Providing network coverage all across the country round the clock, the Telecom Infrastructure Industry has played a pivotal role in providing continuous support for smooth running of the nation in the most testing times due to ongoing natural disasters on one hand and the disruption caused by Covid forcing work and study from home, on the other.

India today is moving towards 5G, which will herald a major step in an ongoing evolution of India becoming a major digital economy with focus on inclusive growth. The Telecom Infrastructure Industry is all braced to support these ongoing developments. With our commitment to Infrastructure Sharing, the IP1s will continue to provide the much-needed Capex and Opex savings to the service providers as they roll out 5G networks. Equally importantly, such sharing will also reduce the Go-to-Market time for these technologies, making them quickly available to the public for use- particularly deep inside the country.

We would like to thank DoT, TRAI and various State Governments, for their wholehearted support in encouraging the concept of infrastructure sharing over the years. We are already deeply engaged with them to ensure an even more intensive role of the Telecom Infrastructure Industry in the deployment of Aerial OFC and Small Cells for 5G for the purpose of cost efficiencies and faster rollouts.

I on behalf of all my colleagues at DIPA would like to reiterate our deep commitment to contribute towards ensuring a truly digitized India in collaboration with Telecom service providers, DoT, TRAI and all the State Governments.

Mr. Amit Sharma
Vice Chairman - DIPA

MESSAGE

I am delighted that TAIPA has repositioned itself to Digital Infrastructure Providers Association (DIPA) this year. I congratulate the entire secretariat led by the Director General of DIPA on this important milestone in the remarkable journey so far.

In recent years, the growth in telecom and broadband connectivity in India, has been remarkable. Further, the great work done by telecom infrastructure providers in ensuring uninterrupted telecom operations during COVID-19 exemplifies the commitment of DIPA and its members towards their customers and the country.

DIPA has achieved remarkable success in multiple areas including various policy and regulatory matters, with whole-hearted support from the Government and the industry and I am sure, the association will extend this leadership now to all aspects of digital infrastructure for the entire ICT industry and thereby contribute to India becoming a robust digital economy which would enable inclusive growth across the country covering all sections of society. It is indeed a new day dawning, not only for DIPA, but for the entire industry as well.

DIPA will continue to play the role of a thought leader for the industry and support the diverse community of stakeholders by providing with dedicated resources, advocacy, expertise, and networking.

My best wishes to DIPA for success in all their endeavors.

From the Desk of
Mr. Tilak Raj Dua
Director General, Digital Infrastructure Providers Association (DIPA)

I wish everyone a very Happy and Prosperous New Year!

Another amazing year in a wonderful journey. It was in 2010 that DIPA was constituted, then known as TAIPA, a representative body for Infrastructure Providers of the Telecom Industry. We've come a long way since then.

We have achieved numerous milestones in the past few years. With a PAN India coverage of 6.5 lakh Mobile Towers housing 22 lakh BTSs, we have been able to get the 99% population covered under 4G.

During the ongoing pandemic, we have seen the telecom infrastructure sector establish itself as a strong backbone of growing India. From providing connectivity in Urban and Rural areas to enabling and monitoring the COVID Vaccination drives PAN India, the telecom infrastructure industry made everything possible in these challenging circumstances.

The Telecom Infrastructure Industry has been creating a Robust and Resilient Digital Infrastructure environment ensuring connectivity to far and near areas across the nation. With India moving towards being a truly Digital nation, this has hence provided the much-needed support for the growth enabling Work and Study from home for all through the ongoing pandemic.

The Telecom Infrastructure Industry has also continuously been taking rapid strides to protect and preserve the environment and its scarce resources by using alternate sources of energy to power their sites across the country.

With 5G rollouts around the corner, the Telecom Infrastructure Industry has been working towards further developing the established infrastructure to meet the rising and ever-changing demands of a fast-developing country. Working tirelessly with the globally renowned concept of "Infrastructure Sharing", the Telecom Infrastructure Sector is set to provide not just cost efficiencies for 5G deployments but also marginally reduce the "Go-to-Market" time for various technologies.

I would like to thank all our members for their continued support that led us to achieve such amazing results. I would also like to thank DoT, TRAI and all the State Governments for their constant guidance and cooperation and look forward to a long-lasting association moving forward.

Prashant Singhal

Emerging Markets TMT
Leader, EY

The tower infrastructure segment has been the backbone of a rapidly evolving nation that is riding high on the digital transformation wave. Today, digital has touched every aspect of the society and has set in motion significant socio-economic development in the country. India's digital consumption is one of the highest globally – 15.7 GB data traffic per smartphone, 88% increase in digital transactions in the last three years and emergence of over 80 digital unicorns. In the next few years, India will transform into a completely digital society. By 2025, data traffic per smartphone per month is expected to reach 40 GB, 1.1 Indians will come online every second, 2.3 new smartphone subscriptions will be added every second, driven by key segments of the digital economy – ecommerce, online education, digital healthcare.

In the next few years, India is expected to transform into a high-tech digital society. To achieve this, investment to the tune of INR1.8t–INR2.2t is required over next 3–4 years in setting-up the underlying digital infrastructure. This makes it imperative for towercos to evolve and offer larger end-to-end digital infrastructure by strengthening their core services, exploring adjacencies and serving new customer segments. Given their strategic importance, towercos are best placed for deploying cost-effective digital infrastructure. Their ability to seamlessly manage a decentralized asset base positions them favourably to capitalize on various adjacencies. Towercos can play a significant role in fiber deployment in India. Another lucrative opportunity for towercos will be in deploying small cells catering to the growing network densification requirements.

Success in the digital era hinges on efficiently utilizing an infrastructure sharing model owing to the capital intensive nature of the communications sector. The very structure of the tower infrastructure segment in India is conducive for towercos to transition to a shared digital infrastructure player. It will help to reduce operating cost, minimize time-to-market, optimize asset utilization, quickly adopt new emerging technologies, and cater to the changing customer needs. It is no longer about owning a single asset class but about strategically playing a part across the digital infrastructure value chain. Towercos need to transform themselves and be the facilitator of this infrastructure.

The pan-India assets of towercos can be optimally utilized for scaling other industries. Co-location of edge data centers in the tower space is emerging as a key trend globally. Tower sites are ideal to serve as micro data centers owing to steady power supply and fiberized backhaul. India's ambitious Electric Vehicle (EV) adoption target by 2030 will necessitate setting-up a robust charging infrastructure. Tower sites can double-up as EV charging points, maximizing asset utilization. In addition, towercos have acquired significant expertise in site acquisition and negotiation with owners. As a result, they can help set-up dark stores for e-commerce companies.

All this will only be possible through a forward looking policy/regulatory framework that addresses current challenges of towercos and at the same time sets the tone for new growth opportunities. Expanding scope of IP-Is by allowing active infrastructure sharing will be instrumental in realizing the shared infrastructure business model pioneered in India. With new technology adoption, suitable provisions can be accommodated in the 'Indian Telegraph RoW Rules Nov'2016' for facilitating deployment of in-building solution (IBS), small cells, aerial cable, and street furniture. While rationalizing property tax across States will help to ease working capital pressures. The Government can act as a key enabler of this transition to a digital infrastructure player.

I thank DIPA for their significant contribution to the tower industry in India and laying the groundwork for accelerated digital growth. I hope that this report helps us to further the Digital India vision and facilitate the transition to a Digital InfraCo.

Acknowledgements

EY report development team: Kaustav Bandyopadhyay, Parul Malhotra, Rini Vaidya

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1 Pacing ahead: shaping the Digital InfraCo of 2025

The communication sector is in the middle of a tectonic transformation on the back of rapid proliferation of data services, adoption of new emerging technologies, onset of digital business models and new ecosystem partnerships. The world is getting more digitally connected and it is just the tip of the iceberg. For the first time, there were more connections between IoT devices than legacy devices. Sign of the times - the digital simulacrum is now a reality!

Digital. Accelerated

We have entered an age where virtual is the new real – this is the age of on-demand streaming, cashless, virtual try-on, same-day delivery, online learning, virtual gaming, Non-Fungible Tokens (NFTS), robotic manufacturing, warehousing and smart contracts. The pandemic pushed data adoption to new levels, and with that, digital consumers skyrocket globally. Collectively, spending two full days a week being online and spending a third of their waking lives on digital platforms.

Today, the virtual world is inching towards a new blizzard – the metaverse. Tech majors are betting big on the potential, and the market is touted to be a US$758b industry globally by 2026.[1] This is just an instance of the power and potential of digital – enabling companies to ride new business opportunities and unlock new growth trajectories.

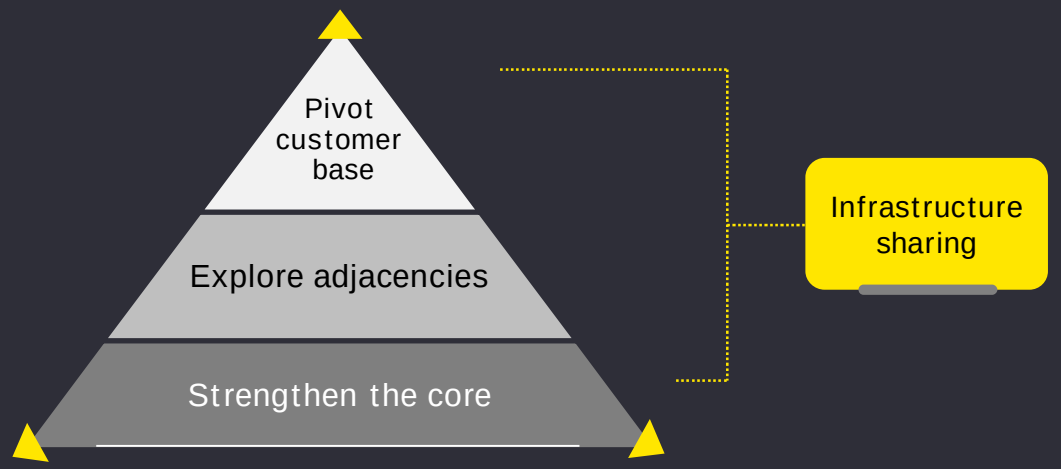
The telecoms sector will be a pivotal force turbo-charging the radical shifts in digital. 5G is well positioned to gear the next revolution with speed, agility and capacity. However, the future digital networks will require a raft of robust infrastructure to operate. While telcos are steering away from the legacy act of vanilla "connectivity providers" to assume a larger role in the evolving digital value chain. In the changing times, towercos are well positioned to traverse the journey to "Digital InfraCos" – preparing to assume a larger role it the digital ecosystem as "enablers of entire system of connectivity".

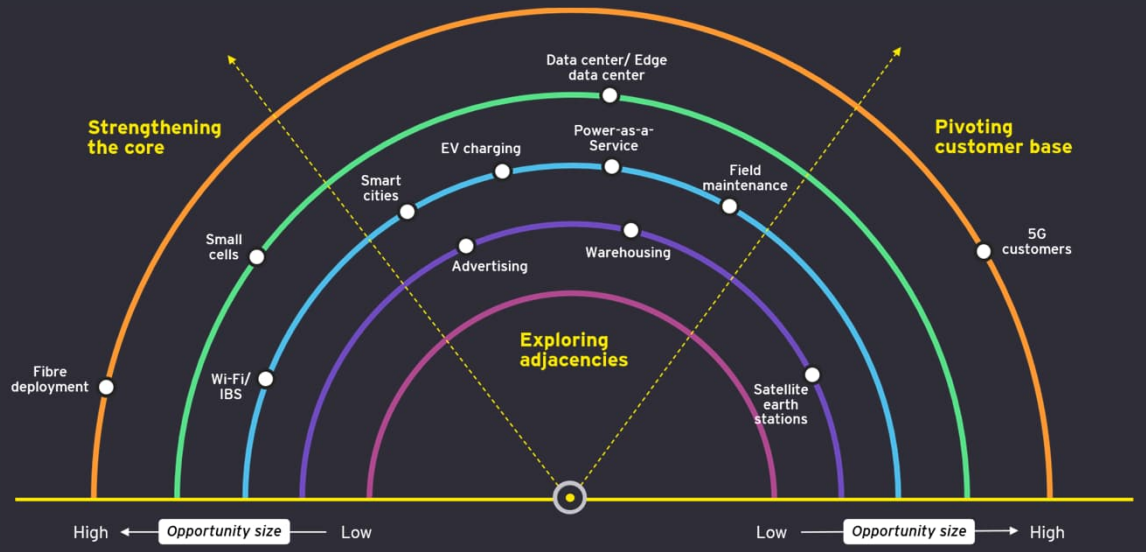
Now is the time for bold new actions and to pivot on new growth models to emerge as Digital InfraCos. A strategic rethink to expand the core, explore adjacencies, and widen the value chain focus to serve new customers.

The new age Digital InfraCos have unique opportunity for growth, to embrace new business models, increase innovation and launch new targeted services. All of this, by deploying cost-effective digital infrastructure for the socio-economic development of the country. All of this galvanized by a powerful proposition to expand their addressable market and unlock new revenue streams.

1 "Metaverse Emerges as the Next Big Revolution in the Internet Space. But Will It Sustain?" CISION PR Newswire, January 2022.

Opportunity radar: new growth models for Digital Infraco





Source: EY analysis*

Pivoting customer base

The advent of 5G opens-up new vertical specific opportunities through close collaboration with industry players by ushering in fundamental changes in business models across the value chain. It is an opportunity for newer players to enter the market – infrastructure companies, internet service providers (ISPs), automotive, power and utilities, oil and gas, and enterprise telecom service providers. Towercos have the chance to cater to these new customers by offering a gamut of infrastructure services. Along with 5G, increased need for satellite ground stations, driven by proliferation of low earth orbit (LEO) satellites, offers additional scope for towercos. They are ideally placed to provide the entire communications infrastructure for these stations.

Strengthening the core

Today, laying out fiber network is one of the most critical elements of communication. As the world imbibes faster wireless communication technologies (4G and 5G), the need for fiber is growing exponentially. To support high bandwidth traffic, a robust backhaul network is a prerequisite. Towercos are well positioned to address the fiber opportunity, with their existing experience of managing distributed infrastructure. Tower fiberization offers one of the biggest opportunities. In India, 70% of the towers need to be fiberized by 2024 to cater to 5G launch, as compared to 33% currently.[2] Further, with small cells becoming an important part of 5G rollout, fiberized backhaul will be key. On the other hand, telcos can position themselves as a one stop solution for all last mile fiber requirements addressing challenges like Right-of-Way (RoW), deployment issues and site access.

Fiber deployment and microwave	INR180–270b Towerco revenue opportunity by 2025	INR510–755b Cumulative investment between 2018–25

Source: EY analysis*

As we move into the 5G era, network densification will be a key feature to support high-bandwidth applications and surge in data traffic. Towercos' ownership of shared infrastructure and expertise in RoW makes them ideally placed to deploy small cells. Globally, towercos are already well entrenched in laying out small cell networks. Outdoor small cell deployment in India is expected to reach 475,000-550,000 by 2025.[3]

Small cells (outdoor)	INR60–70b Towerco revenue opportunity by 2025	INR180–210b Cumulative investment between 2018–25

Source: EY analysis*

The number of public Wi-Fi hotspots are estimated to reach 800,000–900,000 by 2025, at a CAGR of 15%–17% between 2020–25.[4] Towercos can monetize this opportunity by acting as neutral host Wi-Fi provider on the back of their shared infrastructure expertise.

Wi-Fi/IBS	INR16–21b Towerco revenue opportunity by 2025	INR50–65b Cumulative investment between 2018–25

Source: EY analysis*

Exploring adjacencies

Today, towercos are well positioned to expand their infrastructure portfolio, by tapping into adjacencies to cater to the changing needs of end customers. Inherent strengths of towercos make them strategically placed to capitalize on new revenue streams – pan-country presence, huge fleet on the ground, real estate connects, streamlined processes, power management capabilities and a decentralized asset base. This presents significant opportunities for towercos to foray into adjacent service offerings by utilizing their existing infrastructure/assets.

2 "5G for a digitally connected world," ET Telecom, 29 November 2021.

3 EY analysis*

4 EY analysis*

Towercos have already ventured into the smart city space by providing and maintaining the underlying digital infrastructure. The government's Smart Cities Mission of creating 100 smart cities across the country gives an excellent opportunity for towercos to capitalize on.

Increased adoption of low latency and high bandwidth applications have necessitated the need for edge data centers. Towercos can optimize their asset utilization by offering space for co-location of edge data centers. There are instances where towercos are offering edge data center services in partnership with data center and technology players. Through steady power supply and fiberized backhaul, tower sites can support edge data centers closer to the user, reducing the need to send backhaul data traffic to a centralized hub. In India, potential edge computing tower sites are estimated to be around 5-6% of ground-based towers by 2025.[5]

Edge data center

INR15–20b
Towerco revenue opportunity by 2025

INR40–55b
Cumulative investment between 2018–25

Source: EY analysis*

Focus on environment and sustainability is fueling adoption of EVs. India has set ambitious targets for EVs by 2030: 70% of all commercial cars, 30% of private cars, 40% of buses, and 80% of two-wheeler and three-wheeler sales in 2030 would be EVs.[6] Towercos can utilize their existing space to offer charging infrastructure services through unutilized energy assets (solar points, battery, energy storage systems). This is a nascent opportunity in India and towercos can be an early mover in this space.

Another example of utilizing tower asset will be in offering out-of-home (OOH) advertising on tower sites and smart city infrastructure. The OOH market in India is expected to grow at a CAGR of 6% between 2020-25.[7] Towercos can offer static billboards to start with and offer interactive screens for shopping and kiosks. For wider socio-economic impact, towers in rural areas can be used for digital education/ social messaging.

The shift to digital economy is presenting newer opportunity areas. The location advantage of towercos renders them fit for serving as storage, warehousing and delivery centers for various businesses, especially in rural areas. In urban areas, towercos can help set-up dark stores through their expertise in site acquisition, negotiation with site owners, and efficient management of power supply.

A conducive regulatory environment is needed to maximize potential of Digital InfraCos

In every industry, it is important to create an enabling self-sustaining ecosystem for all stakeholders to thrive. As is often the case, "Innovation doesn't come just from giving people incentives; it comes from creating a conducive environment where new ideas can thrive". Addressing some of the regulatory bottlenecks faced by towercos/Infrastructure Providers Category-I (IP-I) will go a long way in helping them transform into a Digital InfraCo.

For instance, the shared infrastructure business model reduces operating costs by avoiding duplication of infrastructure by multiple service providers. However, the current regulatory environment does not allow towercos to take the shared infrastructure provider business path. There is a growing need to facilitate sharing of active infrastructure by IP-Is.

Adoption of new technologies and data-heavy applications will require further densification of telecom infrastructure/ network throughout the country. Currently, there are no provisions in place for facilitating deployment of in-building solution (IBS), small cells, cell-on-wheel, aerial cable, street furniture, etc. RoW policies need to be suitably amended or updated to reflect the changing market dynamics.

The capital-intensive nature of towerco/IP-I business models require adequate working capital for network upgradation and investment. Currently, there is no pan-India property taxation guidelines. It is the responsibility of the local bodies/ municipal corporations to calculate the tax based on their assessment of the property. As such, levy of property tax on telecom towers varies in rates/ amount depending on whether it is levied by the State governments, municipal corporations or the municipalities. Moreover, the municipal bodies while charging property tax levy a total of nine components. Tax components such as Street tax, Conservancy tax, Water Supply Benefit Tax, and Tree tax may not be applicable to mobile towers as no civic amenities, water etc. are being utilized by or provided to the telecom towers.

5 EY analysis*
6 "Rs 12.5 lakh crore investment needed to realize India's 2030 EV targets," ET Telecom, 8 December 2020.
7 EY analysis*

Challenges/issues	Key considerations
Active infrastructure sharing	► Enhance scope of IP-I players to include antenna, feeder cable, base station, transmission system, Radio Access Network (RAN), small cells ► All eligible service providers should be allowed to obtain infrastructure from IP-I
Legal enforcement of Indian Telegraph RoW Rules Nov'2016 on Central Ministries/ Depts, State/ Local authorities	► Need to enforce mechanism for Indian Telegraph RoW Rules Nov'2016 on Central Ministries/ Depts and State/ Local Authorities
Policy for use of street furniture (electric poles etc.) for small cells	► Make necessary amendment to Indian Telegraph RoW Rules Nov'2016 for incorporating the following: ► Installation of IBS, small cells, poles, cell-on-wheel, aerial cable, street furniture etc. ► Timelines for clearance can be revised to 15 days from 60 days ► Policy for laying of common ducts ► Standardization of digging methodologies and aerial cabling ► Adequate panel provisions to ensure safety and security of telecom infrastructure
Availability of input tax credit (CENVAT Credit) to IP-I	► The input tax credit on telecom towers in currently not available as telecom towers are not included in the definition of "Plant and Machinery" under section 17(5)(d) of CGST Act, 2017 ► Amendment of definition of plant and machinery is required
Rationalization of property tax across States	► Property tax rates need to be rationalized and made uniform across all States. ► Implementing a fixed rate allows faster deployment of telecom towers by removing regulatory uncertainties caused due to the varying property tax structure in the State.
Availability of power on 24*7 basis at Industrial Tariff	► Need for priority of electricity connections to telecom tower site at affordable industrial tariff instead of commercial tariff

Source: DIPA, Industry inputs

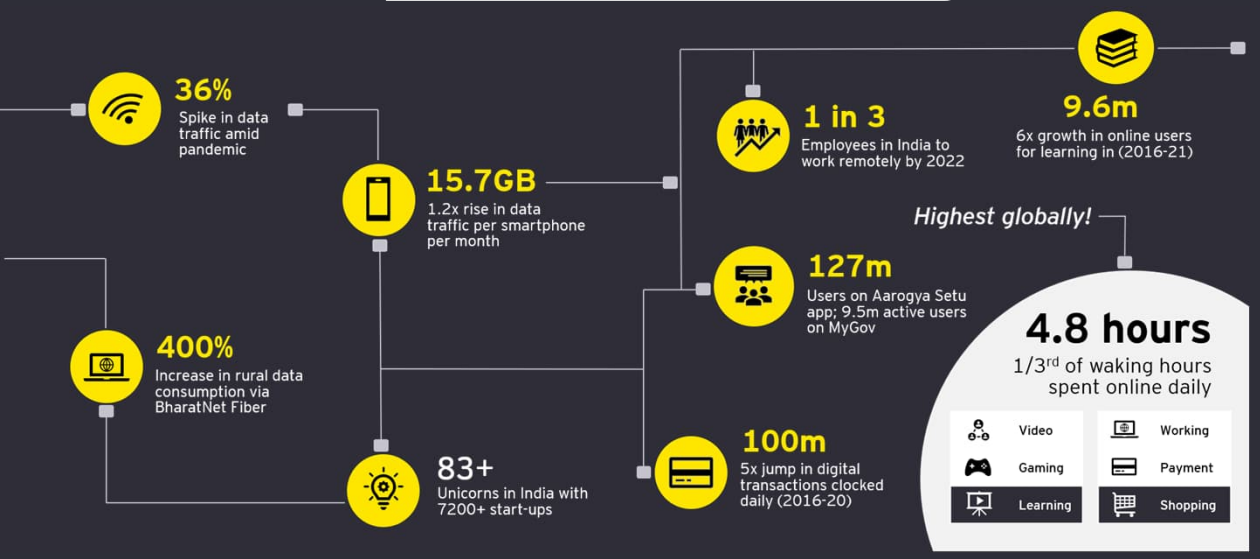
2 Digital metamorphosis of India

COVID-19 emerged as the greatest challenge the world faced in decades – transforming people's lives at unprecedented scale, impacting every industry, and disrupting business growth and ambition. However, it has not slowed innovation, rather amplified it to historic levels and is catalyzing long-term transformations.

For India, the pandemic accelerated digital consumption 3–4 years into the future. Indians are raising the bar on data consumption. At northwards of 15 GB per user per month, the world's largest consumers of data show no signs of abating. The radical shifts in consumption are here to stay. The new normal rides on increased optimism towards a more digital way of life. In just a few months, digital has become central to every interaction. Much of people's daily lives have moved online.

Moreover, the digital ripple has been pivotal in strengthening India's position as one of the fastest growing digital economies globally!

The digital metamorphosis

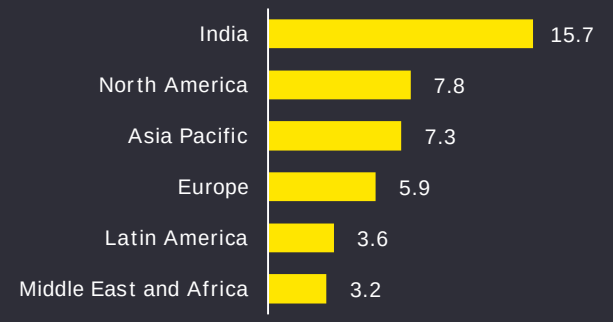


Digital consumption patterns are evolving at an exciting pace – people are spending more time on smartphones streaming content, buying essentials, playing games, networking and using cloud applications to work from home. India's telecom sector has been the fundamental backbone driving the metamorphosis. With over a billion mobile phones and more than 770 users online, mobile broadband continues to define India's digital makeover.

22x

Increase in total mobile data traffic from 2016 to reach 101 EB in 2020

Mobile traffic per smartphone, GB/month



Source: Analysys Mason, Nomura Research, GSMA Intelligence

Fast track to 2025, the telecoms ecosystem will continue to enable and unlock new milestones. Pro-growth initiatives and strong support of the government will be pivotal in unleashing the vision of a trillion dollar digital economy for India. The rapid growth will necessitate building a digital infrastructure to support the demand of data-hungry Indians. And towercos will be critical pillars for enabling the vision. Now is the time for bold new actions, to change in tune with the times!

40GB
2.7x rise in data traffic/smartphone/month

600,000
Largest pool of digital talent in the world

$4t
1.4x growth in enterprise spend on business and technology

330m
Subscribers unleashing the 5G wave

$200b
E-commerce market at a CAGR of 30%

1.1
Indians will come online every second

$12b
Indian online education market

2.3
New smartphone subscriptions will be added every second

$485b
Digital healthcare market at a CAGR of 27%

Fast forward 2025: a digitally transformed India

Source: Internet articles and EY analysis*

3 Strategic unlock: creating value with new growth models

With innovation at the core, Indian telecom tower sector has carved a global niche in infrastructure sharing. Today, with data growth and the imminent launch of next gen 5G technology taking center stage, the next decade holds exciting new prospects for towercos. Plenty of new opportunities are arising for tower companies to shift their attention from a macro tower focused business, towards new business models hinged on fiber, small cells, data centers, Wi-Fi, smart cities and beyond. A perfect storm of factors is reshaping the operating environment and driving urgency to digitize core operations and respond faster to change. By focusing on the right mix of competencies and business opportunities, the tower industry is well positioned to drive the next infrastructure revolution.

The opportunities can be modelled around three areas

Pivoting customer base

- Newer players or buyers in the market (5G and satellite communication)

Strengthen the core

- Fiber play
- Network densification
- Public Wi-Fi

Exploring adjacencies

- Smart cities
- Edge computing
- EV charging
- IoT
- Field maintenance
- Power-as-a-service
- Advertisement
- Dark stores

Source: EY analysis*

3.1 Pivoting the customer base

5G

As per the Global mobile Suppliers Association (GSA), by December 2021, a total of 200 telcos in 78 countries/territories had launched 3GPP-compatible 5G service (either mobile or FWA). There are at least 857 commercially available 5G devices. With increasing 5G rollouts and device availability, global 5G subscriptions grew by 36% in 1Q2021 to reach nearly 298 million (representing ~3.1% of the entire global mobile market). On an average, a 5G subscriber consumes 3x data vs an average 4G data subscriber, South Korea being the leading example. Global 5G deployment started in Apr-2019, while India is yet to deploy 5G.

5G opens-up new vertical specific opportunities through close collaboration with industry players

Functional areas	Use case
For consumers	
High-speed broadband	▸ Through mobile 5G and Fixed Wireless Access (FWA)
Immersive content	▸ Augmented Reality/ Virtual Reality/ Mixed Reality
High definition content	▸ UHD/4K/8K
Gaming	▸ Cloud and immersive
In-stadium experience	▸ AR and 3D volumetric video
Healthcare	▸ Remote diagnosis and consultation (HD-enabled video conferencing)
For businesses	
Manufacturing	▸ Automation and control (cell and process automation, remote assistance and control) ▸ AR-based maintenance ▸ Smart manufacturing
Life sciences and healthcare	▸ Digital hospitals (faster data transmission, immersive training) ▸ Remote surgery ▸ Smart ambulance
Media and Entertainment	▸ 5G-based broadcasting ▸ Immersive media studio
Automotive and transportation	▸ Navigation (HD maps) ▸ Autonomous vehicles (vehicle-to-everything communication, driver assistance, platooning)
Smart infrastructure	▸ Safety and security (HD video surveillance, emergency response) ▸ Smart utility services (e.g. waste collection, street lighting) ▸ Traffic management ▸ Immersive theme parks

Source: EY analysis*

Globally, 5G spectrum auction witnessed participation of new entrants in the form of mobile players, internet service providers (ISPs), enterprise service providers and other industry participants.

- In August 2020, the Federal Communications Commission (FCC) conducted Citizens Broadband Radio Service (CBRS) spectrum auctions offering 10-MHz blocks in each county in the US. Companies from various industries including tower infrastructure companies, ISPs, Power & Utilities, Oil & Gas, tractor company, education institutes have acquired 5G spectrum.
- In Czech Republic, two new mobile operators acquired 5G spectrum through auction.
- In Italy, an ISP acquired 5G spectrum in the millimetre wave band to augment its data services offering.

Source: FCC, Internet articles

Opportunity for towercos: New entrants or greenfield 5G operators in India increasing the addressable market, subject to favourable regulation and market attractiveness.

Launch of 5G presents a greenfield opportunity for towercos in the form of setting-up 5G macro cells, upgrades to existing towers as equipment load (from massive MIMO antennas) increases, and densification of networks. Growing data demand and 5G rollout positions towercos favourably for capitalizing on new growth opportunities and making them a crucial component of digital infrastructure construct.

Satellite communication

Earth stations are a vital element in any satellite communication network. A satellite earth station is a type of radio equipment used to communicate with a space station from the Earth's surface. They are typically used to provide telephony, data, backhaul, broadcast feeder links and two-way business/consume broadband or corporate type communications. Earth stations communicate with spacecraft by transmitting and receiving radio waves in the super high frequency (SHF) or extremely high frequency (EHF) bands (e.g., microwaves).

Opportunity for towercos: With proliferation of new technology based on Low Earth Orbit (LEO) satellites, there would be demand to create new satellite earth station infrastructure. The LEO satellite being large in number – would require a greater number of Earth Stations to be built for tapping the satellite bandwidth in the remote and far flung areas.

Historically, satellite communication involved geosynchronous (GEO) spacecraft–large systems that have become increasingly capable over the years. But now non-geo-synchronous-orbit (NsGSO) communications constellations, including LEO and medium-Earth-orbit (MEO) satellites, are taking to the skies, and their number could soon soar. It is estimated that about 50,000 active satellites will orbit overhead within 10 years.[8] The new LEO-satellite concepts, which orbit 500 to 2,000 km from Earth, offer faster communications (they have lower latency) and often provide higher bandwidth per user than GEO satellites do–even more than cable, copper, and pre-5G fixed wireless. Communication occurs through a constellation of LEO satellites; global coverage requires many spacecrafts.

3.2 Strengthening the core

Fiber play

Deployment of 4G and 5G networks needs a fiber backhaul. There is also a broad consensus that 5G will need massively increased densification of urban areas resulting in the heightened requirements for fiber deployment. Telcos' ambition of increasing FTTH/B penetration for residences, buildings and enterprise customers would boost the demand for fiber.

Key government programs such as BharatNet and Smart Cities will also add to the demand of fiber deployment, necessitating 100% tower fiberization. India's Prime Minister has laid out the vision in August 2020, to connect every village in the country with optical fiber cable (OFC) in 1,000 days. To achieve this vision, the cables would have to be laid at nearly 3.6 times the current speed, up from the existing average of 350 km a day to over 1,251 km a day. The towercos will have a significant role to play in realising this vision, and they possess the skill sets and experience to expedite India's fiber growth story.

8 "Low Earth orbit: Why the next big innovation battleground is out of this world," The National News, 25 August 2020.

Opportunity for towercos

Fiberizing backhaul

Traditionally, the backhaul network of telcos was dominated by microwave, which accounted for 75-80% of the network. With introduction of 4G, microwave-based backhaul is becoming less relevant. Further, as industry is prepared to launch 5G, fiberizing backhaul will be important.

Backhauling small cells

The deployment of small cells will require more fiberized backhaul. Small cells are a more attractive option than macro cells as they render cost savings of about 40% in site rentals, energy costs, etc. Small cell cost efficiencies are primarily dependent on the availability of fiber backhaul.

Tower fiberization

While the current capacity per tower site is about 1 Gbps (for 2G/3G/4G services), once 5G kicks in the capacity needed for each site will increase to 10-20 Gbps. This also needs a fundamental change in the technology deployed at these tower sites. 5G would necessitate 100% tower fiberization.

Growing FTTx opportunity

Besides office and residential space, increasing fiber requirements from malls, airports, hotels, hospitals, universities, metro stations, government buildings and dense markets

Last mile connectivity provider

One stop solution for all last mile requirements addressing challenges like RoW, deployment issues and site access.

Source: EY analysis*, DIPA

33% Current tower fiberization in India

70% Target tower fiberization in India by 2024

INR520-595b Investment required in India for incremental tower fiberization

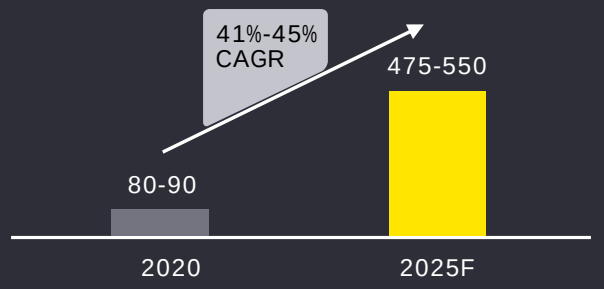
Source: EY analysis*

Network densification through small cells, indoor and outdoor Distributed Antenna System (DAS)

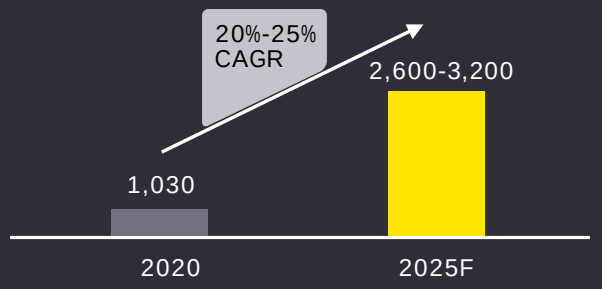
Bandwidth intensive applications will demand network densification and deployment of indoor as well as outdoor small cells. This presents a huge opportunity for towercos owing to their expertise in RoW and shared infrastructure. Globally, towercos have already added small cells to their inventory of site topologies – mostly functioning as site acquirers, with the small cells owned by telcos.

Approximately, 80% of data traffic originates or terminates inside the building due to which in-building solutions (IBS) are gaining traction. The introduction of 5G services and proliferation of IoT services is further expected to increase the demand for IBS.

Outdoor Small Cells deployments in India
In '000



IBS-DAS market in India
In m sq. ft.



Source: EY analysis*

Opportunity for towercos

Small cell sites – Towercos can acquire and own their small cells and offer fiberized sites to telcos.

IBS provider – Towercos can enter into a contract with building owners to get access to the location and build neutral host IBS infrastructure which can cater to multiple telcos.

Case study – US towerco generating substantial revenue by scaling small cells

The towerco has deployed approximately 70,000 small cells. It brings in a bigger opportunity for them to acquire and own their small cells and offer fiberized small cell sites to telcos. Towercos have been deploying shareable smalls cells in the US making it easier for multi-tenancy. Small cells have helped them reach unique locations as they are significantly smaller than wireless infrastructure. Small cells have been installed for indoor, outdoor and mixed-use areas. In most cities and towns, small cells are discreetly installed on existing structures like streetlights and utility poles.

Source: Internet articles, Company financial results

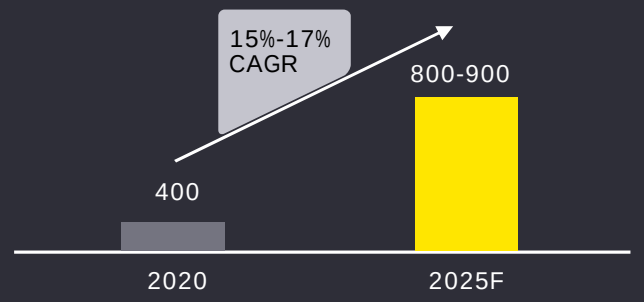
Public Wi-Fi

The NDCP-2018 envisaged to deploy 10 million Wi-Fi hotspots by 2022. However, lack of monetization models has hindered the growth of public Wi-Fi in India.

Opportunity for towercos

Towercos can provide shared infra supporting multiple telcos, providing a profitable business model for all stakeholders. They can choose a host of business models – providing Wi-Fi equipment and O&M to clients or becoming a neutral host public Wi-Fi provider..

Public Wi-Fi market in India
In '000



Source: EY analysis*

3.3 Exploring adjacencies

Smart cities

Digital infrastructure forms the backbone of the smart city initiative, and IP-Is are well positioned to create and maintain this infrastructure. Smart City Mission launched in 2015 aims to build 100 Smart Cities which involves setting up of huge ICT infrastructure. Towercos experience of priority RoW for installing Smart Poles and fiber needs to be leveraged. Under the public private partnership (PPP) model, towercos can build the communications infrastructure for the city, and in lieu use the RoW and site rights for mounting their own infrastructure for revenue generation.

Edge computing

Low latency and high throughput applications such as AR/VR, robotics, remote surgery has necessitated the need for edge computing. It enables data processing/computing at distributed locations near the network edge rather than centralized hub at distant location.

Opportunity for towercos: Tower sites are well suited for co-location of micro data centers. Towercos are increasingly installing micro data centers at the base of their facilities. Installing micro/ edge data centers in dense urban clutters support latency-sensitive applications and power high speed computing. Towercos can provide server space to content providers, cloud providers, and telcos.
In addition, it will lead to faster deployment times (can be shipped fully/partially assembled) and enhance scalability. There is opportunity for new build site without tower as well as upgrade of existing infra in macro site

5-6%
Of total tower base is the market opportunity for Multi-access edge computing (MEC)

9-10K
Potential MEC sites in India by 2025

Case study – Global towerco is maximizing operational efficiency with edge data centers

The towerco has established edge data centers in six locations across the US, which cover roughly 360 square-foot facilities with more than 20 customer cabinets at each location. These data centers provide secure access with two-factor authentication, man trap doors and interior and exterior cameras. They are installed at base of the cell towers, real estate and enterprise campuses. This has helped in leveraging relation with cloud players and telcos that want to utilize mini data centers for low-latency edge compute services making their networks more distributed. Edge data centers are used to deliver power distribution, monitoring, security, and cooling in an all-in-one edge solution. The company has introduced a 'Data Center Channel Partner' program to expand market reach for colocation and carrier-neutral data centers.

Source: Internet articles, Company financial results

EV charging

In line with global interest, India is actively considering Electricity Vehicles (EV) to reduce dependency on oil imports and reduce pollution. Towercos are well-suited to provide EV charging infrastructure on their existing distributed site locations.

2030 EV vehicle sales target as % of total

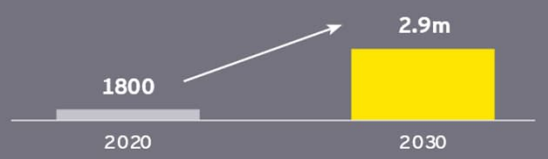
70% Commercial cars

30% Private cars

80% Two/ Three wheeler

100m EV sales are expected in India by 2030

2030 EV public charging points target



US$2.9b Expected investment in setting-up charging infrastructure in India by 2030

Source: Internet articles

EV charging opportunity for towercos

- Centralized cloud network for monitoring operations and performance of towers and charging infrastructure
- Charging infra services of unutilized energy assets (solar, battery)
- Charging infra services to unelectrified areas

- Provide charging infra services of unutilized energy assets (solar points, battery, energy storage systems) – primary opportunity of providing charging infra for 2/3 wheelers requiring 3.3 KW of power supply
- If larger site is available, then four wheelers can also be charged

- Collaborate with light weight EV charger companies for 2/3 wheeler chargers – mounted on the tower itself
- No separate real estate required

Source: EY analysis*

IoT

The IoT ecosystem is expected to grow at a rapid pace with the advent of 5G. This presents a unique opportunity for towercos to position themselves as infrastructure providers for the IoT ecosystem. Towercos can strengthen capabilities to widen their area of play in the IoT value-chain. From deployment and maintenance of sensors, to entering the application and hardware value-chain, towercos can explore multiple business directions, based on capability and skill set enhancement.

Field Maintenance (L1)

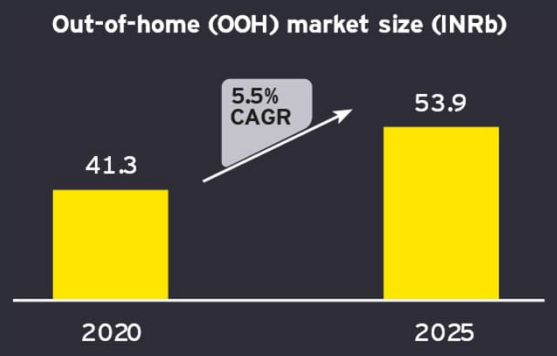
Outsourcing L1 support to towercos is beneficial to telcos through cost saving on repeated site visits and management of various network elements.

Power-as-a-service

IP-I players have expertise in managing and optimizing costs in different topographies, climate and grid power availability scenarios. Therefore, IP-I are in compelling position as energy/power management solution provider and providing power-as-a-service.

Advertisement on site structure

Tower sites are well-suited to leverage their distributed locations at highways or densely populated areas to co-locate billboards for advertising.



DooH as % of total OOH market

5%-7%

Over next 2-3 years

Source: EY analysis*

OOH opportunity for towercos

- Leasing distributed sites for advertising through static billboards, digital screens, and interactive screens
  - Requires local municipality clearances and approvals
- Future forward - leverage interactivity for shopping and kiosks
- Utilize towers in rural areas for digital education/ social messaging, partner with Govt.

Source: EY analysis*

Providing space for warehousing and dark stores

Towercos can leverage their existing land assets with reliable power supply, security and air-conditioning to provide space for warehouses in rural areas and dark stores in cities.

Opportunity for towercos

Rural warehousing facilities

- Ecommerce majors are creating Rural Distribution Models to tap into the market
- Quality warehousing facilities in rural India to create a new revenue stream

Dark stores in cities

- Helping to create the necessary infrastructure (e.g., site acquisition, negotiation with landlords, procurement of digi sets)
- Create a shared backend infrastructure

Source: EY analysis*

4 Building the Digital InfraCo: considerations for a connected India

Digital infrastructure is foundational to India's digital economy and its future competitiveness, with significant value to realize over next 3-5 year. Favorable regulations and policies are the catalyst for infrastructure development.

Pressing issues and policy growth levers

Issue	Consideration

Active infrastructure sharing through IP-Is

- Under the existing registration, IP-Is are permitted to provide only dark fiber, RoW, duct space and towers to telecom licensees.
- NDCP-2018, approved by Union Cabinet and Gazette Notified in Oct'2018 envisages enhancement of scope of IP-I [Clause No. 1.1(f)]: "Encourage and facilitate sharing of active infrastructure by enhancing the scope of IP-I and promoting and incentivizing deployment of common sharable, passive as well as active, infrastructure"
- On several occasions, Telecom Regulator has also been recommending for Enhancement of IP-I scope to include active elements such as Antenna, Feeder Cable, Base Station, Transmission System, RAN, Small Cells, IBS, Edge Data centers etc.
- TRAI recommendations are as follows:
  - Scope of IP-I registration should be expanded
  - All eligible service providers should be allowed to obtain infrastructure from IP-I
  - Scope should include, but not limited to, RoW, duct space, OFC, tower, feeder cable, Antenna, Base Station, IBS, DAS etc.
  - IP-I scope shall not include core network elements such as switch, MSC, HLR, IN etc.
  - IP-I will not be eligible to apply for and assignment of licensed spectrum
- A neutral host like IP-I, not only provides the required network infrastructure in a cost-efficient manner, but also enables faster time-to-market, besides attracting additional investments.

Pending for implementation by Government/ DoT

Policy for use of street furniture (electric poles etc.) for small cells

- Rollout of new technologies like 5G, IoT, AR, VR etc. will require further densification of telecom infrastructure/ network throughout the country. As such, enabling policy framework facilitating deployment of 5G related infrastructure will be required.
- Some of such provisions catering to the evolving requirements are:
  - Installation of IBS, small cells, poles, cell-on-wheel, aerial cable, street furniture etc.
  - Timelines for clearance need to be revised to 15 days from 60 days
  - Ceiling on rental for telecom infra on government properties
  - Policy for laying of Common ducts
  - Standardization of digging methodologies and aerial cabling
  - Adequate panel provisions to ensure safety and security of telecom infrastructure

Require amendment to Indian Telegraph RoW Rules Nov'2016 for incorporating all these provisions

Legal enforcement of Indian Telegraph RoW Rules Nov'2016 on Central Ministries/ Departments, State/ Local authorities

- Indian Telegraph RoW Rules 2016 were gazette notified by DoT, Govt. of India on 15-Nov-2016 with the aim of streamlining the process of RoW permissions, after a detailed consultation process with all States/UTs.
- RoW Rules Nov'2016 derive their powers from Indian Telegraph Act 1885. Based on RoW Rules Nov'2016, the States/UTs were required to implement these rules in letter and spirit.
- After five years from the date of notification of the RoW Rules Nov'2016, only 31 States/UTs have notified their telecom infrastructure policies. Even they are not in complete alignment and still requires certain amendments to align. Further, various district/ local bodies in various States are also not abiding by the RoW policies as notified in respective States and are following their own bye-laws/ circulars overriding/ignoring the State RoW policies aligned with the RoW rules, 2016.
- Other Central Ministries/ Departments like Ministry of Road Transport and Highways (MORTH), National Highway Authority of India (NHAI), Ministry of Environment and Forests (MoEF), Ministry of Railways, Ministry of Defense, Ministry of Civil Aviation, Department of Post, etc. have not yet adopted these Rules by citing their own departmental rules.

Need to enforce mechanism for Indian Telegraph RoW Rules Nov' 2016 on Central Ministries/ Depts and State/ Local Authorities

Availability of input tax credit (CENVAT Credit) to IP-I

- The input tax credit on telecom towers is currently not available as telecom towers are not included in the definition of "Plant and Machinery" under section 17(5)(d) of CGST Act, 2017
- Under the GST regime, inputs credit should be available for all the procurements including Telecom Towers.
- The revised definition would pave the way for availing of input tax credit on telecom towers and would provide the much-needed relief to the IP-Is and the telecom infrastructure sector

Amendment of definition of plant and machinery is required

Rationalization of property tax across States

- To meet the demand for telecom services which are critical in nature, it needs to be upgraded and new infrastructure has to be created. This requires infusion of huge capital. However, IP-Is have to bear exorbitant taxes/ duties in the States, which hampers the ability/ reduces their capacity to invest for upgradation of telecom infrastructure.
- There are no comprehensive property taxation guidelines, and it is the responsibility of the local bodies/ municipal corporation to calculate the tax based on their assessment of the property. Thus, levy of property tax on telecom towers varies in rates/ amount depending on whether it is levied by the state governments, municipal corporations or the municipalities.
- The municipal bodies while charging property tax levy a total of nine components – including general tax, street tax, conservancy tax, water supply benefit tax, conservancy benefit tax, education tax, tree tax, State Government education cess (non-res) and State Government employment cess. Components such as street tax, conservancy tax, water supply benefit tax, tree tax, should not be applicable to mobile towers as no civic amenities, water are being utilized by or provided to the telecom towers. Further, mobile towers fall under the category of essential public utility service enabling connectivity to the public at large. The telecom infrastructure has been recognized as lifeline installation and critical infrastructure and further have been accorded infrastructure status by the Government of India.

Property tax rates need to be rationalized and made uniform across all States. Implementing a fixed rate allows faster deployment of telecom towers by removing regulatory uncertainties caused due to the varying property tax structure in States.

Availability of power on 24*7 basis at Industrial Tariff

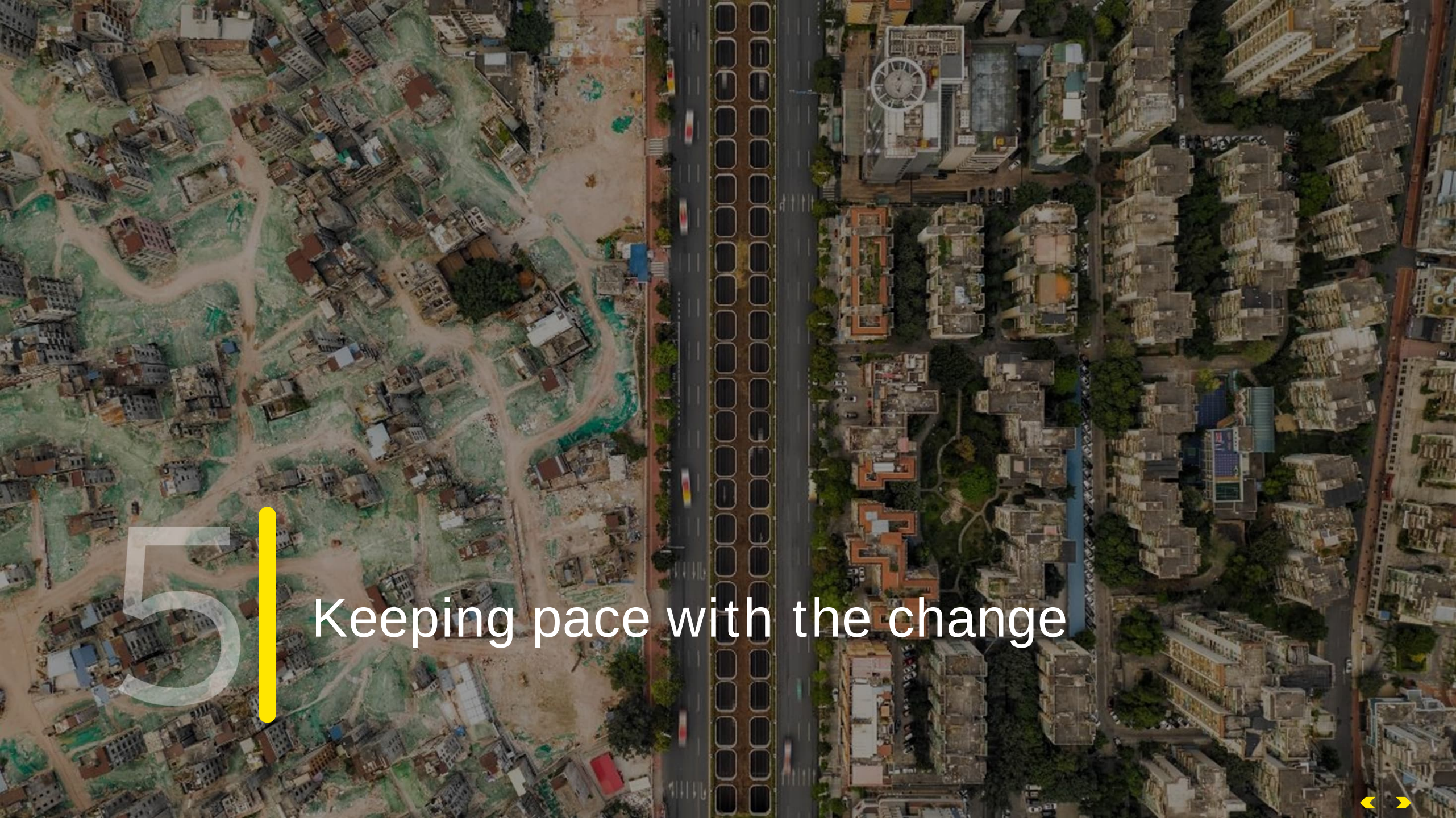
- Telecom sector is the most critical sector as it enables connectivity among humans, industries, device and machines. Various services for public use, emergency services and services of national security are reliant on telecom services 24*7.
- The telecom service providers and IP-Is have to maintain a network uptime of 99.95%.
- To ensure seamless services, DG sets and Li- ion batteries are deployed as power back up; on which large costs must be incurred.
- Non availability of uninterrupted and quality electricity supply for the telecom towers hinders network operations significantly.
- The high cost is incurred for electrification of the sites from the main grid specially in border areas states and North-eastern States. States needs to give subsidy and share this cost for laying of the electric lines.

Need for electricity connections to telecom tower sites on priority at affordable industrial tariff instead of commercial rates

Availability of Government lands and buildings

- It is essential to allow installation of telecom towers on Government lands and buildings as it will help the industry to provide services in the critical business districts wherein availability of land is often a challenge due to exorbitant rental charges.
- There is a need for a uniform policy at pan India level to lay down procedures and processes including the rental charges for deploying telecom infrastructure on Government lands and buildings.

A provision for telecom ducts and in-building solutions should be mandated in Central/ State Government lands and buildings/ new establishments etc.



5 Keeping pace with the change

Tower and Infrastructure Providers Association (TAIPA) was founded in 2010 as an industry body representing the telecom infrastructure providers. The Association has been the voice of the industry and has earned a distinct reputation for itself amongst various stakeholders both at the State as well at the Central Government level. TAIPA is a well-recognised brand not only in India but internationally too.

TAIPA has worked in the public policy domain and has many firsts to its credit such as revision of sustainable telecommunication policy and codification of telecom infrastructure policies both at the central as well at State level. The Association has played a vital role in promoting the concept of Infrastructure sharing in the telecom sector at a global level as well.

The Digital India vision and NDCP 2018

To strengthen the Digital India program, the Government notified National Digital Communications Policy (NDCP) 2018 which envisages India's transition to a digitally empowered economy and society, through the establishment of ubiquitous, resilient, and affordable digital communication infrastructure and services. The policy impacts a number of stakeholders viz. the Center, the States, local governments and agencies and the private sector stakeholders including IP-Is.

It is estimated that India can create up to US$1t of economic value from the digital economy in 2025, with half of the opportunity originating in new digital ecosystems that can spring up in diverse sectors of the economy.

Some of the path-breaking initiatives enshrined in NDCP-2018 to achieve its goals include:

- The enhancement of Scope of IP-I to promote and incentivize active sharing of resources
- 70% Fiberization of telecom towers by 2022
- Establishment of a National Digital Grid by creating a National Fiber Authority
- Establishing common service ducts and utility corridors in all new city and highway road projects
- Creating a collaborative institutional mechanism among Center, states and local bodies, recognizing communication systems as critical infrastructure etc.

Repositioning TAIPA to DIPA

In view of the future business environment, it is expedient to broaden the horizon and perspective of the Association to capture the opportunities of the digital India as the apex body representing the interests of digital infrastructure providers as the members would enter the digital arena to capture the emerging opportunities.

Repositioning of "Brand TAIPA" to "DIPA" (Digital Infrastructure Providers Association) is important to reflect the increased Technology and Digital Infrastructure based focus of the Government and also because of the following reasons:

- Saturation and slowdown of installation of new tower and impact due to mergers and consolidations of opcos and towercos
- Change in the market dynamics, structures and fundamental business models focusing more on deployment of small/micro cells, IBS, Wi-Fi in place of large/macro structures
- Telecom infrastructure is no longer restricted to tower but also to cater to meet the technology needs for furnishing of digital infrastructure and IoT, 5G, AI, VR, cloud/ edge computing
- Evolving opportunities in emerging areas such as data center, battery charging infra, smart cities
- Enhancement of scope of IP-Is

Expanded scope of DIPA

- Indian tower companies are well positioned to expand their infrastructure portfolio and tap into adjacencies. The adoption to new revenue streams by the IP-Is coupled with convergence and interdependence of various digital infrastructure streams along with an increased reliance of renewable energy would offer the association the need for venturing into enhanced scope with widened horizon of activities and opportunities.
- As the economy grows, low hanging revenue opportunities can come from capitalizing the real estate rights with the infrastructure providers – opening growth avenues in advertisements, EV infrastructure, security solutions and traffic control among others. By focusing on the right mix of competencies and business opportunities, the tower industry can drive the next infrastructure revolution.
- IP-Is have played a critical role in the deployment of 4G services. Further, the imminent launch of next gen 5G technology, AR/VR, IoT are set to redefine the communications landscape in the country, and IP-I will have a much more central role to play in the next decade of growth.

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About DIPA

Digital Infrastructure Providers Association (Erstwhile Tower and Infrastructure Providers Association) was constituted in 2010 as an industry representative body registered under the Indian Society Registration Act, 1860.

Digital Infrastructure Providers Association (DIPA) represents the India's digital infrastructure industry that develop, build, own and operate the nation's wireless infrastructure. From infrastructure providers and equipment manufacturers to EV charging infrastructure and fiber deployers, we bring together a dynamic group of companies that enable consumers to lead a 21st Century connected life.

The association is dedicated to interact, discuss and deliberate with Indian Government Ministries, Policy Makers, Regulators, Financial institutions, and technical bodies etc. for the knowledge collection & dissemination for promotion of healthy growth in telecom services.

Since its inception in the year 2010, DIPA has become one of the key drivers for innovation and digital revolution in the Indian telecom ecosystem. We are well recognized locally and globally as the model association wherein the most complex issues of the industry are resolved through consensus-building, driving the business interests of our members forward. Taking up the common interests of the members and enabling their ease of doing business is one of the key objectives of DIPA.