



# Powering Digital India through ease of doing business

**Telecommunications**

May 2016

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# Foreword – Ministry of Communications & IT

The achievements of the Government in the last two years have been phenomenal. The government is catering to all sections of the society, be it pro-poor schemes like Pradhan Mantri Jan Dhan Yojana, which is the World's largest financial inclusion programme, Mudra Bank, Housing for all, or pro-youth as My Gov online, Make in India, Digital India, or pro-development as Smart City Program, National Urban Development Mission, Skill Development etc.

Digital India is a transformational programme, which has been launched in a mission mode, to bridge the digital divide between the haves and have-nots. Government, through its Bharat Net initiative, is creating a digital architecture for delivery of services to common man.

For business, Digital India is a \$1 trillion business opportunity, combining the requirements of the telecoms, IT/ITeS and electronics manufacturing sectors. The Government is building a robust broadband infrastructure for digital delivery of services, including e-education and e-health, with the rapid rollout of a countrywide optical fibre cable network that will connect all gram panchayats or village blocks.

I am happy to note that ASSOCHAM is organizing the 9<sup>th</sup> Telecom India Summit on 20<sup>th</sup> May with the theme “facilitating digital growth and ease of business” which could be a game changer way forward to achieve the objectives of Digital India. I wish the event a great success.



**Ravi Shankar Prasad**

Union Minister,  
Ministry of Communications & IT,  
Government of India

# Foreword – Telecom Regulatory Authority of India

Telecommunications is the backbone of 'Digital India'. With mobile subscriber base having crossed the billion mark, the next big opportunity is to accelerate this power in the hands of the masses to boost the country's GDP.

The Government of India launched the 'Digital India' initiative with the vision to transform India into a digitally empowered society and knowledge economy.

Digital India's main goal is to build holistic capabilities across Information and Communication Technology (ICT) infrastructure, software delivery platforms and enhance IT skill sets and job creation.

The high level of penetration of mobile phones, accompanied by the availability of cheaper smartphones, has provided tremendous opportunities for using mobile devices for public service delivery. Mobiles could be leveraged as instruments of digital identity by linking them with the Aadhaar platform.

Seamless connectivity is the essence of true digitisation.

I convey my best wishes for the success of the ASSOCHAM 9th Telecom India Workshop.



**R.S. Sharma**

IAS,

Chairman

Telecom Regulatory Authority of India

# Foreword – Department of Telecommunications

I am very happy to participate in the forthcoming ASSOCHAM 9th Telecom India Summit with the active participation of the industry associations. I am happy to note that ASSOCHAM is also celebrating World Telecom Day and the theme this year is, 'ICT entrepreneurship for social impact'.

I consider the theme 'Digital Growth and Ease of Business' to be very topical and will act as an enabler to realise the vision of 'Make in India' and 'Digital India'.

The Department of Telecommunications has launched various schemes under the 'Digital India' initiative including 'BharatNet' with the main objective of providing 100 Mbps broadband connectivity to all the Gram Panchayats, B2B services in a non-discriminatory manner and to be a catalyst for increasing broadband penetration in rural areas so as to foster socio-economic development.

I am happy to note that government officials concerned with the subject along with industry leaders are also participating in the workshop which shall accelerate implementation of the objectives and pave the way for further growth of the telecom industry in the country.

This is a great platform enabled by ASSOCHAM that is aimed at creating an opportunity for industry and the government to work in collaboration for harvesting digital dividends.

I wish this initiative all the success.



**J.S. Deepak**

IAS,

Secretary

Ministry of Communications & IT

Department of Telecommunications

Government of India

# Foreword – ASSOCHAM

## Digital appetite and digital investment

The 'Internet of Things' (IoT) is changing the way we live and the way we communicate. Communication with other people and with machines evolving through Applications or otherwise creates a huge digital appetite. India having the largest youth population (as per the UN Report in November 2014, with 356 million 10-24 year-olds, India has the world's largest youth population), adds to the need for enormous digital platforms. To add to this, the government's initiatives such as 'Digital India', 'Skill India', 'Start-up India Stand-up India', and 'Smart City' help create opportunities, necessitating the need for robust digital infrastructure, accessible digital services and building digital capabilities.

## Living the 'Digital India' dream - 1.2 billion connected Indians can drive digital growth and innovation

India is well positioned for the digital transformation.

India has crossed the mark of one billion mobile phone connections and under the leadership of present government we have achieved one billion plus AADHAAR cards and 400 million plus Internet users. The digital profile of India is changing and there is a need to serve this appetite with accelerated approach and ease of access.

This report shares how simple steps, supporting the good work of the government can accelerate digital growth. Simplifying the journey till the last level of execution will translate the ambitious policy decisions into meaningful outcomes.

Telecom service providers, infrastructure providers, telecom equipment manufacturers and the handset manufacturers, are the four pillars of the industry enabling connectivity to a billion and a quarter Indian citizens. Over the next decade we will see even more innovation in each of these sectors.

Besides the opportunity provided by M2M and IoT, India is set to add almost half a billion new connections over the next five years. Through this report we share what has been the journey so far, and identify areas that offer potential to simplify the processes for faster implementation matching the pace of innovation.

We hope to spark further action both within the Industry and the various stakeholders from the government for a collaborative approach, enabling ease of doing business. We are confident that with the leadership in government, we will overcome some of the hurdles highlighted in the report to help actualise the digital dream of our Indian citizen.



**P. Balaji**

Chairman,  
ASSOCHAM

National Council on Telecommunications &  
Director-Regulatory, External Affairs & CSR,  
Vodafone India

# Foreword – ASSOCHAM

ASSOCHAM also known as the country's knowledge chamber has always been in forefront for promotion of new technologies for the benefit of the industry yet remaining technology neutral.

ASSOCHAM is committed to move forward with such rapid changes in technology and its uses, consistent with our goal of 'Making inclusive transformation happen.' ASSOCHAM firmly believes that digital inclusion could take the path of high growth to all the sections of the society and it is the mobile that will empower the common man in the hinterland and far flung areas in the country.

I am also pleased to inform you that ASSOCHAM along with KPMG has brought out a comprehensive compendium of studies in this direction based on the feedback of various stakeholders.

I would like to acknowledge the efforts made by ASSOCHAM and KPMG in India's team in making this report more meaningful.



**D. S. RAWAT**

Secretary General,  
ASSOCHAM



// Rebuilding the dialogue process between the government and industry is the need of the hour to make 'Digital India' a success. Spectrum must be made affordable for the telecom operators in order to make internet accessible to the masses. In this regard, I am happy that ASSOCHAM has taken the lead in bringing together the various stakeholders for a constructive discussion through the 9th Telecom India Summit. //



**Sunil Kanoria**  
President  
ASSOCHAM

# Industry associations

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## **Cellular Operators Association of India (COAI):**

COAI was constituted in 1995 as a registered, non-governmental society. COAI's vision is to establish India as the global leader of innovative mobile communications infrastructure, products and services and achieving a national teledensity of 100%, including broadband. The association is also dedicated to the advancement of modern communication and towards delivering the benefits of innovative and affordable mobile communication services to the people of India.

## **Association of Unified Telecom Service Providers of India (AUSPI):**

Constituted in 1997, AUSPI is a registered society that works as a non-profit organisation with the aim of delivering improved access to, coverage of and teledensity in India. It is the representative industry body of unified access service licensees providing CDMA and GSM mobile, fixed line and value-added services across the country.

## **Towers and Infrastructure Providers Association (TAIPA):**

TAIPA is the body of infrastructure providers who service telecom operators. It plays an active role in deliberations with ministries, policy-makers, regulators, financial institutions and technical bodies for promotion and growth of telecom infrastructure and telecom services.

## **Indian Cellular Association (ICA):**

ICA is the apex body of the mobile industry and includes brand-owners, technology providers, manufacturers, national distributors, applications, and solution and VAS providers. It was constituted to provide value and services to India's mobile cellular handset industry by fuelling its growth and improving its competitiveness by helping to create a legal and ethical market, and regulatory environment. This is expected to result in the benefits of mobile connectivity being extended to the masses.





# Prominent contributors to this document



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Director General, TAIPA

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Executive Vice President, Corporate Affairs & Public Policy, Vodafone India

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Executive Director, Telecommunications, KPMG in India

# Context

Indian telecom sector has undergone significant transformation over the last two decades to become the second largest telecommunication market in the world. The sector is strategically important to the country since it contributes approximately 6.1 per cent to Indian GDP, provides nearly 4.2 million job opportunities and is among the highest contributors to FDI in India.<sup>1</sup> Government of India recognises telecom as one of the key sectors for modernisation and upliftment of the economy.

To enable the Indian telecom sector play a leadership role in an increasingly knowledge intensive global scenario, Government of India has undertaken multiple initiatives. Among them, 'Digital India', 'Make in India' and 'Skill India' initiatives are considered of an immense importance to propel the growth and expansion of the telecom sector to eventually help India soar to new heights. However, to unravel the true potential of the Indian telecom sector, certain challenges and concerns of industry players need to be addressed.

Additionally, various stakeholders and policy architects need to work cohesively and arrive at pertinent resolutions in the best interest of the telecom sector. With this objective, Ministry of Communications and Information Technology and ASSOCHAM along with industry players from across the telecom value chain are organising a conclave which is believed to help all the stakeholders to understand each other's viewpoint, enhance cooperation and develop synergies.

This publication highlights the key challenges faced by telecom service providers, telecom equipment manufacturers, telecom infrastructure providers and handset manufactures. The report also attempts to cover sector's expectations from the government to drive the growth and create a conducive environment for telecom sector.

1. GSMA 2015 Report

# Major achievements of the telecom industry



**Lowest voice rates** in the world



Among the highest FDI contributors in the last decade



Contributes directly to **22 lakh jobs** and indirectly to **20 lakh jobs**



Significant increase in investment in equipment in FY16; this higher level of Capex is likely to continue in FY17

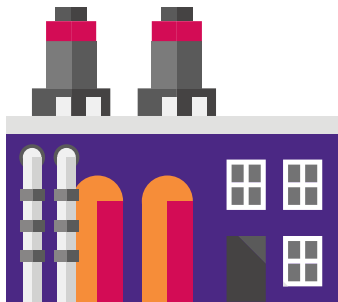
Over **5,00,000** villages covered



Investment has grown by **~220%** in last **4 years**



Number of sites put up in last **15 months** (2 lakh) nearly equals the number put up in last 20 years



Second largest private sector investment in infrastructure – **INR800,000 crore**, despite RoI < 1%



Among the highest contributors to economy, nearly **INR70,000 crore per annum**



Contributes **6.1%** to India's GDP

Massive network launches and coverage expansion in India

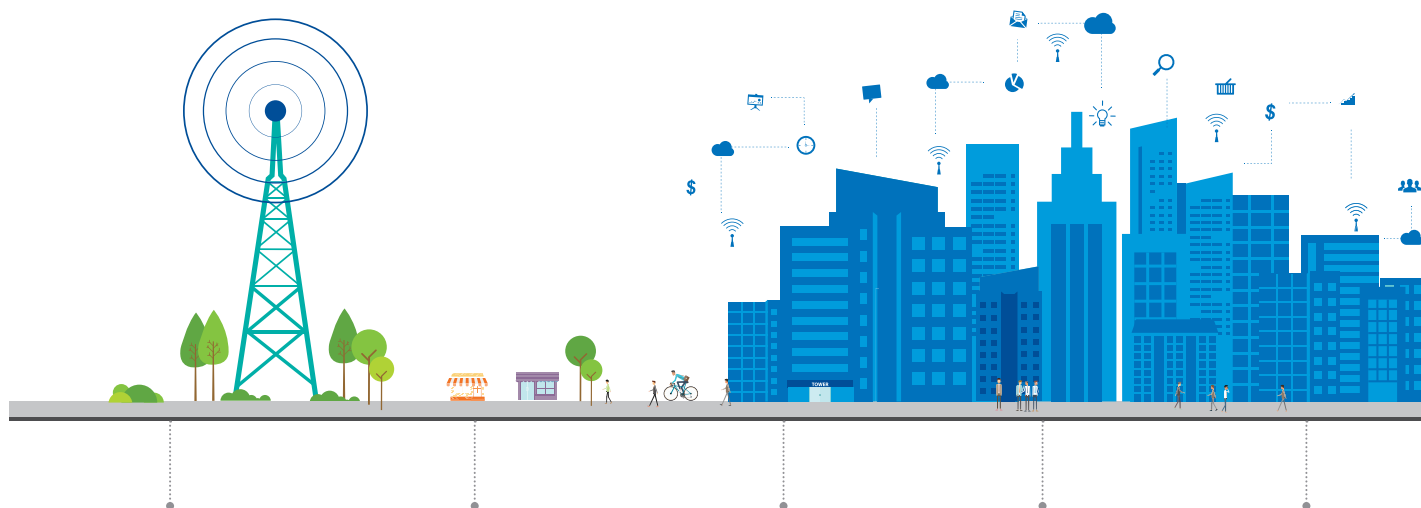
- 1 new site set-up, operational every **3 minutes** in the last 15 months



Top 3 operators invested over **INR225,000 crore** in infrastructure during last 5 years

# Executive summary

## Telecom service providers



Driving further clarity in definition of Adjusted Gross Revenue (AGR) will help the industry in speedy resolution of AGR related disputes.

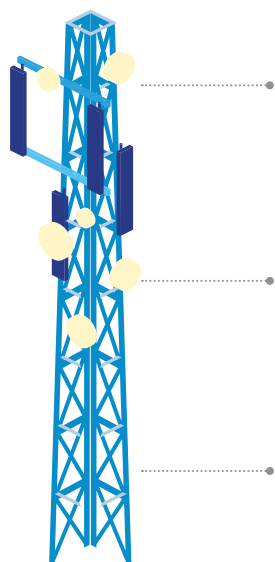
Faster finalisation and adoption of ROW rules of DoT after necessary amendments and its applicability in all states & UTs.

Paperless solution for SACFA and EMF clearances to facilitate ease of business.

Structure of levies on telecom service providers may be considered for rationalisation as multiple charges are currently levied.

Lawful interception clearance procedures may be considered to be replaced by self-certification regime to enable quicker launch of service offerings.

## Infrastructure providers



Although, DoT has issued specific guidelines around location restrictions and documentary requirements, these need to be adopted by all states to smoothen tower set-up process.

The government has conferred infrastructure status to the tower industry, which puts it at par with other infrastructure segments. However, benefits available to infrastructure sectors, such as expedited electricity connections along with preferential tariffs and tax holidays under section 80IA, should be extended to telecom infrastructure companies.

Different fee structures being levied by states and local bodies need to be revisited and aligned with DoT guidelines and forth coming rules which stipulate that only a one time tower fee may be levied.

# Telecom equipment manufacturers

- Preferential Market Access (PMA) policy may be revisited to create a level playing field for global and domestic equipment manufacturers in the country.
- Procedural simplification in establishment of repair hubs, Anti Dumping Duty (ADD) payments and further smoothening of customs clearance process.



- Customs duty on import of equipment and for manufacturers in SEZ's need to be revisited to rationalise the cost of business.
- Continue with self-certification process for testing of telecom equipment, till rollout of 3rd Generation Partnership Project (3GPP) testing standards.
- Consider releasing E-band spectrum in India with licence conditions as proposed by TRAI.

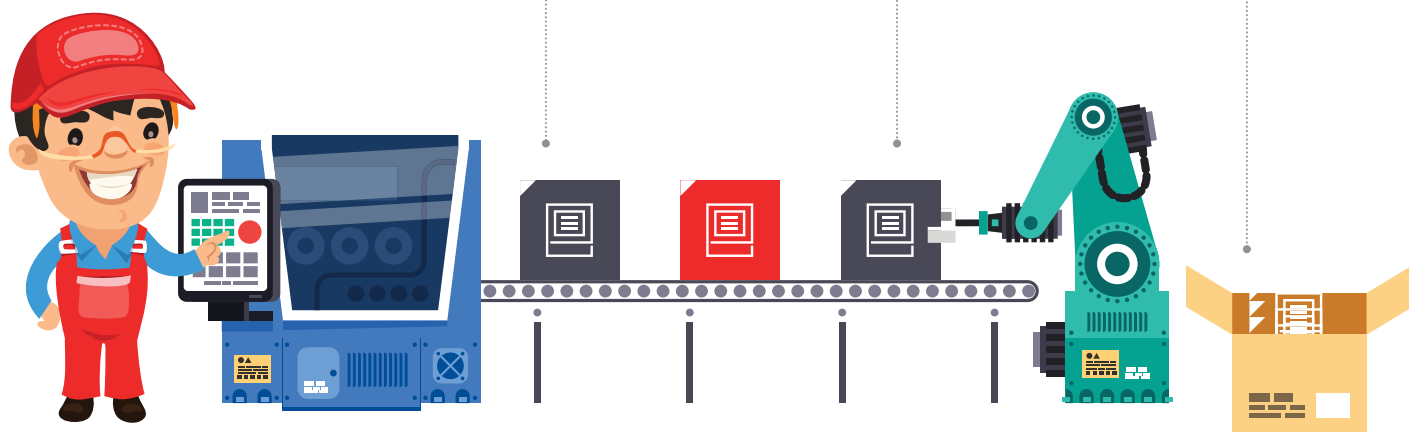
# Mobile handset manufacturers

Enhance ease of doing business through procedural simplifications in registration under CRS order and obtaining Equipment Type Approval (ETA).

Industry is looking forward to certain reforms in statutory levies like VAT, excise and NCCD to compensate against the rising input costs and maintain global competitiveness.

Considering that the unorganised sector in India handles majority of the e-waste, collection targets should be implemented in a phased manner.

Handset imports should be considered to be rotated out from the National Calamity Contingency Duty (NCCD) list, as this is a rotational levy which has been applicable on handset imports since 2008.



# Sector overview

The telecom sector in India is at an inflexion point, where it is poised not only to ride a high growth trajectory, but also to provide a strong impetus to the government's key development initiatives. In turn, key policy changes by the government and the regulators have provided a supportive environment for the growth of the industry. While demand growth is expected to remain steady on the back of affordable smartphones, digital inclusion programs and 4G roll-outs, high capital requirements and an extremely competitive scenario continue to affect the profitability of key players.

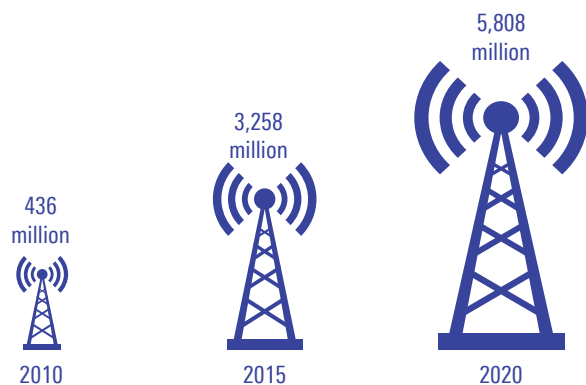
The major industry segments in the telecom ecosphere include Telecom Service Providers (TSPs), infrastructure providers (i.e. tower companies), equipment manufacturers and handset manufacturers. To power this next phase of growth and to ensure that the industry achieves its true potential, it would be important for different sections of the industry to collaborate and work towards the common objectives. Another important factor in determining the path that the industry charts will be the regulatory environment, as key players look forward to further steps being taken for ease of business as well as towards the overall health of the industry.

## Key themes and growth drivers

### Growth wave propelled by smartphone penetration

India is a huge market for smartphones, contributing 7.6 per cent<sup>01</sup> of the global mobile smart phone subscription. With the advent of affordable smartphones (INR3,000 – INR10,000) designed for the Indian user from indigenous manufacturers, as well as increasingly low-cost data connectivity options, more people are shifting to smartphones and mobile Internet<sup>02</sup>. Out of a total handset sale of 30 crore units in FY15, smartphones contributed 11.40 crore units, i.e., 38 per cent. This contribution is projected to grow to above 50 per cent by 2020<sup>03</sup>. Boost in smartphone penetration is expected to cater to m-enablement of a variety of services such as mobile banking, e-commerce, mobile health, e-agriculture and services to small and medium scale businesses.

### Global smartphone connections



Source: GSMA Mobile Economy 2016, GSMA, 2016

### Advent of 4G is a game changer for all industry segments

This year is expected to see commercial launch of 4G services on a large scale by multiple service providers. It is estimated that the advent of 4G will enable the service providers to unleash a host of data-based services over the next five years. By 2020, 4G connections are expected to account for about 17 per cent of India's total user base<sup>04</sup>. This is expected to significantly transform the revenue mix of service providers with estimated Long Term Evolution (LTE) revenues expected to reach INR79,580 crore<sup>05</sup>. The demand for high speed internet services shall receive a further push from key governmental initiatives, such as 'Digital India' and 'Smart Cities.' Mobile networks have been identified as key tools for financial inclusion where 4G can facilitate implementation of government's social sector schemes in a faster and more secure way. As a result, data traffic in India is expected to grow rapidly.

Handset manufacturers are already catering to the growing audience of current and future 4G users. The next two years are expected to see a large number of 4G handsets entering the market, across price ranges. Indian handset manufacturers are best suited to leverage on the largely untapped rural 4G market by introducing offerings in lower price ranges. Increased investments in 4G infrastructure can also lead to substantial demand generation for telecom equipment manufacturers as well as for infrastructure providers.



Telecom provides connectivity that fosters inclusion, drives empowerment and enables transformation. The near ubiquitous reach of the mobile makes it the best tool to deliver development to the very last mile through 'Digital India' and a 'mobile first' approach. The Hon'ble Minister has personally led efforts to allay unfounded fears about harmful effects of radiation, facilitate network infrastructure rollout and optimize usage of precious spectrum by allowing its sharing and trading, harmonization and by putting all available spectrum in the basket for the auction. At Vodafone, we remain committed to provide our customers the SuperNet experience by judiciously using multiple technologies to service their evolving needs.

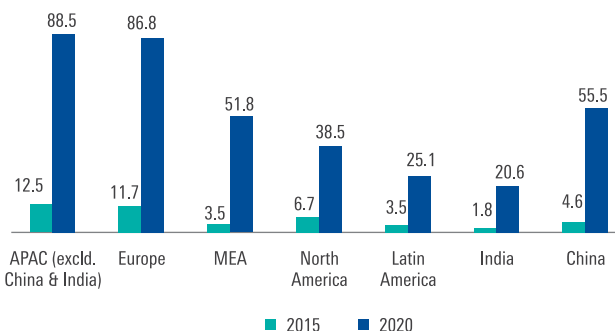
**- Sunil Sood**  
MD & CEO  
Vodafone India

1. Worldwide Smartphone Market Will See the First Single-Digit Growth Year on Record dated, 3 December 2015; IDC; <http://www.idc.com/getdoc.jsp?containerId=prUS40664915>; accessed on 11 May 2016  
2. India: The meteoric rise of smartphones India: The meteoric rise of smartphones, Unitus Seed Fund Website, 31 March 2014  
3. The Mobile Economy India 2015; GSMA; accessed on 15 May 2016

4. Fast-growing India forecast to have 1.4B mobile connections in 2020, <http://www.mobileworldlive.com/asia/asia-news/fast-growing-india-forecast-1-4b-mobile-connections-2020/>, accessed 15 May 2016  
5. India may witness 4G boom by 2017, <http://www.cxotoday.com/story/india-may-witness-4g-boom-by-2017/>, accessed 15 May 2016



## Global mobile data traffic (in Exabyte) - Projections 2020

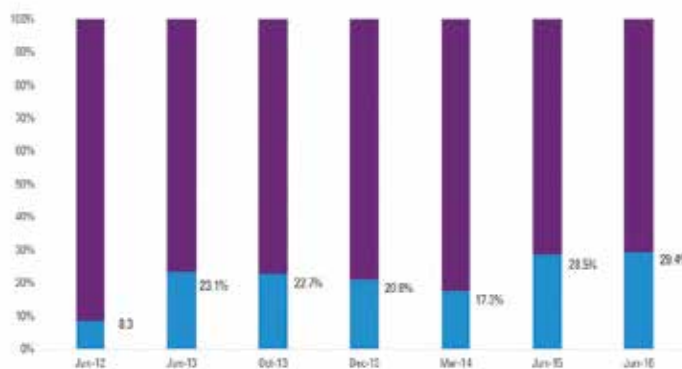


Source: Cisco Visual Networking Index

### Expanding reach in rural India

With the urban penetration levels reaching saturation, the industry is looking at rural India for continued growth. As of February 2016, teledensity in urban areas was 153.93 vis-à-vis 50.76 for rural India<sup>06</sup>. Rural mobile phone subscriptions are already on the upswing. Nearly 38 per cent of rural population used mobile phones as of May 2015, up from 22 per cent in 2010<sup>07</sup>. The government's focus on digital inclusion, exemplified through the 'Digital India' initiative and the focus on rural connectivity through the 'BharatNet' initiative is expected to further push telecom growth in rural areas. Another key contributor to this growth is the decreasing price of feature phones as well as smartphones. The industry expects to leverage on the rural demand and assist the government in realising the digital dream.

### Share of rural internet users to total internet users



Source: Mobile Internet Users In India 2016: 371 Mn by June, 76% Growth In 2015, IAMAI, Feb 2016

## Domestic handset companies competing with the world

The mobile industry in India has scaled dramatically over recent years to become one of the biggest success stories. The growth of Indian handset manufacturing companies has been nothing less than miraculous over the last five years. India manufactured 11 crore mobile phones worth INR54,000 crore in FY16, showing a year-on-year growth of 83 per cent and 186 per cent, in volume and value terms, respectively<sup>08</sup>. With the ability to provide feature rich yet affordable handsets, domestic manufacturers' share of the handset market is slated to grow further. This will be further enhanced by the increased penetration of telecom services in rural India.

### Changes in regulatory environment enabling ease of business

The government has taken a number of steps towards facilitating ease of business, across various sectors. As a result, India's position in the World Bank Group's ranking in ease of doing business has improved by 12 positions, as per the 'Doing Business 2016' report<sup>09</sup>. The telecom sector has also gone through key changes in this respect. Investment opportunities have grown manifold since 100 per cent FDI through automatic route was allowed in 2013. Spectrum reforms in 2015 have also helped in more efficient spectrum usage, while also helping cash strapped service providers to de-leverage.

### Push towards renewable energy

Several measures including key subsidies for mobile phone towers running on renewable energy sources, have been announced. Tower companies have already started on this course by exploring a number of renewable energy solutions, such as battery-hybrid, lithium-ion and solar hybrid solutions. The energy consumption for these towers is estimated to be as less as upto a fourth of conventional towers<sup>10</sup>. Another key factor in reducing the carbon footprint is availability of electricity in rural and remote areas, so that dependence on diesel gensets may be reduced. The rural electrification program of the government is expected to provide a further push.

In conclusion, the telecom industry is looking at a phase of sustained growth, banking on the general upward trend in the economy and improving industry fundamentals.



The Telecommunication Industry is committed to realize the government vision of Digital India. A quick resolution on issues, that will facilitate ease of doing business will accelerate the same. We are confident that the government which has set a fast pace of policy and execution will support this endeavour.

**- P. Balaji**  
**Chairman, ASSOCHAM National Council on Telecommunications & Director-Regulatory, External Affairs & CSR, Vodafone India.**

6. Highlights of Telecom Subscription Data as on 31st January, 2016 issued by TRAI on 23rd March, 2016 vide Press release No. 22/2016  
 7. How smartphones are penetrating deeper in rural India, The Rural Marketing Journal, 25 May 2015  
 8. Make In India: Mobile Phone Manufacturing Reaches Rs 54,000 Crore dated 8 April 2016, Tele Analysis; <http://www.teleanalysis.com/analysis/make-in-india-mobile-phone-manufacturing-grows-186-percent-21633>.

html; accessed on 11 May 2016  
 9. Doing Business 2016 - Measuring Regulatory Quality and Efficiency, 13th edition; World Bank; accessed on 10 May 2016  
 10. Industry discussion, KPMG in India's analysis

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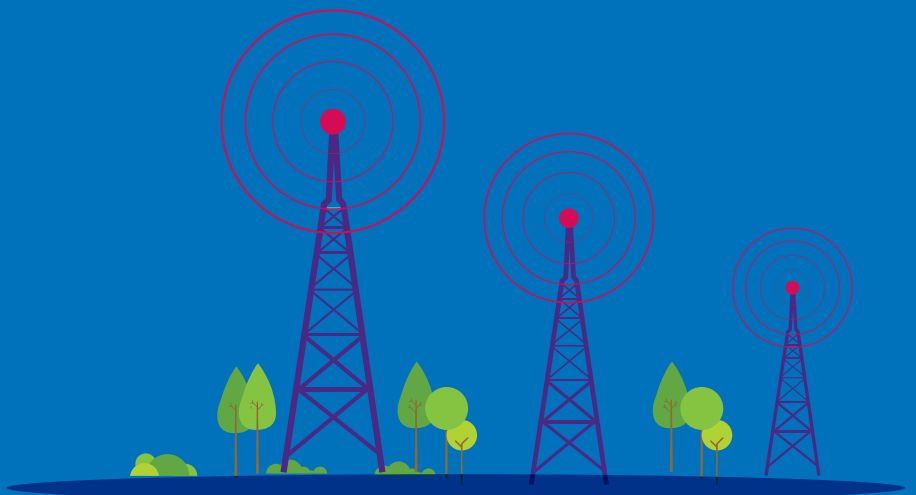
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Conclusion



# Telecom service providers





# Empowering through connectivity

In recent years, telecom has been one of the key enablers for both rural and urban development. Growth of Indian telecom sector has been one of the most remarkable journeys, which is idolised by other sectors in India. Investments in high-speed data networks are set to transform businesses as well as the social sector.

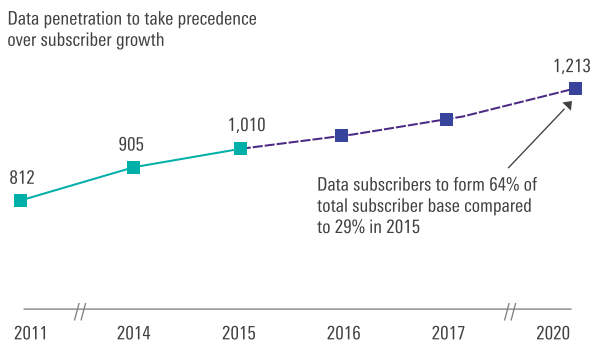
Telecom service providers together grossed INR177,500 crore revenue in 2014-2015, which is up from INR146,700 Crore in 2012-13<sup>01</sup>.

India is the second largest mobile market with over a billion subscribers at the end of Feb 2016, with 608.4 million urban subscribers and 443.5 million rural subscribers<sup>02,03</sup>. There is a

huge potential to grow in the rural sector where tele-density is still quite low at 50.76 as compared to urban tele-density at 153.93.<sup>03</sup> While the mobile subscriber base is still growing by under one per cent on a monthly basis, the number of landlines is gradually decreasing. Overall telecom density increased to 82.9 per cent by the end of Feb'16.<sup>03</sup>

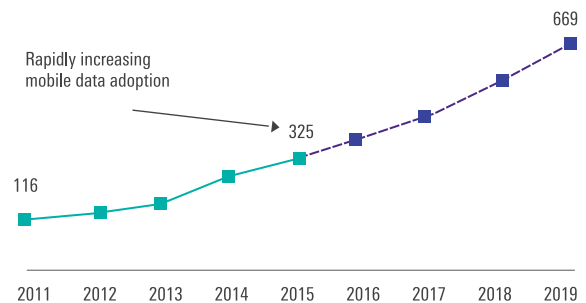
Moreover, the Government of India has recently drawn a road map to develop 100 smart cities in the country to which the telecom service providers are set to form the backbone and will be vital to their sustainability.

## Mobile subscribers (millions)



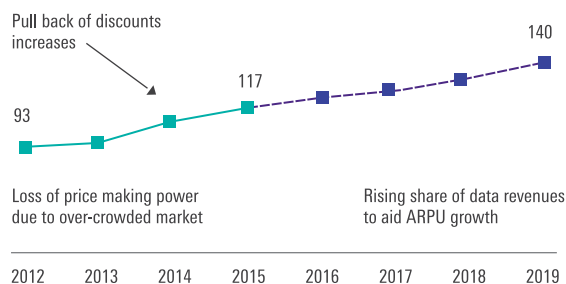
Source: Subscription data December 2015; TRAI; 2016 Telecom services analyst presentation 2015; CRISIL Research

## Internet subscribers (millions)



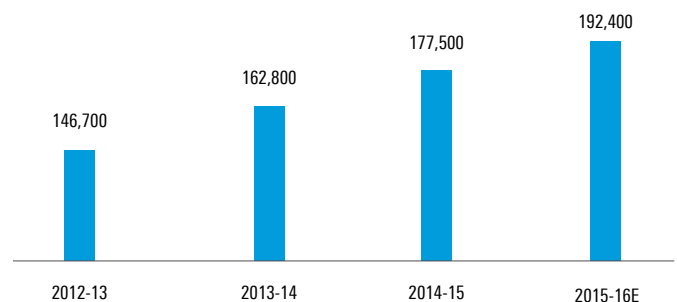
Source: Subscription data December 2015; TRAI; 2016 Telecom services analyst presentation 2015; CRISIL Research

## Blended average revenue per user (INR)



Source: Performance Indicators Report September 2015; TRAI; 2016 Telecom services analyst presentation 2016; CRISIL Research

## Revenues from communication services (INR crore)



Source: TRAI reports 2012,2013,2014,2015 Telecom services analyst presentation 2016; CRISIL Research

1. CRISIL Research Analyst Presentation Telecom Services dated May 2016; CRISIL Research; accessed on 14 May 2016.  
 2. The Mobile Economy India 2015; GSMA; accessed on 15 May 2016.  
 3. Telecom Subscription Data as on 29th February, Issued by TRAI on 26th April 2016 vide Press release No. 26/2016; accessed on 16 May 2016



The telecom industry needs a resolution for the long pending AGR definition issue and an appellate procedure for redressal. ▲▲

**- Rajan Mathews**  
**Director General**  
**COAI**

As the industry grows further, key regulatory changes are anticipated, in order to effectively support this growth trajectory.

### Ease of doing business

Standardised RoW procedures

Paperless EMF certification process

Single umbrella body for safety assessment

Lawful interception – Self certification regime instead of approvals

Paperless e-KYC

Rationalisation of audits by multiple authorities

### Cost of doing business

Regulatory mechanism to control interference

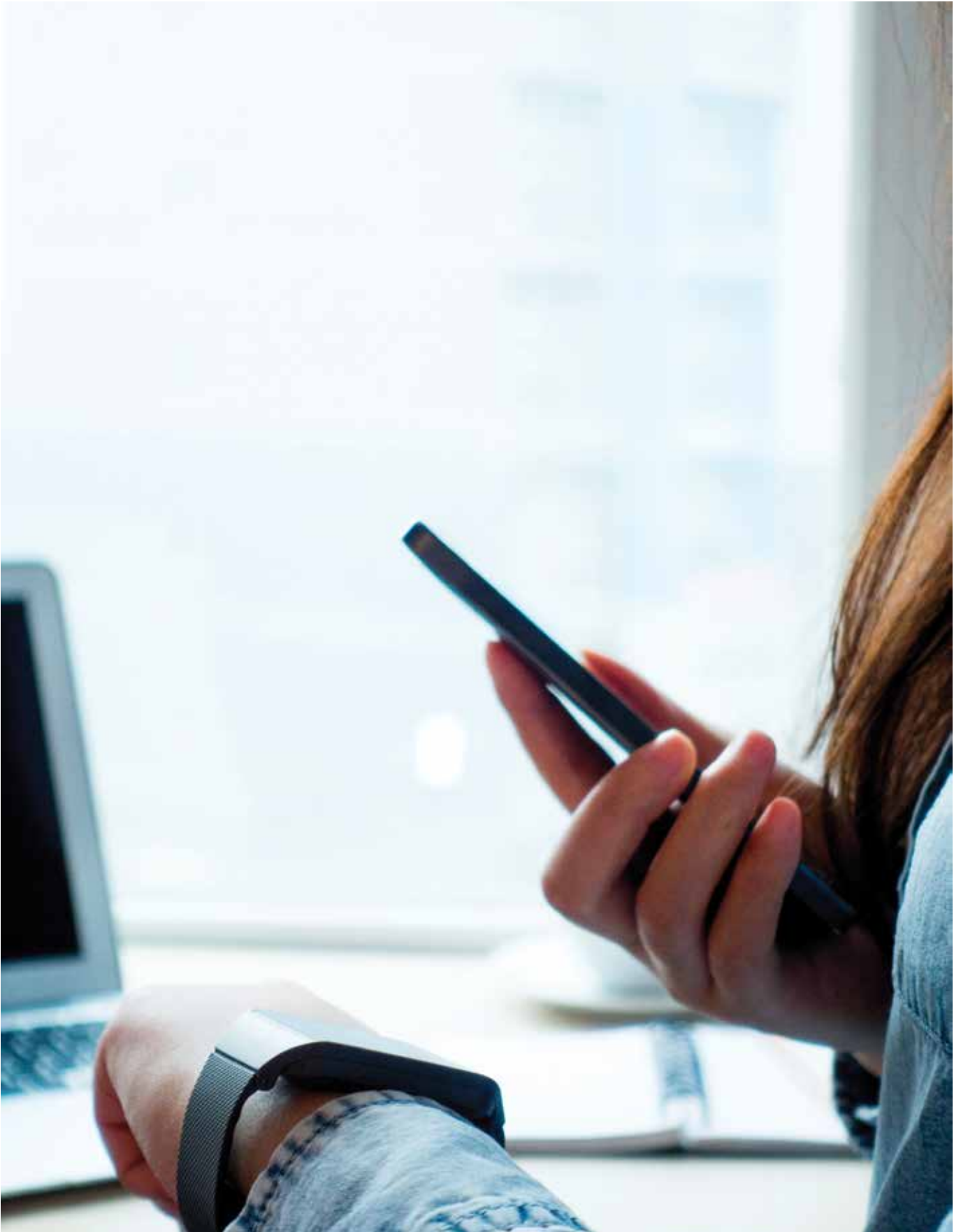
Reduction of overall levies on the sector

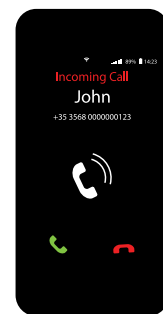
Resolution of AGR definition

Application of 'same service, same rule' paradigm

Rationalisation of EMF penalties







# Current market landscape and key challenges

## Right of Way Policy (ROW)

The government has set ambitious digital inclusion targets. The 'BharatNet' initiative aims to connect 2.5 lakh Gram Panchayats with High Speed Broadband (HSBB) by 2020. Also, mobile connectivity to 42,300 villages is targeted to be provided by 2018.<sup>04</sup> The industry is also making efforts to support the government realise the digital inclusion objectives.



However, getting timely permissions from local authorities for deploying infrastructure continues to be a challenge facing TSPs as well as tower companies. Further, in the absence of a uniform national policy, there are variations in the way policies are being implemented by various states.

The National Telecom Policy 2012 (NTP2012), identified the need to review and simplify sectorial policy for Right of Way (ROW) for laying cable network and installation of towers. The proposed amendments in the 'Indian Telegraph Right of Way Rules, 2016' is a step in the right direction.

Post this amendment, telecom service providers will be allowed to set-up towers on government properties. Industry recommends DoT to implement the proposed amendments. This will ensure uniform Right of Way Policy (ROW) rules across the country. The provision of power supply to the sites at industrial rates will also be resolved and uniform installation fees will get implemented. It also ensures simplified lump sum payment options for Right of Way charges and case by case approvals will get implemented.

## Automated WPC/SACFA certification

The Standing Advisory Committee on Radio Frequency Allocations (SACFA) is a high level committee, within the Wireless Planning and Co-ordination (WPC) wing of the DoT. SACFA provides necessary clearances for installation of telecom towers.

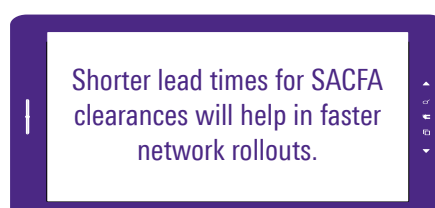
SACFA clearances are issued after getting a 'no objection' from various SACFA members who have to carry out detailed technical evaluation including review of aviation hazards, obstruction to line of site of existing/planned networks and electromagnetic issues.

Currently, the SACFA and WPC clearance is partially automated. It involves 4 distinct parts:\*

- Online registration as a user with the WPC/SACFA website
- Online application for SACFA clearance
- Application for frequency allocation
- Submission of hard copies of the application with supporting documents (Map of CRS location, Demand Draft for processing fee, copy of Letter of Intent, covering letter for submission)

While the online registration and application process is a welcome step towards easing business conditions, further automation by moving towards a totally paperless certification process will help shorten the approval lead times and also reduce the documentation effort involved. It is noteworthy that in 2012, around 1.7 lakh site clearances were processed and the supporting documentation for each application typically runs into at least 10-20 pages.<sup>05</sup>

Shorter lead times can also help in faster network roll-outs, thus helping in maintenance of quality of service and enhanced telecom coverage in the country, in addition to shortening the capex cycle for the telecom service providers and tower companies.



4. Digital India Programme, Digital India; <http://www.digitalindia.gov.in/content/programme-pillars>; accessed on 14 May 2016

5. Minutes of meeting held on 27.12.2012 to discuss SACFA and various other WPC Wing related issues vide document no. K-16011/01/2012-CFA; [www.wpc.dot.gov.in/Docfiles/Sacfa\\_meetingd.doc](http://www.wpc.dot.gov.in/Docfiles/Sacfa_meetingd.doc); accessed on 14 May 2016

\*SACFA Siting Procedure, DoT Website ([wpc.dot.gov.in](http://wpc.dot.gov.in))

## Paperless Electro Magnetic Frequency (EMF) certification

Telecom service providers are required to comply with electromagnetic radiation norms, as notified by the DoT from time to time. The service providers report compliance of radiation limits/levels through self - certification of their sites to the respective Telecom Enforcement Resource & Monitoring (TERM) units once in every two years. TERM cells also carry out compliance monitoring audits on radiation levels on random basis for 10 per cent of towers.<sup>06</sup>

The telecom service providers are required to maintain extensive manual documentation to comply with the EMF requirements. Each site requires 10 to 20 pages of documentation like field surveys, compliance to structural requirements, site capacity in terms of RF carriers, antennas distribution, etc. As per industry estimates of 2013, approximately INR23 crore were levied as penalties by the DoT, related to violation of radiation level norms. About 64 per cent of EMF related penalties are estimated to be a

result of document related issues.<sup>07</sup>

The industry recommends that the government explores paperless solution to maintain EMF compliance status.

Industry under the aegis of Telecommunication Engineering Center (TEC) and DoT has developed a web portal (Tarang Sanchar) for implementation of online certification for EMR of BTS towers. The project is at a pre-commissioning stage.

Once the portal goes live, the need for paper based certification should no more be required and all the relevant information will be available online.

## Lawful interception clearances

Lawful interception is a security process in which a telecom service provider or network operator collects and provides law enforcement officials with intercepted communications of private individuals or organisations. There are two major laws that deal with digital and telephonic surveillance respectively, The Information Technology Act, 2000 (the 'IT Act') and the Indian Telegraph Act, 1885.

As per the license agreement and subsequent directives issued by the DoT, telecom service providers are required to

provide 35 days advance intimation and seek prior approval with respect to the presence of requisite monitoring facilities for lawful interception before the launch of any service. These approvals from DoT are required for all new services and new technologies being introduced. In many of these instances, the infrastructure for lawful interception remains the same and hence the approvals may be revisited.

**Lengthy approval procedures for lawful interception clearances may lead to delays in launch of services.**

The approval procedures, as they stand currently, result in a lengthy procedure leading to delays in launch of services. Further, there is a possibility that competitive products may be launched in the market, during the approval lead time, adversely affecting the industry's inclination towards launch of innovative offerings.

Prior approval with respect to lawful interceptions, may be considered to be replaced by a self-certification regime, wherein the telecom service providers intimate the DoT, for new launches. Compliance may be monitored by DoT through periodic audits.

## Paperless e-KYC

The e-KYC is a significant step towards the vision of a digitally connected and empowered economy. For authentication and on-boarding mobile customers, e-KYC can help enable transparency and contribute towards prevention of frauds. The UIDAI has already issued 97.93 crore Aadhaar numbers across the country and is a key enabler for the e-KYC initiative.<sup>08</sup>

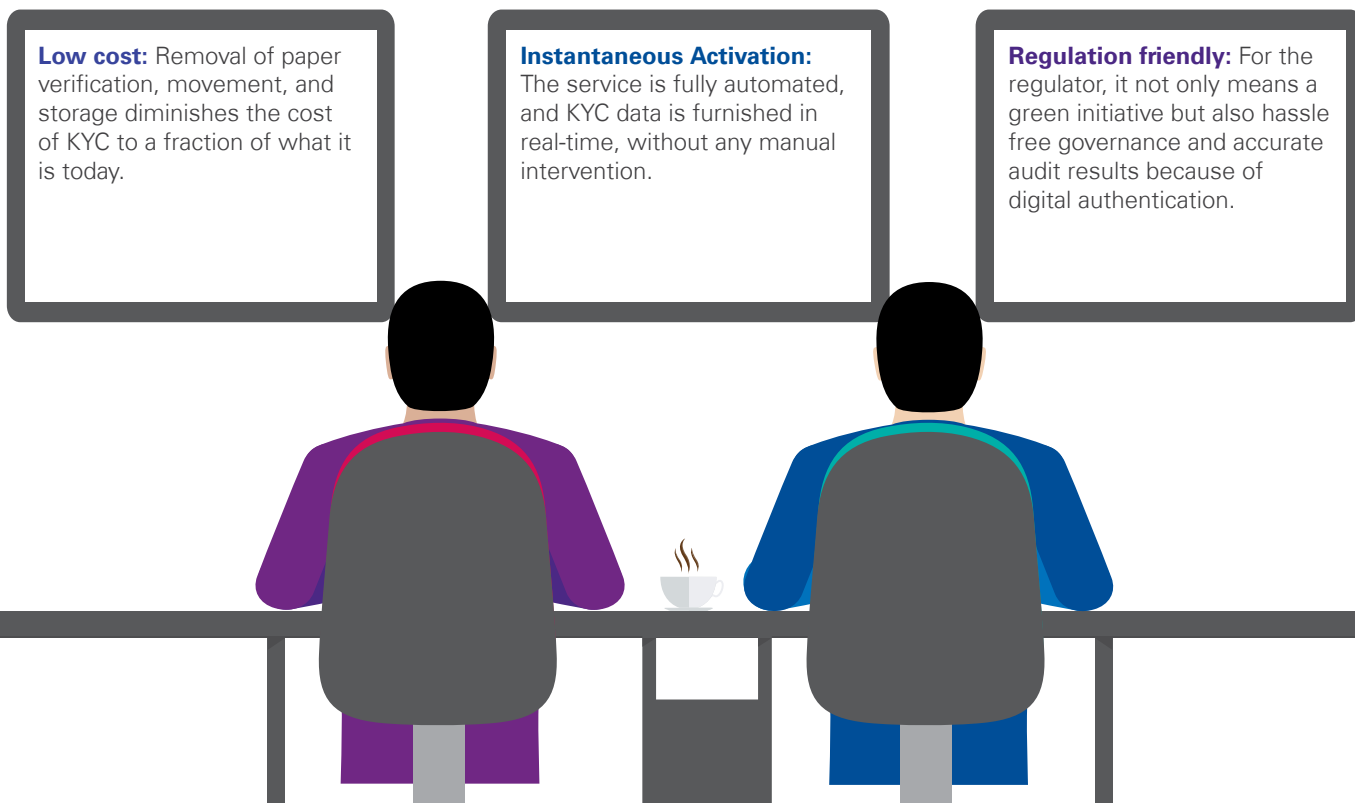
In the year 2014, the first pilot test was conducted in six locations in association with six TSPs as per DoT guidelines. Thereafter, in February 2016, TRAI recommended DoT to allow electronic KYC through Aadhaar as one of the valid documents for getting a new mobile connection, in all telecom circles.

Currently, DoT in consultation with telecom associations, is in process to finalise the guidelines for use of Aadhaar-based e-KYC services for issuing mobile connections to subscribers.

6. DoT Website, <http://dot.gov.in/sites/default/files/exposure%20Limit%20mobile%20towers.pdf>, accessed on 16 May 2016  
7. DoT doubles penalty for radiation rule violation to Rs. 10 Lakh dated 22 November 2013; Economic Times; [http://articles.economictimes.indiatimes.com/2013-11-22/news/44365747\\_1\\_radiation-emission-rs-10-lakh-mobile-towers](http://articles.economictimes.indiatimes.com/2013-11-22/news/44365747_1_radiation-emission-rs-10-lakh-mobile-towers); accessed on 13 May 2016

8. TRAI moots Aadhaar-linked eKYC for new mobile connections dated 24 February 2016, The Indian Express; <http://indianexpress.com/article/technology/tech-news-technology/rai-moots-aadhaar-linked-ekyc-for-new-mobile-connections/#sthash.k56dtlQt.dpuf>; accessed on 12 May 2016

## Potential benefits of using Aadhaar based e-KYC service



**Low cost:** Removal of paper verification, movement, and storage diminishes the cost of KYC to a fraction of what it is today.

**Instantaneous Activation:** The service is fully automated, and KYC data is furnished in real-time, without any manual intervention.

**Regulation friendly:** For the regulator, it not only means a green initiative but also hassle free governance and accurate audit results because of digital authentication.

While the industry has welcomed e-KYC as an enhanced solution where rural/urban population can obtain and activate the connection instantly, the draft guidelines on e-KYC may be further revised to ensure a completely paperless solution, including elimination of paper based receipts. This move can help eliminate the need of printers and other high power equipments and hence enable digital inclusion in rural/remote areas.

### Multiplicity of audits

Today, Telecom Service Providers (TSPs) go through multiple audits which are authorised by different government agencies such as DoT, TRAI, CCI, SEBI and CAG. This multiplicity of audits leads to significant costs for the telecom service providers. While some of these audits happen as part of ensuring compliance around license conditions, sometimes agencies review and audit the same aspects/issues during the same period. This adds to the overall overheads cost for the telecom service providers.

Steps may be taken by the concerned authorities to ensure that multiple agencies do not audit the same issue for the same period and work in a coherent manner to review the various aspects of TSPs including the books of account.

### Resolution of AGR (Adjusted Gross Revenue) definition

The NTP 1999 changed the paradigm for the Indian telecom industry by introducing the revenue share regime in which the telecom service providers were required to pay a percentage of their Adjusted Gross Revenue (AGR) as license fee instead of the erstwhile per subscriber based license fee. This allowed the operators to make telephony more affordable and also significantly enhance their network reach.

Over the years, the government has rationalised the revenue share percentages to give a boost to the telecom sector.

The definition of Gross Revenue (GR) and Adjusted Gross Revenues (AGR) for the computation of License Fee (LF) has been an area of extensive discussion.<sup>9</sup> This is largely due to varied interpretation of GR and AGR and has led to disputes around computation of license fee paid leading to litigation. In a CAG audit of the records of six TSPs (telecom service providers), it was reported that there was an understatement of AGR of INR46,046 crore for the period from 2006-07 to 2009-10 leading to a short/non-payment of INR3,752 crore in license fee.<sup>10</sup>

9. Clause No. 19 of Unified Access Service License Agreement

10. CAG Report, Sharing of Revenue by Private Telecom Service Providers during the years 2006-07 to 2009-10



We are very happy that ASSOCHAM has taken the initiative to bring the government, the regulator and the industry together on an open round-table. It is very timely, and we look forward to some valuable action items emerging from it.

**- Ashok Sud,  
Secretary General,  
AUSPI**

Varied interpretation of GR and AGR  
has led to disputes and litigations  
around computation of license fee.

Some of the key issues relating to AGR definition are as follows:<sup>11</sup>

- Ambiguities in GR/AGR definition
- Double levy exists as deduction for transactions with other licensed TSPs (who are already paying LF on that revenue) is not provided under current definition of AGR
- Currently there is no process for license fee deduction at source which facilitates administrative convenience

To resolve the above issues, following are the expectations of the industry in this regard:<sup>11</sup>

- Clarifications may be released for settlement of interpretation issues in GR/AGR definitions.
- Clarity on deduction should be provided for transactions with other licensed TSPs (who are already paying LF on that Revenue) to ensure that there is no incidence of double levy for the same activity.
- LFDS (License Fees Deducted at Source) mechanism should be adopted as recommended by TRAI.
- Deductions of pass through and roaming should be allowed based on a simplified process.

11. Recommendations on components of Adjusted Gross Revenue (AGR) dated September 13, 2006; TRAI, accessed on 13 May 2016, KPMG in India's Analysis 2016



## Resolution of various levies on TSPs

Simplification and rationalization of tax regime will provide required financial stability to Indian telecom industry.

Telecom sector has constantly been one of the highest contributors to the GDP over the last decade. The sector is expected to contribute 8.2 per cent or INR14 lakh crore to the GDP by 2020.<sup>12</sup> The sector is currently facing huge debts amounting to INR3.8 lakh crore.<sup>13</sup> Further, the Indian telecom sector does not enjoy the liberty of levying high tariffs. Indian telecom tariffs are one of the cheapest in the world. Presently, multiple charges and taxes are levied on the sector in addition to the charges paid by other industries (such as corporate tax, VAT, etc.). For instance, Spectrum Usage Charges (SUC) in India are comparatively higher than other economies.

## Annual charges for spectrum usage

Country	Annual fees
South Africa	0.15% to 0.35% of revenue
Singapore	Slab based – maximum 1%
Bhutan	1% of AGR
Zimbabwe	2% of annual gross turnover
India	3%-8% for spectrum acquired before 2014, 5% for spectrum acquired after 2014

Source: TRAI report on "Recommendations on Definition of Revenue Base (AGR) for the Reckoning of License Fee and Spectrum Usage Charges", 2015

## Telecom service provider taxes

Payment base	Type	Tax rate
Imported network equipment, SIM cards and vouchers	VAT/CST	Varies by state 0% - 15%
	Customs duty	Varies by product
	Entry tax	Varies state
Profits	Corporate tax	34.61%
Services	Service tax	14%
Swachh Bharat cess	Statutory levy	0.5%
Krishi Kalyan cess <sup>^</sup>	Statutory levy	0.5%
Dividends	Dividend distribution tax	20.36%
Regulatory fees	License fee (including USOF)*	8% (including 5% for USOF)
	Spectrum Usage Charge*	3%-8% for spectrum acquired before 2014, 5% after
	Microwave access fee*	0.15%-0.8%

Source: GSMA report on "Digital inclusion and mobile sector taxation in India". December 2015

\* Applicable for Telecom service provider only

<sup>^</sup> Applicable w.e.f. 1st June 2016

Industry expects that there is a rationalisation of multiple levies imposed. TRAI has recommended that license fee should be reduced to 6 per cent and Universal Service Obligation Fund to 3 per cent from current levels of 8 per cent and 5 per cent respectively.<sup>14</sup>

Further, as per a study cited by COAI, reduction in Spectrum Usage Charges (SUC) by 1 per cent can increase GDP by INR1.76 lakh crore.<sup>15</sup>

12. Mobile sector to account for 8.2 per cent of Indian GDP by 2020: GSMA dated 27 November 2015, The Economic Times; [http://articles.economictimes.indiatimes.com/2015-11-27/news/68604661\\_1\\_lakh-crore-subscriber-growth-cent](http://articles.economictimes.indiatimes.com/2015-11-27/news/68604661_1_lakh-crore-subscriber-growth-cent); accessed on 10 May 2016  
13. Telecom tariffs in India lowest in world: Ravi Shankar Prasad dated 11 March 2015, The Economic Times; [http://articles.economictimes.indiatimes.com/2015-03-11/news/60008405\\_1\\_telecom-tariffs-pre-paid-users-ravi-shankar-prasad](http://articles.economictimes.indiatimes.com/2015-03-11/news/60008405_1_telecom-tariffs-pre-paid-users-ravi-shankar-prasad); accessed on 14 May 2016

14. Recommendations on Definition of Revenue Base (AGR) for the Reckoning of License Fee and Spectrum Usage Charges, 6 January 2015; accessed on 14 May 2016

15. Telcos rift wide open on spectrum usage charge dated 7 May 2016; The Hindu Business Line; <http://www.thehindubusinessline.com/info-tech/telcos-rift-wide-open-on-spectrum-usage-charge/article8570285.ece>; accessed on 14 May 2016



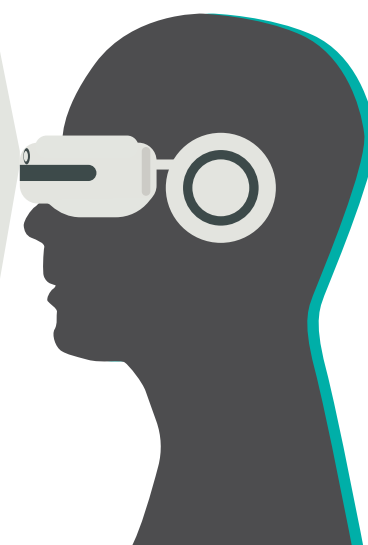
## Smooth transition to GST regime – Some key factors for consideration

Telecommunication industry faces several challenges under the current indirect tax regime. Issues such as levy of taxes on Value Added Services (VAS), classification of services and goods, availment of CENVAT credit on telecom equipment, are few of the issues that have been debated by different sections of industry in various forums.

Lack of clarity around some of these critical issues have raised concerns time and again for the industry. It's a need of the hour for the regulators to introduce reforms which overhaul the prevailing taxation system and pave the way for transition to the much awaited Goods and Service tax (GST).

Given the broad framework of GST, it is expected that even under the proposed GST regime, the telecom service providers may face significant challenges. For the first time, both the Centre and State governments, will have the power to tax services (unlike the current regime where only centre government levies tax on services). The proposed GST law should support the government's overall initiative of ease of doing business in the country and offer a simplified tax regime to telecom service providers. A few aspects that may be considered under the proposed regime, from a telecom service providers' perspective are:

- The GST law should provide clear and comprehensive provisions with respect to coverage of 'telecom services' for providing clarity of levy of taxes on VAS, infrastructure sharing and e-commerce transactions, since these transactions could have different treatment under GST.
- Clear and specific place of supply rules should be notified for telecom services (specifically for pre-paid services, B2B transactions, B2C transactions, mobile wallet, VAS, etc.) This will help to determine the State in which telecom services would be deemed to be provided.
- Simplification of overall tax procedures such as a single unified registration for all the states, sharing of tax revenue from telecom service among central and state government without involvement of operators, etc. may also be addressed under the proposed GST regime.



## Clarity on dual levy of taxes on value added services

Certain value added services such as ring tones etc. are regarded as entertainment under certain states entertainment tax laws and are therefore subject to entertainment tax. Since the service tax is also liable on the revenue generated from rendering such services, therefore there is a dual levy in the form of service tax and entertainment tax. Accordingly, it is recommended that the government should clarify the applicable tax on such value added services.

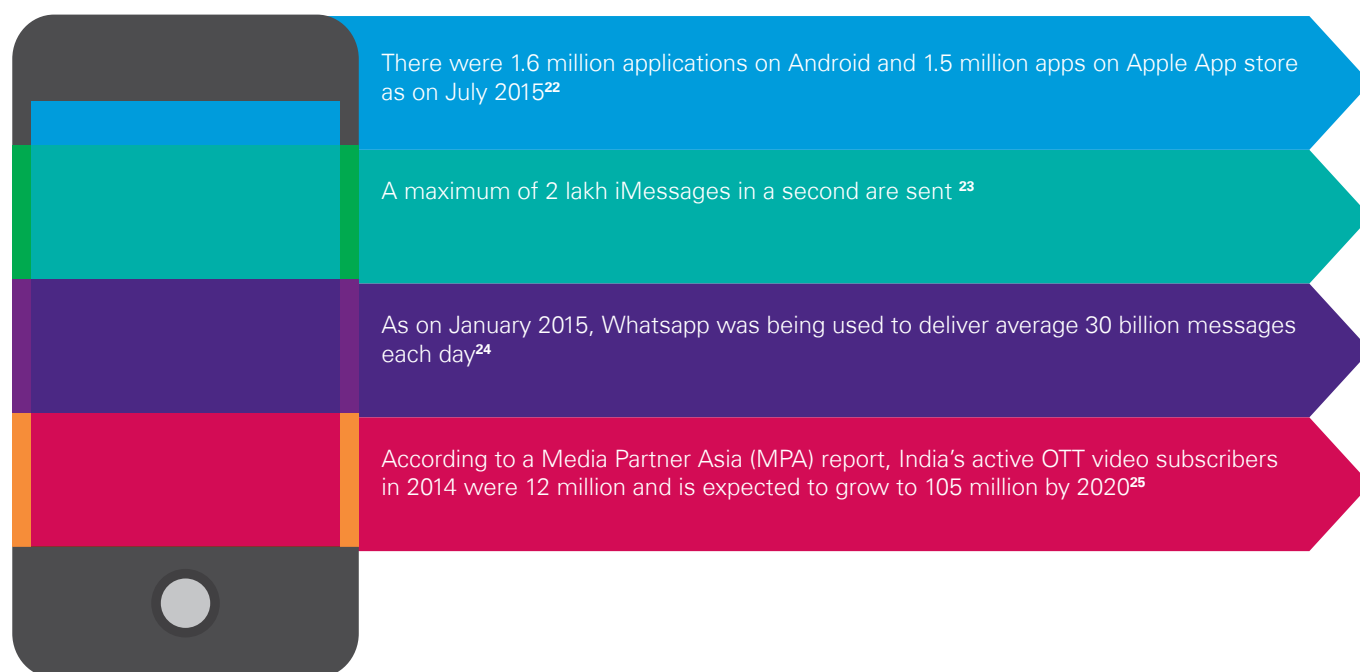
16. CBEC, Clause No. 19 of Unified Access Service License Agreement, KPMG in India's Analysis  
 17. Report Of The Inter-Ministerial Committee On EMF Radiation, DoT Website, 2010, [http://www.dot.gov.in/sites/default/files/1IMC%20Report\\_0.pdf](http://www.dot.gov.in/sites/default/files/1IMC%20Report_0.pdf), accessed on 17 May 2016  
 18. Advisory Guidelines for State Governments For Issue Of Clearance For Installation Of Mobile Towers; DoT; accessed on 14 May  
 19. DoT doubles penalty for radiation rule violation to Rs. 10 Lakh dated 22 November 2013; Economic Times; [http://articles.economictimes.indiatimes.com/2013-11-22/news/44365747\\_1\\_radiation-emission-rs-10-lakh-mobile-towers](http://articles.economictimes.indiatimes.com/2013-11-22/news/44365747_1_radiation-emission-rs-10-lakh-mobile-towers); accessed on 13 May 2016  
 20. DoT may cut penalty on late submission of radiation documents dated 17 September 2013; The Economic Times; [http://articles.economictimes.indiatimes.com/2013-09-17/news/42148821\\_1\\_total-penalty-penalty-structure-submission](http://articles.economictimes.indiatimes.com/2013-09-17/news/42148821_1_total-penalty-penalty-structure-submission); accessed on 13 May 2016

## Same service same rule

Telecom industry, due to its dynamic nature, witnesses continuous changing business and technology environment. In the recent past, India has witnessed a surge in data usage. Mobile data traffic grew by 50 per cent in 2015.<sup>21</sup> Such tremendous growth is associated with mature network, device and content eco-system. In the current environment, Telecom Service Providers (TSPs) and Over-the-Top (OTT) service providers have leveraged on their synergies to work towards fulfilling the 'Digital India' vision.

OTT service providers are playing a significant role in driving data consumption and transforming consumer behaviour. A major contributor to the increased data traffic is the growing customer demand for video which is expected to experience a further boost with the advent of 4G services.

## OTT services play an important role in digital inclusion



21. 85% growth in 3G data consumption in India last year: Report dated 9 March 2016, Business standard; [http://www.business-standard.com/article/companies/85-growth-in-3g-data-consumption-in-india-last-year-report-116030901015\\_1.html](http://www.business-standard.com/article/companies/85-growth-in-3g-data-consumption-in-india-last-year-report-116030901015_1.html); accessed on 12 May 2016

22. Number of apps available in leading app stores as of July 2015, The Statistics Portal; <http://www.statista.com/statistics/276623/number-of-apps-available-in-leading-app-stores/>; accessed on 15 May 2016

23. Business Insider India, 13 March 2016, <http://www.businessinsider.in/Apple-says-people-send-as-many-as-200000-iMessages-per-second/articleshow/50968574.cms>; accessed on 18 May 2016

24. Consultation on Regulatory Framework for Over-the-top (OTT) services / Internet services and Net Neutrality dated 27 March 2015; TRAI; accessed on 11 March 2016

25. Online content demand to rise rapidly with 4G dated 27 March 2016, India Today; <http://indiatoday.intoday.in/story/online-content-demand-to-rise-rapidly-with-4g-deloitte/1/628088.html>; accessed on 12 May 2016

Similar focus has been shown by telecom service providers towards fulfilling the government's mission of digital inclusion and enhancing customer experience by making investments in infrastructure, spectrum, license, interconnection. Additionally, they are governed by a number of legislations, including maintenance of Quality of Service (QoS), security requirements, rollout obligations, tele-marketing norms. Telecom service providers also undergo multiple audits by several authorities.

Thus, both players have a critical role in the growth of telecommunications sector and hence should be considered to have similar licensing and other regulatory requirements. The government should move towards providing a level playing field by treating all communication services providers under the premise of 'Same service same rule'

Governments across the world are already moving towards 'Same service, Same Rule' Premise:<sup>26</sup>

- French Telecom regulator demanded a VoIP telephony player to register itself as a telecom operator.
- VoIP has same regulatory framework as telecom in Germany.
- Taiwan plans to regulate mobile apps by obligating mobile app developers to obtain an operating license from National Communication Commission (NCC) of Taiwan.

## Spectrum interference

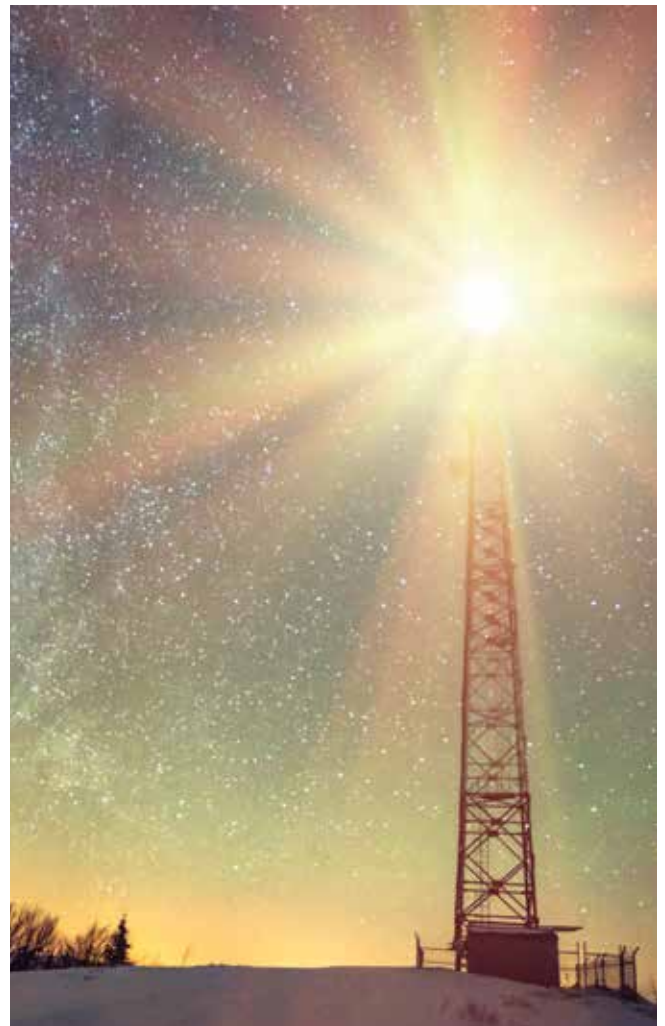
Telecom service providers make huge investments in deployment of networks as well as in acquisition of spectrum. However, electromagnetic interference issues faced result in poor quality of services to the subscribers, customer dissatisfaction, losses to the TSPs and the exchequer at large, in spite of the huge investments made.

Among the major sources of interference are air-waves from nearby international borders and out of band emissions by institutions deploying links in free WiFi band or from illegal repeaters, boosters, jammers.

Non-coordinated use of frequencies is the primary cause of interference from telecom service providers in neighboring countries. Usage of frequencies should be regionally coordinated and globally harmonised to overcome this issue. There is a need to engage actively with the neighboring countries for specific regions where the TSPs are facing interference issues. Alternatively, the DoT should allocate the TSPs with spectrum in alternate frequency bands, wherever such issues cannot be resolved with the neighboring countries.

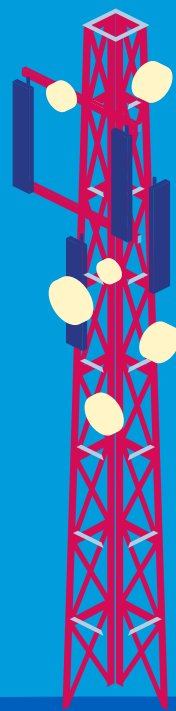
Unsolicited deployment of repeaters, jammers and boosters is also causing incidents of increased interference. Resolution of such incidents by the DoT takes significant time. Further, their action is limited to issuance of notices to the concerned to stop radiations, as their powers are limited in ensuring that the radiation is actually stopped. Due changes in policy and powers are required to enable the DoT to take action for final resolution to the issue.

Regulations around resolving interference issue could also consider relaxing QoS parameters in areas affected by interference, penalty for users using illegal repeaters/jammers or assigning alternate spectrum available with government.



26. Consultation Paper on Regulatory Framework for Over-the-top (OTT) services, TRAI, 27 March 2015

# Telecom infrastructure providers





# Supporting the communications revolution

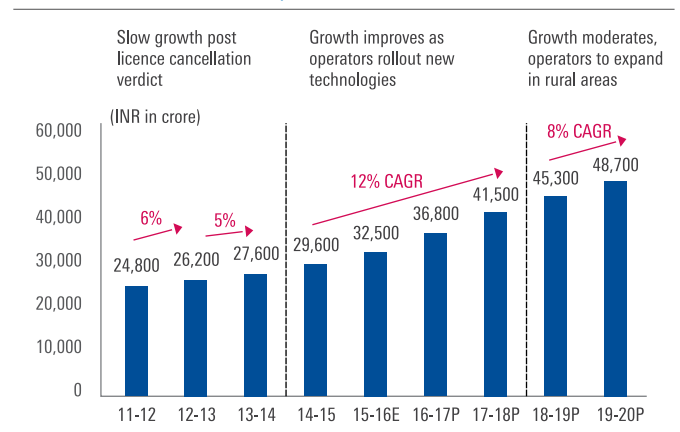
Growth in telecom sector has helped India emerge as a trendsetter in the tower infrastructure segment. Recognising the critical role being played by the segment, the government has granted infrastructure status to tower industry. Around 70 per cent of India's 400,000 towers are owned and operated by the tower companies.<sup>01</sup> Advent of new technologies, such as 4G by Telecom Service Providers (TSPs), along with expansion in the rural areas, are expected to be key drivers for the telecom infrastructure industry over the next five years. Further, impetus is expected to be received from policies of the government, such as the 'Digital India' and the 'BharatNet' initiative.

Rapid growth in the sector has also prompted tower companies to invest heavily in capex. The aggregate capex spend increased from INR8,000 crore in 2013-14 to INR 10,200 crore in 2014-15. Net tower additions were also significantly higher at about 6,300 in 2014-15 vis-à-vis 3,200 in 2013-14. One of the key emerging trends in the last few years is emergence of towers running on green energy. In line with the trend, 15 per cent of the total capex spends were incurred by towers running on green energy.<sup>02</sup>

India has been the most preferred destination for investment in the tower sector in the Asia. Since 2008, seven out of the top 20 deals in Asia in tower sector have originated in India. More than 84,000 towers have exchanged hands in India since 2008 (which represent 84 per cent of the total towers sold in top 20 deals in whole of Asia during the period). Deals amounting to INR40,367 crore have been finalized during this period.<sup>03</sup>

Increase in tenancy ratios has been the key growth driver for tower companies in India. Rise in tenancy ratios is attributable to the expansion of 3G and onset of 4G technologies and it is expected that the industry's tenancy ratio will increase to 2.9 times by March 2020 from 1.95 times as of March 2015.<sup>02</sup>

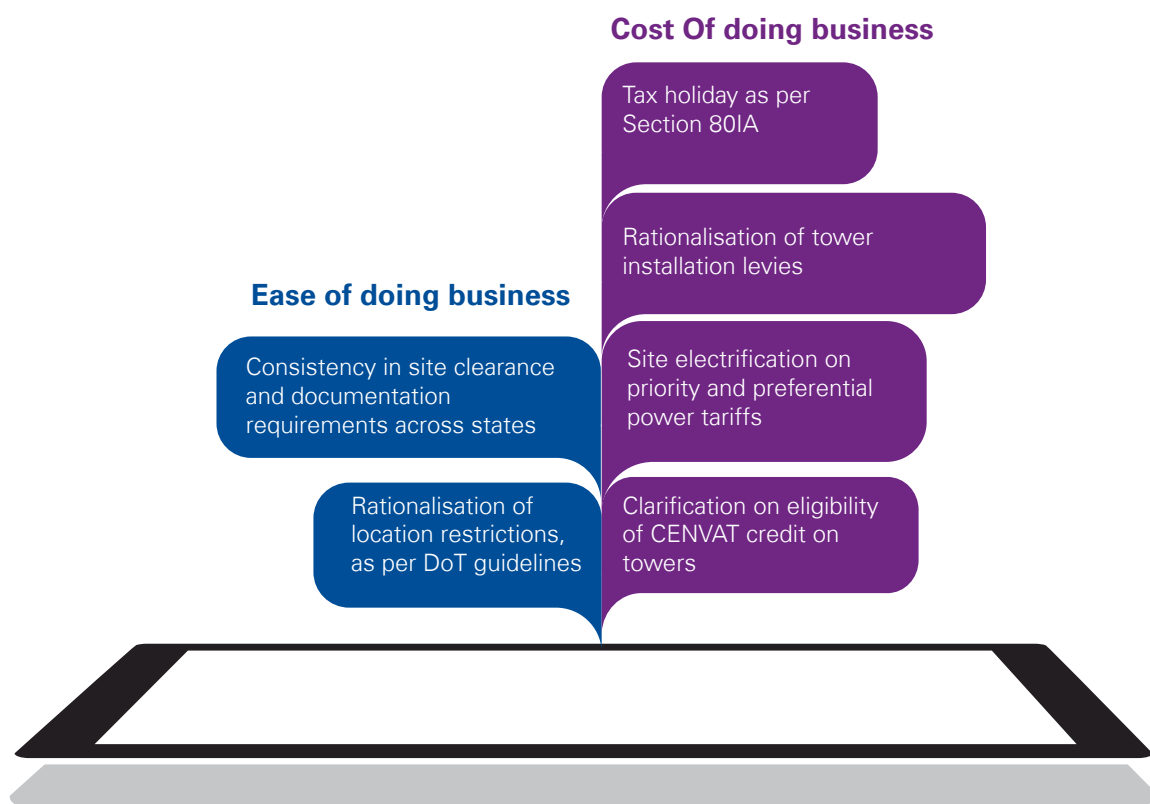
## Telecom towers - Industry revenues



Source: Towers analysis presentation, CRISIL Research 2016

1. TowerXchange Asia Dossier 2015, TowerXchange, p7, accessed on 16 May 2016  
 2. CRISIL Research  
 3. TowerXchange Asia Dossier 2015, TowerXchange, accessed on 16 May 2016

The DoT has supported the industry through issuance of installation guidelines and other important measures. The industry expects the government to take further measures to help the industry grow.



Source: KPMG in India's analysis, 2016





# Current market landscape and key challenges

## Site clearance and documentation requirements across states

No Objection Certificates (NOC) from multiple agencies, such as Airport Authority of India (AAI), local fire department, environment department, archeological department, etc. are required for obtaining permissions for installation of telecom towers. Further, the clearance requirements are not implemented uniformly and may vary across states or local bodies. Similarly, the documentation requirement for rollout clearance also differs as per state/local body policies. Involvement of multiple agencies also increases the administrative burden and thus results in delay in roll-out of new towers.

DoT had issued Advisory Guidelines for State Governments for Issue of Clearance for Installation of Mobile Towers, effective from 1 August 2013. These guidelines also specify the documentation requirement for site clearance.

The industry recommends that the guidelines issued by DoT be adopted consistently across the country, with respect to the above issues, in order to enable faster infrastructure roll-out. In addition, a time bound clearance mechanism may also be implemented. This can help the industry improve quality of service available to subscribers as well as provide wider coverage. The Parliamentary Standing Committee on Information Technology, via its 53<sup>rd</sup> report, has also recommended giving statutory backing to the DoT guidelines and ensuring consistent implementation across states.

DoT guidelines for state governments for issue of clearance for installation of mobile towers should be adopted consistently across the country.

## Location restrictions

Variation in state and local policies have also been noted with respect to restrictions on location of telecom towers. Restrictions on choice of locations have been imposed by various states, due to prohibition on construction of new sites in areas where water bodies, schools, hospitals, religious places, residential areas, architectural sites are in the vicinity. Further, restrictions have also been placed on availability of government land and buildings for new cell sites. Along with the above mentioned constraints, there are various other limitations implied on tower height, proximity to buildings, number of antennas, etc.

It is noteworthy that guidelines by DoT on tower installation do not place any restrictions on the location of telecom towers. However, various state policies over the years, have sought to put limitations on tower locations.

In order to tackle the scarcity of available land for new cell sites, alignment of all state government policies with DoT guidelines is essential for development of the industry. Further, availability of government land and buildings for tower installation needs to be ensured.



Telecom infrastructure is the bedrock for achieving the revolutionary vision of 'Digital India.' A uniform policy for telecom infrastructure across states will be instrumental in accelerating the socio-economic growth of the nation.

**- T. R. Dua**  
Director General  
TAIPA

## Multiple fees levied on tower installations

Telecom tower companies are currently facing multiple fees and levies, in the form of installation fee, annual renewal fee, sharing fees etc. The applicable fee structures vary across states and local bodies. In addition to this, deposits and bank guarantees are also required for tower installation in some geographies. Multiple fees being levied contribute towards higher costs of services for the telecom service providers, and in turn, to the subscribers.

Multiple fees being levied contribute towards higher costs of services for the telecom service providers, and in turn, to the subscribers.

The DoT guidelines for tower installation stipulate only a one-time fee which the states may levy to recover administrative costs for issuing the permission. These guidelines should be uniformly implemented across states to ease the financial burden on the industry.

## Electricity supply for telecom towers

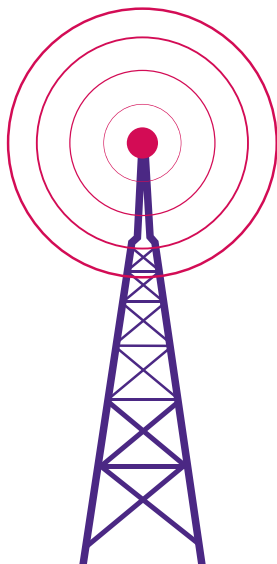
Continuous power supply to tower companies is critical in order to ensure smooth connectivity with reduced outages. Further,

absence of electricity supply also leads to increased diesel consumption, which in turn increases the operating costs as well as carbon emissions.

Telecom tower companies continue to face challenges with respect to obtaining electricity connections, especially in rural and remote areas. Further, in many cases, grid supply is unable to meet the power requirements of the sites.

While the government has recognised telecom towers as an infrastructure industry, it is imperative to provide electricity connections on priority and on preferential tariffs, in order to ensure that the industry achieves its potential.

Telecom tower companies continue to face challenges with respect to obtaining electricity connections, especially in rural and remote areas. Further, in many cases, grid supply is unable to meet the power requirements of the sites.





## Telecom as an infrastructure industry and related tax benefits

The Indian telecom equipment sector constitutes 6.6 per cent benefit under Section 80IA of the Income Tax Act, 1961 which is available to an undertaking providing telecommunication services, basic or cellular, including radio paging, domestic satellite service, network of trunking, broadband and internet services. However, the benefit is not available to the tower companies. Being highly capital intensive, the tower companies require huge investment and have long gestation projects.

The government has already conferred 'infrastructure industry status' to the telecom infrastructure industry, which puts it at par with sectors engaged in other infrastructure development viz. road, water supply, ports, etc. to which the benefits under Section 80IA are extended. However, unlike the other infrastructure providers, there is no tax benefit for a 20 year period.

Tax holiday under Section 80IA should be extended to tower companies to provide impetus for development and growth of telecom infrastructure in the country.

### Eligibility of CENVAT credit on towers

One of the critical and contentious issue is the refusal of CENVAT credit on goods used for mobile towers and its parts used for providing telecommunication service. CENVAT credit has been denied on the grounds that the goods under consideration neither qualify as 'capital goods' nor 'inputs' under the credit provisions. Accordingly, due to the factor of immovability in goods, there is ambiguity with respect to availing such credit.

In view of the above, it is recommended that eligibility of CENVAT credit on towers to telecom service providers should be clarified.

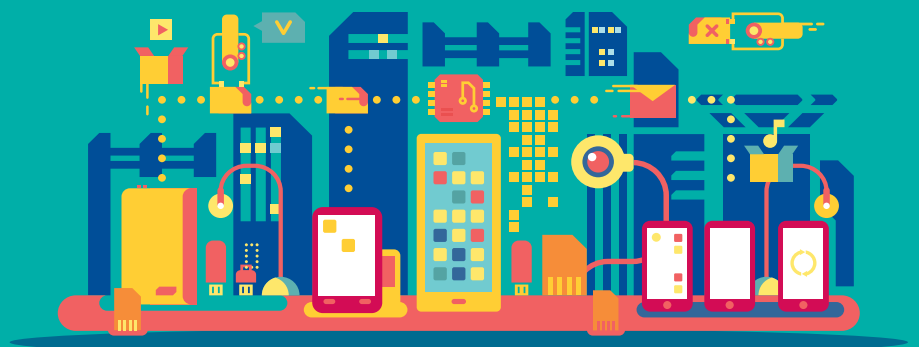
**Tax holiday under section 80IA should be extended to tower companies to provide impetus for development and growth of telecom infrastructure in the country.**

# Telecom equipment manufacturers



With rapid proliferation in the number of connected devices, automation through IoT and Smart City concepts will help connect these devices to appliances, lights, roadways, and most everything. This will bring more efficiency and enable economic, social and environment sustainability for India. With the Government of India's strong focus on 'Smart Cities' and 'Digital India' initiatives, universal broadband connectivity across urban and rural areas will be one of the key building blocks to make it happen.

**- Sandeep Girotra,**  
**Head of India Market**  
**Nokia**



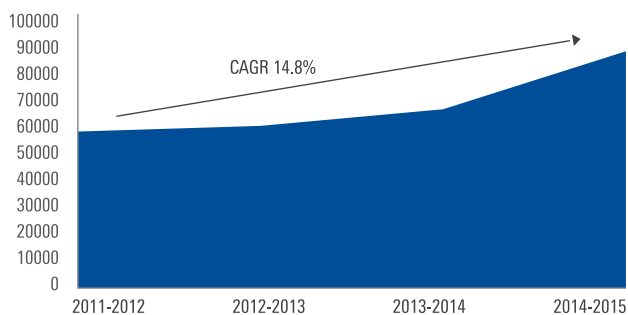


# Supporting digital transformation

Rapid growth in user base, changing technologies and increased teledensity has fueled the demand for telecom equipment in India. Rising demand for a wide range of telecom equipment has provided excellent opportunities to domestic investors in the manufacturing sector as well as global players setting up their manufacturing base in India.

As per the Directorate General of Commercial Intelligence and Statistics (DGCI&S), import of telecom equipment has risen over 32 per cent in 2014-15 to INR89,929 crore.<sup>01</sup> Currently, telecom equipment imports constitute approximately 90 per cent of total imports in the Indian telecom equipment sector.<sup>02</sup> Owing to the fact that telecom equipment primarily consists of design and development of patented software, equipment imports continues to demonstrate an upwards trend. Imports of telecom equipment grew at a robust 14.8 per cent CAGR between 2011 and 2015.

## Telecom equipment imports (INR crore)



Source: DoT annual report 2015, KPMG in India analysis 2016



Big telecom equipment manufacturers expect that the government's 'Smart Cities' initiative can further boost the available opportunities in the market. The industry estimates additional business opportunity of approximately INR300,000 crore over the next five years due to this initiative.<sup>03</sup>



Telecom sector is at the core of any nation's economic growth and the Indian telecom sector is no different and has significantly contributed to the growth of Indian economy and connecting India. The sector's growth was achievable due to the hard work of each and every member of the Indian telecom ecosystem. Now as the sector stands at the cross roads with huge national responsibility on its shoulders of making 'Digital India' work, making Indian cities smarter, bridging the digital divide and towards a better connected India, the sector needs support of the government in terms of making it easy to do business. Telecom sector is highly dependent on innovation and technology thus demanding a very agile regulatory environment for it to function seamlessly. I am sure that with the support and dedication of the present government towards making it easy to do business in India, the Indian telecom sector is fully confident of achieving the lofty goals set by the nation. On behalf of Huawei, I assure the government of our full support and commitment towards a digitally enabled better connected India.

- Jay Chen

Chief Executive Officer

Huawei Telecommunications India Co. Pvt. Ltd

1. Telecom equipment imports jumped 32% to Rs 89,929 crore in FY15 dated 11 March 2016, Economic Times, [http://articles.economictimes.indiatimes.com/2016-03-11/news/71416638\\_1\\_telecom-equipment-dgci-import](http://articles.economictimes.indiatimes.com/2016-03-11/news/71416638_1_telecom-equipment-dgci-import); accessed 16 May 2016  
 2. Custom Duty: Speed breaker for telecom Industry dated 20 January 2015, Economic Times, <http://telecom.economictimes.indiatimes.com/tele-talk/custom-duty-speed-breaker-for-telecom-industry/455>; accessed 14 May 2016

3. Ericsson, Nokia, Huawei and Cisco are betting big on India's 'smart cities' project dated 22 April 2016, Economic Times, [http://articles.economictimes.indiatimes.com/2016-04-22/news/72536264\\_1\\_smart-cities-sandeep-girotra-ericsson](http://articles.economictimes.indiatimes.com/2016-04-22/news/72536264_1_smart-cities-sandeep-girotra-ericsson); accessed 12 May 2016  
 4. Telecom Sector - India dated 4 May 2016, <https://www.daedalus.co.in/telecom-sector-india/>; accessed 14 May 2016

The industry expects certain measures to be introduced in the short to medium term to smoothen its journey up the maturity curve. These measures can help the industry cater to the increasing infrastructure demand and enable achievement of objectives of 'Smart Cities', 'Digital India' and 'Make in India' initiatives of the GoI.

### Ease of doing business

PMA policy to be revisited to provide a level playing field to global and domestic telecom equipment manufacturers

Phased roll-out of security and vulnerability testing guidelines for network equipment

Manufacturing and repair operations to co-exist in the same premises, thereby improving overall operational efficiency

Fast track custom clearance procedure on faulty equipments

Clarity in future of SEZ, establishment of new SEZs and time limit on service tax refund

### Cost of doing business

Re-evaluate applicability of MAT for manufacturers in SEZs

Re-evaluate levy of customs duty for manufacturers in SEZs

Reconsider the custom duty levy on imported equipments

Impart procedural clarity on ADD payment on SDH equipments

Enhancement of facilities for security and vulnerability testing of telecom equipment in India



Source: KPMG in India's analysis, 2016

# Current market landscape and key challenges

## Preferential Market Access Policy, 2012

The Ministry of Communications and Information Technology in February, 2012 released a notification outlining the Preferential Market Access (PMA) policy applicable to procurement of telecom products by public enterprises/government ministries/departments.

Restricted use of patented software and global telecom equipment in the network infrastructure leads to state-owned operators losing the competitive edge in the market.

The policy mandated a phased increase in the domestic value addition of electronic goods which included products that have security implications and must, therefore, be procured from a domestic manufacturer to the extent prescribed. Presently, the PMA policy prescribes that the state owned operators procure a minimum of 30 per cent of their total telecom equipment from domestic manufacturers<sup>05</sup>.

A revised PMA policy was notified in 2013, wherein the private sector was completely exempted from compulsory domestic sourcing of products considered as security sensitive.

The PMA policy is driven by two broad objectives:

- India's national security concerns; and
- Preserving and promoting domestic manufacturing, especially in the Information and Communication Technology (ICT) sector.

Domestic telecom equipment manufacturers control 5 per cent of the market share in India. With the current technology and patented software solutions, global players are better positioned to support the huge infrastructure demand of the country. The PMA policy reduces the options available with the state-owned operators to procure latest technology enabled telecom equipment. Restricted use of patented software and global telecom equipment in the network infrastructure leads to state-owned operators losing the competitive edge in the market.

Due to unavailability of certain specific components, raw materials and silicone grades in India, domestic players place heavy reliance on imports of these critical components and chipsets.

- Industry expects a level playing field for domestic and global telecom equipment manufacturers. Amendments in the PMA policy, may help the global telecom equipment manufacturers to gain better access to tenders released by state-owned operators.
- In addition, component, raw material and silicone not available in India may not be treated as imported material while calculating the over import procurement as per the PMA guidelines. This may help create equal opportunities for global and local telecom equipment manufacturers.

## Anti-Dumping Duty on import of specified products from China/Israel

In 2010, the Directorate General of Anti-Dumping and Allied Duties (DGAD) imposed Anti-Dumping Duty (ADD) ranging from 3 per cent to 266 per cent towards import of Synchronous Digital Hierarchy (SDH) transmission equipment imported from China/Israel.<sup>06</sup> Subsequently, DGAD extended ADD for a period of five years on imports from China/Israel with the highest ADD rate being 86.59 per cent.<sup>07</sup>

However, the Customs authorities are demanding ADD on import of Packet Transport Node (PTN) products and hybrid products supporting SDH. Further, proceedings/notices are issued against the industry and trade demanding ADD on such imports from China/Israel.

In view of the above, it is recommended that imposition of ADD on such imports should be withdrawn. Alternatively, it should be clarified that hybrid products supporting SDH as well as other technologies are not subject to ADD.

5. Equipment makers like Tejas Networks want inclusion of telecom companies in market access policy dated 16 March 2016, Economic Times, [http://articles.economictimes.indiatimes.com/2016-03-16/news/71573676\\_1\\_pma-policy-market-access-policy-matrix-comsec; accessed 15 May 2016](http://articles.economictimes.indiatimes.com/2016-03-16/news/71573676_1_pma-policy-market-access-policy-matrix-comsec; accessed 15 May 2016)  
 6. Government slaps anti-dumping duty on Chinese telecom equipment makers Huawei, ZTE and Alcatel Lucent dated 27 April 2016, Times of India, <http://timesofindia.indiatimes.com/tech/tech-news/Government-slaps-anti-dumping-duty-on-Chinese-telecom-equipment-makers-Huawei-ZTE-Alcatel-Lucent/article-show/52009222.cms; accessed 11 May 2016>

7. Anti-dumping duty imposed on import of telecom gear from Chinese firms dated 27 April 2016, Hindustan Times, <http://www.hindustantimes.com/business/anti-dumping-duty-imposed-on-import-of-telecom-gear-from-chinese-firms/story-t5ariz7kzPGtxUwhK77LUN.html; accessed on 11 May 2016>



## Telecom network security and Indian test labs

In order to address the security concerns and vulnerability of telecom networks, DoT issued a Licence Amendment in 2011. This amendment stated that the licensee shall induct only those network elements into its telecom network, which have been tested as per relevant Indian and international security standards.<sup>08</sup>

The ministry notified that security certification of telecom equipment will be obtained only from authorised and certified agencies/labs within India with effect from 1 April 2013. This deadline was extended twice, initially to 1 April 2016 and subsequently to 1 April 2017.

In view of the security and vulnerability testing requirements on the network equipment, following are the concerns of industry partners:

- Implementing domestic testing requirements, without adequate infrastructure may cause substantial supply chain and network roll-out disruptions.
- Additional cost of testing – The testing requirements in addition to self-testing and certification by equipment manufacturers are likely to result in increased cost.

Presently, industry expects roll-out of 3rd Generation Partnership Project (3GPP) testing standards in the near future. Till the time the standards are released by the international standardisation bodies, the industry suggests maintaining a status-quo with the currently implemented self-certification process.

The implementation requirement for testing of network equipment in India could be introduced in a phased manner to avoid possibility of supply chain disruptions in the sector

Also, the implementation requirement for testing in India could be introduced in a phased manner to avoid possibility of supply chain disruptions in the sector.

### Fiber like capacity with E-band Microwave (in 80 GHz Band)

Indian telecom carriers presently have conventional microwave (6G, 7/8G, 13G, 15G, 18G and 23GHz with 28MHz channels) for

backhauling their mobile traffic generated from each site, which can deliver only up to 300Mbps of capacity. While 2G generates 4Mbps and 3G generates 21Mbps in case of co-location at the same physical site, total backhaul capacity is 25 Mbps per site and in case of multiple sites, the backhaul

conventional microwave is capable to deliver.

With introduction of 4G, which generates 100-120Mbps and the co-location of 2G, 3G and 4G together on the same physical site, total backhaul capacity requirement has increased to 150Mbps. Conventional microwave is not capable for multiple site backhaul, thereby necessitating need for a new technology for backhauling.

Since microwave technology is connecting more than 80 per cent of physical sites for Indian telecom carriers, it is imperative that options are explored for alternative resources to delivery high capacity backhauling. To achieve this, new technology and products are available now, which can deliver high capacity backhaul microwave link using E-band spectrum.

E-band (in 80GHz Band) is increasingly being adopted by carriers globally to effectively meet mobile broadband backhaul requirements. Further, E-band (in 80 GHz Band) is highly cost effective for telecom service providers. TRAI also recommended releasing E-band in its recommendations in August 2014 on Allocation and Pricing of Microwave Access (MWA) and Microwave Backbone (MWB) RF carriers.

E-band supports nx250 MHz channel (19 channels) size and can provide capacity up to 1.2Gbps on a single channel and more by aggregating two or more channels (up to 10Gbps). Given the narrow beam width and short range, it is ideal for deployment in an increasingly dense mobile infrastructure environment over short distances up to one-two kms in India.

The equipment eco-system for E-band is quite mature now. Practically all leading microwave equipment suppliers have commercially deployed E-band products. Globally, more than 60 countries have already deployed E-band spectrum and many more are considering deployment of E-band. Considering no other use for these frequencies in India by any agencies and potential of being a key mobile broadband enabler, several allocations in other countries are 'licence exempt' or 'light licence' with nominal charges. The equipment cost, though higher today, is expected to come down with volumes if the licence regime is conducive.

E-band is not only cost effective but is also efficient and supports faster time to market for service providers. Due to narrow beam, it can be advantageous to service providers to have more sites in the given smaller geographic area resulting in reduction of call drop issues. Therefore, E-band is expected to not only add to the overall broadband penetration requirement, but also help in increasing rural penetration to higher levels, if used with the 'BharatNet' initiative. (As per the World Bank, 10 per cent increase in broadband penetration will increase 1.38 per cent of GDP)\*

DoT/WPC wing may consider releasing the E-band spectrum in India with licence conditions as mentioned in reference back response from TRAI.

08. Department of Telecommunications, Amendment to Unified Service access license agreement for security related concerns for expansion of telecom services in various zones of the country dated 31 May 2011; Department of Telecommunications; accessed on 9 May 2016

\*Working Together to Connect the World by 2020 - Reinforcing Connectivity Initiatives for Universal and Affordable Access; ITU; 2016; p4.

## Levy of custom duty on import of telecom equipment

The Indian telecom equipment sector constitutes 6.6 per cent of the global demand.<sup>9</sup> Telecom equipment imports, have continued a double digit growth since 2012, hence, significantly contributing to technological advancements of the overall telecom ecosystem.

Basic Customs Duty (BCD) of 10 per cent on imports of specified telecom equipment was levied in 2014.<sup>10</sup> These equipments are not exempted under the 'Information Technology Agreement', which allows duty free import of products falling under eight categories covering telecom, computers and semiconductors like mobile phones and electronic chips.

The following were covered under the telecom equipment category:

- Soft switches and Voice over Internet Protocol (VoIP) equipment, viz., VoIP phones, media gateways, gateway controllers and session border controllers.
- Optical transport equipment, combination of one or more of Packet Optical Transport Product or Switch (POTP or POTS), Optical Transport Network(OTN) products, and IP radios.
- Carrier Ethernet Switch, Packet Transport Node (PTN) products, Multiprotocol Label Switching-Transport Profile (MPLS-TP) products.
- Multiple Input/Multiple Output (MIMO) and Long Term Evolution (LTE) products.

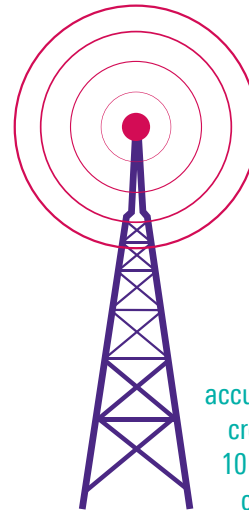
Telecom equipment manufacturing sector in India is still at an evolving stage. The 10 per cent BCD on imported telecom equipment may put an extra burden not only on the operators but also on the entire telecom ecosystem.<sup>11</sup>

The telecom operators have an accumulated debt of around INR3.8 lakh crore<sup>12</sup>. An additional customs duty of 10 per cent will lead to an increase in cumulated duty to 29.44 per cent.<sup>13</sup>

- As per Telecom Systems Design and Manufacturing Association (TSDMA), Indian OEM's only command a miniscule share of the telecom equipment market.<sup>9</sup> The additional customs duty may not benefit the local manufacturing set-up, given that over 80 per cent value of imports is towards IP protected software, which are currently unavailable in the Indian market.<sup>9</sup>
- Global vendors who have set up manufacturing in SEZs also fall under this duty since by definition a SEZ is considered a foreign territory.<sup>13</sup>

Telecom equipment manufacturing sector in India is still at an evolving stage. The industry expects that the customs duty at this stage should be reduced to allow the sector to attain further maturity at a later stage. The customs duty may be re-introduced to boost the domestic manufacturing sector.

Reduction/withdrawal of customs duty on import of telecom equipment is also expected to contribute to the government's 'Digital India' and 'BharatNet' initiative.



**The telecom operators have an accumulated debt of around INR3.8 lakh crore. An additional customs duty of 10 per cent will lead to an increase in cumulated duty to 29.44 per cent.**

## Special Economic Zone (SEZ) policy

Minimum Alternate Tax (MAT) was imposed on SEZ in 2011-12. The Ministry of Commerce and Industry has called for removal of MAT and Dividend Distribution Tax (DDT) on SEZs but this suggestion is yet to be implemented. Imposition of MAT has dropped the growth of exports. Central Board of Direct Taxes (CBDT) has formed a committee to suggest the framework in this regard. The imposition of MAT on SEZ units effectively takes the sheen off the SEZs and makes the investment in SEZs less lucrative. Thus, there is a need for a reconsideration of the government's tax policy on the SEZs.

A recommendation needs to be made for reduction in MAT and increase in the utilisation period under MAT from 10 to 15 years

## Repair hubs

Presently, telecom equipment manufacturers are required to obtain multiple clearances for establishing repair hubs in India. Clearances are required from agencies such as Ministry of Environment, Forest and Climate Change (MoEF) to import defective units and refurbish them. Further, manufacturers also need to apply for a No Objection Certificate (NOC) to MoEF for importing a refurbished unit and second hand capital equipment. Equipment imported for repair/refurbishment are required to be evaluated by a chartered engineer. This usually takes two to three working days, depending on port of entry, congestion at the port, weekend and holidays.

9. Custom Duty: Speed breaker for telecom Industry dated 20 January 2015, Economic Times, <http://telecom.economictimes.indiatimes.com/tele-talk/custom-duty-speed-breaker-for-telecom-industry/455>; accessed on 9 May 2016  
 10. Budget 2015: Telecom equipment imports at Rs 74,000 crore in FY'14 dated 8 March 2015, Economic Times, [http://articles.economictimes.indiatimes.com/2015-03-08/news/59894127\\_1\\_telecom-equipment-specified-telecom-products-imports](http://articles.economictimes.indiatimes.com/2015-03-08/news/59894127_1_telecom-equipment-specified-telecom-products-imports), accessed on 11 May 2016  
 11. Mobiles, tablet prices to rise as govt rejigs duties with eye on Make in India dated 29 February 2016, Economic Times, <http://telecom.economictimes.indiatimes.com/news/mobiles-tablet-prices-to-rise-as-govt-rejigs-duties-with-eye-on-make-in-india/51194386>, accessed on 13 May 2016  
 12. Call drops: Telcos says dismayed by Trai's cartelization remarks dated 23 April 2016, <http://telecomtalk.info/call-drops-telcos-says-dismayed-by-trais-cartelization-remarks/152360/>, accessed 14 May 2016  
 13. Special Economic Zones, Ministry of Commerce & Industry, Foreign Trade Policy 2015-2020, accessed on 14 May 2016

An NOC application for setting up a repair hub takes a long time (usually two to three months), and evaluation by a chartered engineer further adds to the overall turn-around-time and costs.

It is suggested that the repair business is considered as a usual service and no permission should be required from any agency such as MoEF to import equipment for refurbishing. Also, the requirement of evaluation by a chartered engineer should be waived off. Dedicated customs channel should be set up to fast-track the clearance time.

The tax structure is different for manufacture and repair which does not facilitate using the same premises for manufacturing and repair operations. Global repairs (import and re-export) are not considered at par with normal exports.

Requirement to set up separate premises for manufacturing and refurbishment leads to increase in opex and capex cost and discourages the opportunity to earn foreign exchange for the country by exporting the refurbished equipments.

Increase in capex and opex cost due to maintenance of separate premises for manufacturing and repair creates a lot of problems. The country is missing out on an opportunity to increase foreign exchange earnings by refurbishing defective equipment and exporting them overseas.

Thus, a change is required in the above tax policy. Raw material used in the repair process should

be given the same exemptions as in the manufacturing process. This set up may be considered while drafting GST guidelines.



Technology providers /OEM's with incessant innovation have been successfully partnering the growth of India's mobile revolution, and are committed to support Digital India to facilitate ICT sector growth, expand mobile broadband, Financial Inclusion and to bridge the Digital Divide.

**- Manoj Dawane,  
Co-Chairman,  
ASSOCHAM National Council on  
Telecommunications & Convergence**







# Handset manufacturers



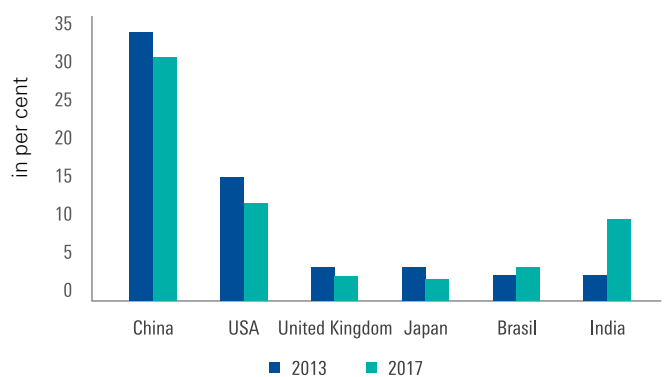


# Enabling India live the broadband dream

India is the fastest growing market for mobile handsets globally, growing at a CAGR of nearly 14 per cent in the last four years from 2011 to 2015<sup>01</sup>. Additionally it contributed nearly 7.6 per cent to the global smartphone market in 2015 and is expected to touch 13.5 per cent by 2019<sup>02</sup>.

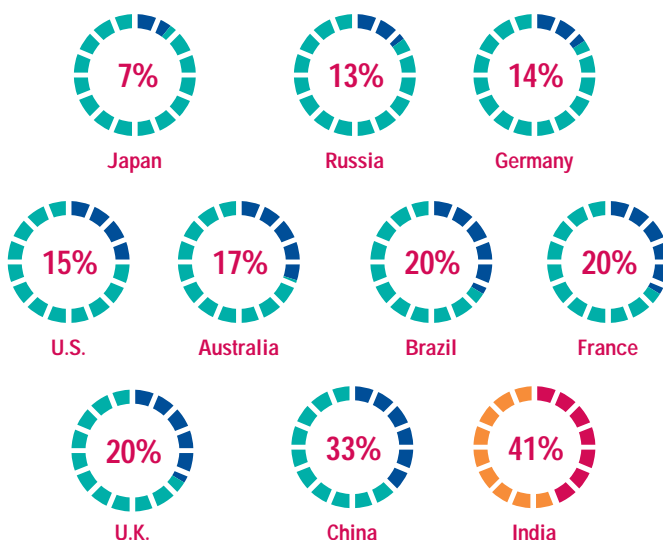
With increasing popularity of smartphones and better availability of data services, the landscape of the Indian mobile handset industry has witnessed a paradigm shift. Out of 235.60 million handsets shipped in 2015, 40 per cent were smartphones and are projected to constitute 60 per cent of total mobile handset sales by 2020<sup>03,04</sup>. The smartphone shipments in India grew a healthy 23 per cent annually in Q1 2016 compared to the global growth, which stalled for the first time ever since smartphones first began to sell<sup>05</sup>. The average selling price (ASP) of a smartphone was INR12,285 in 2015 - a 25 per cent y-o-y increase<sup>04</sup>. India recorded highest growth between 2013 to 2017 amongst the top six handset markets.

Smart phone market share 2013 vs 2017



Source: Worldwide trends 2017", Trak.in Website (<http://trak.in/tags/business/2013/03/05/india-3rd-largest-smartphone-market-2017/>) accessed on 16 May 2016

India is defining a path for e-commerce through mobile telephony



Source: GSMA, 2015

Increase in smartphone sales have changed the face of e-commerce industry in India in the last two years. Mobile transactions accounted for 41 per cent of total e-commerce sales in 2014\*. Developing a mobile (sometimes mobile-only) strategy has been an important agenda for many of the leading e-commerce players in the country over the last two to three years.

India's mobile handset industry is a key enabler for the government's 'Digital India' initiative, launched in July 2015 to work together on a common agenda to transform the country into a digitally powered society and economy. Several international device vendors have set up manufacturing facilities in India, supporting the government's 'Make in India' initiative aimed at boosting local manufacturing.

The mobile handset sector is a key component in the overall telecom ecosystem and a key driver of the digital revolution in the country. Along with immense growth opportunities, the sector also seeks support from policymakers to address following challenges that it currently faces.

1. India feedback industry report, mobile handset, 2015  
 2. Worldwide Smartphone Market Will See the First Single-Digit Growth Year on Record, According to IDC, IDC Website, 3 Dec 2015, <http://www.idc.com/getdoc.jsp?containerId=prUS40664915>, accessed on 16 May 2016  
 3. India Mobile Handsets market ends on a lower note in 2015 as transition gathers momentum, CMR, <http://cmrindia.com/india-mobile-handsets-market-ends-on-a-lower-note-in-2015-as-transition-gathers-momentum/>, accessed on 16 May 2016

4. India feedback industry report, mobile handset, 2015  
 5. India's Smartphone Shipments Clock 23% Growth In Q1 2016, CX Today News Desk, 2 May 2016 accessed on 16 May 2016  
 \*41% of India E-commerce sales is from Mobile; Mobile wallet usage surging: Meeker's 2015 Internet Trends dated 28 May 2015; Economic Times Technology, accessed on 12 May 2016

In order to enhance consumer safety and security, based on the pervasive usage of mobile handsets amongst citizens, the government has mandated all handsets to be enabled with SOS/ panic buttons, which can be used in to invoke emergency services at times of distress w.e.f. 1 January 2017.

Similarly, to support the “Digital India” drive, the industry has been collaborating with the government to establish a framework, whereby all handsets of future would support local language support, which will enable citizens to read and send messages based on his/ her local language preference. All 22 official Indian languages will be covered under this initiative. It is envisaged that this proposed enabling factor would go a long way to empower citizens socially and economically, which can effectively bridge the digital drive.



The industry is determined to achieve the vision of 500 million mobile phones manufacturing p.a. by 2019-20. An enabling environment has been created and should be sustained with relentless commitment from all stakeholders.

**- Pankaj Mohindroo,  
Chairman,  
Fast Track Task Force (FTTF) and National  
President- Indian Cellular Association**

### Ease of doing business

Simplification of obtaining equipment type approval for import of wireless equipment

Implementation of E-waste collection targets in a phased manner with lower and practically achievable targets

Re-evaluate import policy of second hand electronic capital goods

Detailed implementation procedures for collection of E-waste from market.

Simplification of registration of devices under CRS order

### Cost of doing business

Categorisation of mobile battery charger together with mobile handset for levy of VAT

Reduction of custom duty on import of capital goods for manufacturing electronic components

Abolition of 1 per cent NCCD for the telecom industry



Source: KPMG in India's analysis, 2016



# Current market landscape and key challenges

## Clarifications for implementation of e-waste Rules, 2016

The rising levels of e-waste generation in India has been a matter of extreme concern in recent years. With more than 100 crore mobile phones in circulation, nearly 25 per cent end up in e-waste annually.



India is not only the second biggest mobile market in the world with 1.03 billion subscribers, but also the fifth largest producer of e-waste in the world, discarding roughly 18.5 lakh metric tonnes of electronic waste each year with telecom equipment alone accounting for 12 per cent of the e-waste<sup>06,07</sup>.

The Ministry of Environment, Forest and climate change has notified e-waste management rules, 2016 in which producers are for the first time covered under

Extended Producers' Responsibility (EPR).

The rules prescribe a waste collection target of 30 per cent waste generated under EPR for the first two years, progressively going up to 70 per cent in the seventh year of the rule. The rules prescribe stringent financial penalties for non-compliance<sup>08</sup>.

The unorganised sector in India is estimated to handle around 95 per cent of the e-waste produced in the country<sup>07</sup>. Given the huge user base and vast reach of telecom in India, it is practically difficult and expensive for the handset manufacturers to achieve the targets prescribed in the rules from first year.

It is suggested that e-waste collection targets are implemented in a phased manner with lower and practically achievable target limits. Also, detailed implementation procedures for collection of e-waste from the market needs to be followed.

## Registration of mobile handsets under Compulsory Registration Scheme (CRS) Order

Department of Electronics & Information Technology (DeitY) notified 'Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2012' for 15 categories of electronics products. Another 15 product categories were added by DeitY under this order in 2014.<sup>09</sup> Mobile handsets have been specified as one of these product categories.

The order requires any new mobile handset launched in the country to be tested by a Bureau of Indian Standards (BIS) recognised lab. BIS registers the mobile handset model basis the results of the testing.

As per the prevalent industry practice, most of the handsets are manufactured on a contract manufacturing basis. The handset manufacturers (based outside India) are required to obtain registration under the CRS order before shipping any handsets into the country. The average lead time to obtain this registration varies from two to three months presently. 1622 handsets were launched in 2015 in India<sup>10</sup>.

The industry expects inclusion of Provisions for 'Brand Registration' and 'Multiple ODM Manufacturing Location Registration' within the existing CRS Order to enhance ease in doing business.

Further, registration process may be streamlined to reduce the lead time in registration to 15 days.

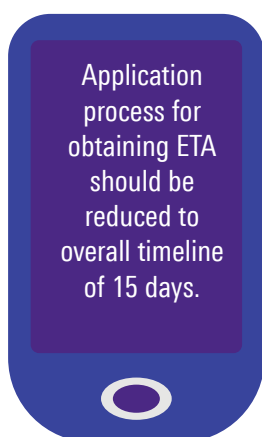
6. Telecom Subscription Data as on 29th February, Issued by TRAI on 26th April 2016 vide Press release No. 26/2016; accessed on 16 May 2016  
7. India to produce 30 lakh metric tonnes of e-waste by 2018: Study, Economic Times, 22 April 2016, [http://articles.economicstimes.indiatimes.com/2016-04-22/news/72536351\\_1\\_e-waste-electronic-waste-scrap-dealers](http://articles.economicstimes.indiatimes.com/2016-04-22/news/72536351_1_e-waste-electronic-waste-scrap-dealers), accessed on 16 May 2016  
8. Government of India, Ministry of Environment, Forest and Climate Change, Notification, 23 March 2016  
9. List of products under mandatory certification, <http://bis.org.in/cert/LIST%20OF%20PRODUCTS%20>

UNDER%20MANDATORY%20CERTIFICATION.pdf, accessed May 2016  
10. Mobile Phone Landscape in India: 163 Brands Launched Whopping 1622 New Phones in 2015, <http://trak.in/tags/business/2016/02/10/mobile-phone-landscape-india-smartphone-brands-2015/>, accessed 12 May 2016

## Import of low powered wireless devices

Wireless Planning and Coordination Wing (WPC) of DoT has mandated obtaining an Equipment Type Approval (ETA) for all wireless equipment operating in de-licensed frequency bands (2.4 - 2.4835 GHz, etc).<sup>11</sup>

Importers of wireless devices are required to submit a sample of the device to a government accredited testing lab. The ETA is granted on the basis of the results of testing (in a certified testing report). It is estimated that new low powered wireless devices amounting INR3000 crore are imported in the Indian market, every year. These include products such as bluetooth headsets and Wi-Fi routers.<sup>12</sup>

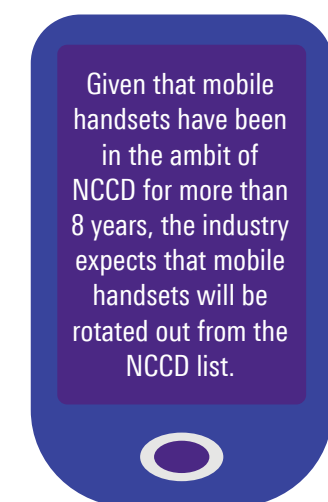


The importers are required to obtain ETA for every variant and model of any wireless device imported into the Indian market.

Presently, obtaining ETA takes four to six months on an average. Due to the high lead time for obtaining ETA, companies lose competitive advantage for bringing in a new technology or product to the Indian market. Further, devices operating in licensed frequency bands, including low powered devices are subject to compulsory licensing under 'The Indian Wireless Telegraphy Act, 1933'.<sup>13</sup>

The industry suggests that requirement of obtaining ETA for every minor modification to an existing model may be revisited. Instead, an automated approval for a model and its variants should be granted together.

Steps may be taken towards simplification of the application process for obtaining ETA and reducing the overall timeline to 15 days. Further, the industry expects the licensing requirements of devices operating in licensed frequency bands, including low powered devices, to be reviewed.



## NCCD on import of mobile handsets

National Calamity Contingent Duty (NCCD) imposed in 2001 is levied on import of goods specified in the schedule to the Finance Act. It is levied on different category of goods on a rotational basis. The proceeds of NCCD are used for carrying out relief work in areas affected due to natural disasters.

In 2008, NCCD on 'Polyester filament yarn' was withdrawn and mobile handsets were brought

within the ambit of NCCD.

The levy of NCCD is an additional burden on the mobile handset industry and end consumers.

Given that mobile handsets have been under the ambit of NCCD for more than eight years, the industry expects that the burden of NCCD may be shifted from mobile handsets to other industries.

## Custom duty on the import of capital equipment

India has been witnessing robust growth in mobile handsets manufacturing activity, which recorded 185 per cent year-on-year growth in value terms in 2015-2016 over manufacturing in 2014-2015. This surge in manufacturing was primarily driven due to establishment of a differential duty advantage of 12.5 per cent in favour of domestic manufacturers vis-à-vis importers.

The Fast Track Task Force (FTTF) has been set up by DeitY to catalyze and re-establish a robust mobile handsets manufacturing industry in India over the next few years, with the target to manufacture 500 million handsets by 2019-2020 with the export target for 120 million handsets during the same time frame. With the surge in domestic manufacturing activity as witnessed during the past year, it is envisaged that the target should be achieved within the stipulated period.

Further the GOI has instituted a differential duty regime to promote manufacturing of mobile components like batteries, chargers/adapters and wired headsets vide Budget 2016-17. This is expected to fuel significant manufacturing in the mobile components sector in coming months. The FTTF has been given a target to achieve component manufacturing of INR50,000 crore.

Despite the primacy given for enhancing mobile handsets/ components manufacturing, under the current regulatory dispensation, import of most of the capital goods used for manufacturing, still attract higher import duty of 25 per cent on average.

Given the potential on the manufacturing front to cater the domestic and export demand, it is recommended that duty exemption may be accorded for import of all capital goods used for the manufacture of mobile handsets, its parts, components and accessories. The proposed measure will be an alternative to refund of customs duty available under the Modified Special Incentive Package Scheme (MSIPS) which involves a transaction cost. Therefore, the Government will not be a net loser of revenue as such.

11. "Office Memorandum, No.R-11020/02/2008-LR", Department on Telecommunication, Ministry of Communications and Information Technology, Feb 2009

12. Imports of Wireless devices to face delay, Economic Times, 6 September 2014, [http://articles.economictimes.indiatimes.com/2014-09-06/news/53627713\\_1\\_indian-cellular-association-ica-devices](http://articles.economictimes.indiatimes.com/2014-09-06/news/53627713_1_indian-cellular-association-ica-devices), accessed on 16 May 2016

13. The Indian Wireless Telegraphy Act, 1933, [http://www.trai.gov.in/Content/indian\\_wireless.aspx](http://www.trai.gov.in/Content/indian_wireless.aspx), accessed 14 May 2016

14. No Con. Just Foxconn, Indian Cellular Association, <http://www.ica-ind.org/portfolio/latest-industry-update/>, accessed on 16 May 2016

15. Annual Report, Department of Electronics & Information Technology, P58

16. Opinion: India seems to be an alluring destination for handset makers, Financial Express, 15 Jun 2015, <http://www.financialexpress.com/article/industry/companies/india-seems-to-be-an-alluring-destination-for-handset-makers/84715/>, accessed on 16 May 2015

17. CMR, Indian Cellular Association, Feedback

## Import of used capital goods

Ministry of Environment, Forest and Climate Change (MoEF) has issued a notification which restricts import of capital goods for the electronic industry on the grounds that these could lead to e-waste. Importers have to take authorisation from the Director General of Foreign Trade (DGFT) before shipping products prescribed under the restricted category. As per the ministry's draft guidelines, manufacturers are permitted to import products which are less than three years old and have a residual life of at least five years.<sup>19</sup>

As a prevalent business practice, many of the manufacturing industries import second hand machinery in order to reduce overall capital set-up costs. However, import of second hand machinery for manufacturing of mobile handsets is prohibited under MoEF Office Memorandum dated 16 July 2015.

The industry suggests that the policy on second hand import of electronic goods needs to be revisited and norms should be amended to allow import of second hand machinery for manufacturing of mobile handsets.

## Differential rate of VAT on mobile handsets and mobile chargers

VAT was introduced in India in 2005. Different states in India have categorised mobile phones and chargers under the same category for levy of VAT.

In a recent legal case between the State of Punjab and Nokia India Pvt. Ltd., it was decided by the Hon'ble Supreme Court of India that a mobile phone battery charger is an accessory to a phone and not a part of the cellphone, thereby subjecting it to a higher tax rate. The authorities have sought to apply this judgement retrospectively w.e.f 1 April 2005.<sup>20</sup>

Furthermore, lack of a uniform rule has led to differential VAT rates that varies from 5 to 14.5 per cent on handsets and mobile chargers across different states.<sup>21</sup>

Given that a mobile phone battery charger is usually sold together with the handset and is an essential component for functioning of the handset, it is advisable to classify the mobile phone battery charger together with mobile handsets for levy of VAT.

Department of Revenue (DoR) has already advised states to start charging same rate of VAT on accessories as levied on the main product when packed together. (As per Customs Accessory Conditions Rule, 1963)

## Relaxations under the Customs (Import of Goods at Concessional Rate of Duty for Manufacture of Excisable Goods) Rules, 2016 (IGCR Rules, 2016)

Recently, new IGCR Rules, 2016 have been introduced vide Union Budget 2016 replacing the earlier Rules notified in 1996, with an intention to enhance ease of doing business.

Some of the new requirements/provisions under the new Rules have added following burden/compliance cost on the emerging mobile handsets and components manufacturing industry:-

- Requirements like continuity bond to be backed by surety for availment of the concessional duty is a new condition mentioned under Rule 5(2) of IGCR Rules, 2016. The earlier Rule 4(3) under IGCR 1996, required submission of only a simple bond and an undertaking from the manufacturer. With the new requirement of continuity bond to be backed by surety for availment of concessional duty transaction, compliance costs have gone up significantly.
- The utilisation period of the imported goods was reduced to three months as per the new Rule 7(1). With this, the imports must be squared up by way of re-export, destruction under excise supervision or payment of duty differential. Considering the complex manufacturing/ assembling processes involved in mobile handsets manufacturing, a utilisation period of three months is not adequate.

In view of the above, the government may consider going back to the earlier system which required a simple bond to be furnished along with an undertaking and should be allowed a utilisation period of six months considering the complex processes involved in mobile handsets manufacturing.

## Reduction of 2 per cent CST for ICTE hardware manufacturing industry

In the past, the Government of India had announced a road map for phasing out of CST by 1 percentage point every year. As per the time schedule this levy should have been reduced to nil by 1 April 2010. However, it continues to be levied at the rate of 2 per cent even today.<sup>22</sup>

ICTE hardware manufacturing industry generally follows a decentralised model under which raw materials are converted to piece parts and further to components, sub-assemblies and finished products. This poses an issue as the manufacturing is done in different states and the product is sold in a different state. Thus the total incidence of CST could accumulate to over 6 per cent. Since no set off of CST is available, this puts the indigenous manufacturing at a disadvantage as compared to the imports.

Abolishing CST on sales of ICTE hardware should be considered, till the time GST is implemented.

19. Top tech firms denied permission to import second hand equipment, Indian Express, 31 July 2015, <http://indianexpress.com/article/business/business-others/top-tech-firms-denied-permission-to-import-second-hand-equipment/>, accessed on 16 May 2015  
20. Civil Appeal Nos. 11486-11487 Of 2014, State Of Punjab & ORS Vs

Nokia India Pvt Ltd  
21. VAT cut on phone chargers defies Supreme Court, Deccan Chronicle, 21 Jan 2016, <http://www.deccanchronicle.com/current-affairs/250116/vat-cut-on-phone-chargers-defies-supreme-court.html>, accessed on 13 May 2016

22. Phasing out CST, empcom.gov.in Website, [http://empcom.gov.in/content/188\\_1\\_PhasingoutofCST.aspx](http://empcom.gov.in/content/188_1_PhasingoutofCST.aspx), accessed on 16 May 2016

# Conclusion

## Telecom – Enabling the nation's transformation

Telecom sector plays a pivotal role in the socio-economic development as there is a positive correlation between the penetration of mobile services and internet on the growth of GDP of a country. In today's world, digital inclusion is a key parameter depicting social growth, as digital access and literacy, provides the masses an opportunity to access public and private services, like never before. Digital access also opens up a plethora of content and powers the movement towards a knowledge-based economy.

As an extension of the government's reformist agenda, key steps have been taken to set the telecom sector on to the right trajectory. The industry expects further rationalisation of the regulatory environment, in order to grow faster and in turn, drive the socio-economic success of the government's agenda.

## Key recommendations

### Rationalisation of taxes and levies

- Definition of AGR needs to be revisited to include revenue from licensed services only. Non-core components such as handset sales income may be considered to be excluded.
- Statutory levies applicable to the telecom industry are required to be rationalized, as there are multiple levies currently.
- In line with TRAI recommendations, license fee and USOF charges may be considered for reduction to 6% and 3%, respectively from the current levels of 8% and 5%.
- Tax holiday under section 80IA, should be extended to tower companies, as in the case of other industries conferred with 'Infrastructure Industry' status. Government should consider rotating out mobile handsets from the ambit of National Calamity Contingent Duty (NCCD).
- SEZ policy needs to be reconsidered for reduction in MAT and increase in utilization period.
- Clarity needs to be provided over applicability of CENVAT credit for goods used for construction of mobile towers.

- Anti Dumping Duty (ADD) on the Packet Transport Node (PTN) products and hybrid products supporting Synchronous Digital Hierarchy (SDH) should be considered for withdrawal.

### Ease of doing business

- Right of Way (RoW) rules need to be made consistent across the country. The proposed amendments under 'Indian Telegraph Right of Way Rules, 2016' need to be implemented in this regard.
- Steps should be taken to promote ease of business by moving towards paperless operations in areas such as KYC, EMF self-certification and SACFA clearances.
- Lawful interception clearance procedures should be reviewed to replace current procedures with self-certification regime.
- Steps should be taken by government agencies for resolution of interference issues pertaining to cross-border transmissions and unlicensed repeaters/ jammers/ boosters.
- Implementation of requirement for Indian test labs should be done in a phased manner in order to avoid possible supply chain disruptions.
- Authorities should consider allowing import of second hand electronic goods for the handset manufacturing industry.
- Phased manner for implementation of e-waste collection targets needs to be introduced.
- Steps should be taken to rationalize the various audits being conducted by various authorities, to ensure that same areas are not audited on a repeated basis.
- Guidelines issued by DoT with respect to locations of tower and clearance requirements should be adopted across states to smoothen tower set up process.
- Multiple clearances required to import for repair/ refurbishment/ second hand capital equipment units should be simplified to enhance ease of doing business.
- Spectrum interference around border areas needs to be discussed with neighboring countries to ensure coordinated use of frequencies.

**Key policy changes**

- Level playing field should be provided by considering all categories of communication service providers under the premise of 'Same Service, Same Rule'.
- EMF radiation norms should be rationalized in line with ICNIRP standards. Further, penalties applicable for non-compliance to radiation norms and/ or delays in self-certification may also be reviewed.
- Preferential Market Access (PMA) policy should be reviewed to ensure level playing field for domestic and global telecom equipment manufacturers.
- Inclusion of provisions for brand registration and multiple ODM manufacturing location registration within the CRS order, should be considered.
- Review of national wireless policy should be considered with respect to import of low powered wireless devices to simplify the procedures for obtaining equipment type approvals.
- Implementation of single window clearance and document requirements for site clearance should be carried out across various states.
- In order to address interference issues, policy changes are required to enable the DoT to take action against unsolicited use of boosters/ jammers/ repeaters.



# Glossary

2G	Second Generation	DGCI&S	Directorate General of Commercial Intelligence and Statistics
3G	Third Generation	DGFT	Directorate General of Foreign Trade
3GPP	3rd Generation Partnership Project	DOR	Department of Revenue
4G	Fourth Generation	DoT	Department of Telecom
AAI	Airport Authority of India	DTH	Direct To Home
AC	Air Conditioning	e-KYC	Electronic - Know Your Customer
ADD	Anti-Dumping Duty	EMF	Electro Motive Force
AGR	Adjusted Gross Revenue	EMR	Electromagnetic Field Radiation
ARPU	Average Revenue Per User	EPR	Extended Producers Responsibility
ASP	Average Selling Price	ETA	Equipment Type Approval
ASSOCHAM	Associated Chambers of Commerce and Industry of India	FDI	Foreign Direct Investment
AUSPI	Association of United Telecom Service Providers of India	FTTF	Fast Track Task Force
B2B	Business to Business	FY	Financial Year
B2C	Business to Customer	Gbps	Gigabytes Per Second
BCD	Basic Customs Duty	GDP	Gross Domestic Product
BIS	Bureau of Indian Standards	GHz	Giga Hertz
BTS	Base Transceiver Station	GoI	Government of India
CAG	Comptroller and Auditor General	GR	Gross Revenue
CAGR	Compounded Annual Growth Rate	GSM	Global System for Mobile communications
Capex	Capital Expenditure	GSMA	Global System Mobile Association
CBDT	Central Board of Direct Taxes	GST	Goods and Service Tax
CBEC	Central Board of Excise and Customs	HSBB	High Speed Broadband
CCI	Competition Commission of India	IAMAI	Internet and Mobile Association of India
CDMA	Code Division Multiple Access	ICA	Indian Cellular Association
CENVAT	Central Value Added Tax	ICNIRP	International Commission on Non-Ionizing Radiation Protection
COAI	Cellular Operators Association of India	ICT	Information and Communications Technology
CRISIL	Credit Rating Information Services of India Limited	ICTE	Information Communication Telecom Equipments
CRS	Compulsory Registration Scheme	IDC	International Data Corporation
CST	Central Sales Tax	IGCR	Import of Goods at Concessional Rates for Manufacture of Excisable Goods
DDT	Dividend Distribution Tax	IMC	Inter-Ministerial Committee
DeitY	Department of Electronics & Information Technology	INR	Indian National Rupee
DGAD	Directorate General of Anti-Dumping and Allied Duties		





IOT	Internet of Things
IP	Internet Protocol
IT	Information Technology
ITA	Information Technology Agreement
KYC	Know Your Customer
LF	License Fee
LFDS	License Fee Deducted at Source
LTE	Long Term Evolution
M2M	Machine to Machine
MAT	Minimum Alternate Tax
Mbps	Megabytes Per Second
MHz	Mega Hertz
MIMO	Multiple Input Multiple Output
MoEF	Ministry of Environment, Forest and Climate Change
MoU	Minutes of Usage
MPA	Media Partner Asia
MPLS-TP	Multiprotocol Label Switching -Transport Profile
MSIPS	Modified Special Incentive Package Scheme
MWA	Microwave Access
MWB	Microwave Backbone
NCC	National Communication Commission
NCCD	National Calamity Contingent Duty
NOC	No Objection Certificate
NOFN	National Optical Fiber Network
NTP	National Telecom Policy
ODM	Original Design Manufacturers
OEM	Original Equipment Manufacturers
OTN	Optical Transport Network
OTT	Over the Top
PMA	Preferential Market Access
POTP	Packet Optical Transport Product
POTS	Packet Optical Transport Switch

PTC	Pass Through Charges
PTN	Packet Transport Node
QoS	Quality of Service
RF	Radio Frequency
ROI	Return on Investment
RoW	Right of Way
SACFA	Standing Advisory Committee for Frequency Allocation
SDH	Synchronous Digital Hierarchy
SEBI	Securities and Exchange Board of India
SEZ	Special Economic Zone
SIM	Subscriber Identity Module
SUC	Spectrum Usage Charge
TAIPA	Towers and Infrastructure Providers Association
TEC	Telecommunication Engineering Center
TERM	Telecom Enforcement Resource and Monitoring
TRAI	Telecom Regulatory Authority of India
TSDMA	Telecom System Design and Manufacturing Association
TSP	Telecom Service Provider
UIDAI	Unique Identification Authority of India
UN	United Nations
USO	Universal Service Obligation Fund
USOF	Universal Service Obligation Fund
VAS	Value Added Service
VAT	Value Added Tax
VoIP	Voice Over Internet Protocol
WiFi	Wireless Fidelity
WPC	Wireless Planning and Coordination
WWW	World Wide Web
y-o-y	Year on Year



# About ASSOCHAM

## The Knowledge architect of corporate India

### Evolution of value creator

ASSOCHAM initiated its endeavour of value creation for Indian industry in 1920. Having in its fold more than 400 Chambers and Trade Associations, and serving more than 4,50,000 members from all over India. It has witnessed upswings as well as upheavals of Indian Economy, and contributed significantly by playing a catalytic role in shaping up the Trade, Commerce and Industrial environment of the country.

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ASSOCHAM is seen as a forceful, proactive, forward looking institution equipping itself to meet the aspirations of corporate India in the new world of business. ASSOCHAM is working towards creating a conducive environment of India business to compete globally.

ASSOCHAM derives its strength from its Promoter Chambers and other Industry/Regional Chambers/Associations spread all over the country.

### VISION

Empower Indian enterprise by inculcating knowledge that will be the catalyst of growth in the barrierless technology driven global market and help them upscale, align and emerge as formidable player in respective business segments.

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As a representative organ of Corporate India, ASSOCHAM articulates the genuine, legitimate needs and interests of its members. Its mission is to impact the policy and legislative environment so as to foster balanced economic, industrial and social development. We believe education, IT, BT, Health, Corporate Social responsibility and environment to be the critical success factors.

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ASSOCHAM has been a significant contributory factor in the emergence of new-age Indian Corporates, characterised by a new mindset and global ambition for dominating the international business. The Chamber has addressed itself to the key areas like India as Investment Destination, Achieving International Competitiveness, Promoting International Trade, Corporate Strategies for Enhancing Stakeholders Value, Government Policies in sustaining India's Development, Infrastructure Development for enhancing India's Competitiveness, Building Indian MNCs, Role of Financial Sector the Catalyst for India's Transformation.

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Together, we can make a significant difference to the burden that our nation carries and bring in a bright, new tomorrow for our nation.

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