



## *I. Chairperson's Message*

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At the outset I would like to thank all of you for the trust and faith reposed in me and the support provided during my tenure as the Chairperson of COAI for 2010 - 11. It has indeed been an honor & a privilege to be part of this vibrant industry and to be associated with COAI in its many successes.

As the famous poet and critic Oscar Wilde has said that "What seems to us as bitter trials are often blessings in disguise". I would like to believe that the trials industry is going through today may certainly evolve in blessings for the industry. Mr. Kapil Sibal, Hon'ble Minister for Communications & IT himself has indicated and promised a level playing field for all telecom operators, saying he wants sustained growth in the sector. He also announced the 100 day agenda, rightly emphasizing on the key industry issues;

- To frame a cohesive new telecom policy
- To frame a new spectrum policy addressing spectrum allocation/trading/sharing
- To frame a new merger and acquisition Policy

There is no denying that the telecom industry in India has shown unparalleled growth and success. The industry has achieved 66.6% tele-density and become an integral part of every Indian's life. The telecom industry has re-discovered "1 Paisa". It is expected that we will have close to 800 million voice subscribers by 2013 and a sizeable penetration of broadband by 2015.

Some of the key achievements for the year 2010-11 have been the successful implementation of Mobile Number Portability (MNP) and the launch of long awaited 3G services. While MNP has not proved to be a 'Game changer' for telecom industry, it has given the power of 'choice' to the consumer. 3G services will definitely add to the growth momentum in telecom and will have a multiplier effect on the economy.

However, the industry is confronted with various challenges and is fighting a close battle for sustenance. There is an immediate need to take appropriate steps to nurture this industry



enabling it to grow manifold and to continue to contribute significantly towards the socio-economic development of the country. It is imperative that the new National Telecom Policy recognizes this and facilitates the growth of the industry thereby acting as an effective engine towards the achievement of the National Development goals of 'Bharat Nirman'. Additionally, concerted focus is required if broadband has to follow the same growth trajectory as mobile services in India.

It is encouraging to see that the government is taking a consultative approach while finalizing the NTP 2011. This will bring forth the importance of long term introspective business approach on customer acquisition and costing.

To achieve the above it is imperative that COAI and its members work closely and progressively with DoT and the government on all issues of grave importance to the industry.

As we rollout aggressively in rural and remotest areas of the country, the need for a uniform infrastructure policy for ensuring affordable and priority RoW permissions, increased coordination of policies between the Centre, State and local governments is desirable.

We as an industry body have broadened our focus from just "Cellular" to overall "Communication" thereby preparing ourselves adequately for the era of convergence. I am glad to convey that in the past year many global giants have become members of COAI - A very warm welcome to all the new COAI members.

I would like to conclude my message by thanking all of you for the immense support provided by each and every member of the industry to me during my tenure as Chairperson COAI. My heartfelt thanks to Mr Sanjeev Aga, an industry stalwart in his own right, for his constant guidance and support during the last year. My earnest appreciation for Mr. T.R. Dua who retired this year from COAI and I extend a very warm welcome to Mr Vikram Tiwathia who has recently joined COAI. Last but not the least; I would like to thank Mr Rajan Mathews for his counseling and leadership at COAI.

Looking forward to a very fruitful and productive 2011-12.

**Sanjay Kapoor**

6<sup>th</sup> July 2011



## *II. Vice Chairman's Message*

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I am honoured and grateful for the trust bestowed upon me by the COAI. I have been associated with the Indian telecom sector and the COAI since the late nineties, and have been part of this riveting sector, with all its highs and lows. The highs have indeed been very high and the lows very low!

For an industry association, it is remarkable that the COAI has not taken the path of short-cuts, or of settling for less. This has not been a sector for the faint-hearted, or for those who prefer leisure over work, or seek riches over worth. The Indian telecom sector has been tested, and has proved itself, again and again, and not just because of its rapid growth. Today, some of the business models forged in India, and the standards set in India, are catching the attention of the world.

When I joined this sector, some observers described telecom as an infrastructure sector, others as a marketing sector, or a services sector, a technology sector, an innovation sector or even an IT sector. It is all of this and more. I believe it is the Kurukshetra of management! It is, simply put, a "management sector". Every management sinew is stretched, every management chink is exposed. That is what makes it such fun.

The amazing sector growth has thus far been driven predominantly by voice services. In the next decade, 3G and broadband, together with their accompanying new services and ecosystems will touch banking and commerce and education and administration et al. The sector will never have time to catch its breath. The opportunities will always outpace our capabilities. It is a great privilege and a source of satisfaction that we are participating in a sector which is changing the face of our society, not just economically, but civilisationally.



A glorious sector such as ours is currently reeling in the aftermath of overcapacity built during the go-go yesteryears. The sector is strained with multiple levies which make up about 40% of sector revenues. Equally, the sector groans under the less visible but yet onerous burdens of UCC, of customer verification, of MNP. As a nation, there is enormous scope for taking a more intelligent look at some of these issues and carving out a win-win. Indeed, ever since NTP 99, there has been a steady fogging of the central vision and architecture for the sector, and I do hope our country will find clarity once again. And I am sure the COAI will play its part in a constructive, inclusive and a sincere manner, guided always by a sturdy moral compass.

I thank all my industry colleagues who have provided their support and friendship at all times during my tenure at the COAI. My hearty thanks to Sanjay Kapoor. My gratitude to Rajan for taking on the reins of the COAI with vigor and caliber, and for championing the issues and concerns of the Indian telecom industry on national and international foras. A warm welcome to Vikram Tiwathia as part of the COAI Secretariat, and, of course, no words are enough for the Secretariat for their involvement and willingness to take on the completion of tasks beyond their comfort zones!

With fond wishes, always.

**Sanjeev Aga**  
July 6, 2011



### *III. Director General's Report*

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Last year in my report I had mentioned that I see the coming year to be full of exciting times and truly the year had been so eventful that I didn't realize that it is the same time of the year again, when I get the opportunity to present before you all the various initiatives by the COAI that will have long term positive impact on the growth of the India telecom sector.

It is my privileged to present the Annual Report for the year 2010-2011.

#### **INTRODUCTION**

Last year, the industry saw an intense tariff war as a result of which tariffs fell to rock bottom levels and the rediscovery of the value of a "paisa". Growth in the mobile voice segment continued robustly, however, broadband continued to lag behind. While significant inroads were made into the rural areas by private operators, the pace of rural penetration could have been further enhanced with the launch of new schemes supported by the USO.

The most important event of the year was the **launch of 3G (Mobile Broadband) services** in the country. After the successful auctions of 3G spectrum, operators have now started rolling out the services. I expect that as 3G comes to full swing in the coming year, the country will see a surge in broadband as broadband services are now available to the citizens in their palm, on the move.

3G will not only lead to introduction of new VAS applications but will also give a boost to initiatives on new revenue streams such as m-education, m-governance, telemedicine and most importantly will become the backbone for the broadband penetration. There will be significant increase in the number of persons accessing the internet from their mobile platforms. Other trends expected with 3G are that data will be segmented and the plans will be tailor-made for different segments of the population. The tariff plans are expected to be

competitive and innovative. Though I believe that initially the take up of 3G services will be concentrated more among urban subscribers and gradually it will move towards rural areas.

Another important event of the year was the successful **implementation of Mobile Number Portability (MNP)** in the country. COAI took a lead in this initiative and made the launch of MNP a success due to its untiring efforts along with the Ministry of Communication, TRAI and the Telecom Industry. No other country had introduced MNP as quickly when there was this level of complexity with ten to twelve players operating in twenty two telecom circles, two MNPO's, several ILD and NLD carriers and over 700 million subscribers. This laudable achievement was made possible due to the successful Public-Private Partnership of Ministry, DoT, TRAI, Service Providers and the MNPO's.

In fact, within two months of introduction of MNP, the predictions made by COAI regarding the preferred service providers selected by customers were also confirmed. In the data released by TRAI, it was evident that the GSM players are the preferred option selected by the cellular subscribers. It is a world-wide trend that consumers of mobile services prefer GSM over CDMA. GSM networks are hailed for their better network quality, wide selection of valued added services and a variety of handsets and open networking systems.

### **STATUS ON POLICY AND REGULATORY ISSUES**

The Government realized the fact that the industry has reached a stage where the objectives of the existing policy have been well served and now there is a need to review it. It is the right time to take into account the developments since 1999 and institute a comprehensive policy including recognition of telecom as infrastructure and essential service.

COAI fully endorsed and supported this vision of the Government. It has always advocated that the Telecom Industry is a powerful engine for the socio-economic development of the country. Therefore it is imperative that the **National Telecom Policy** should aim to nurture the industry to ensure that the National Development goals are achieved and that the industry is not seen as a cash cow to be milked to raise revenues and close the Government budget gaps. Policy initiatives should be fair and a level playing field should be maintained in all aspects to ensure a high growth trajectory of the telecom sector and enable it to play the role of being the effective engine for sustained economic development of the country.

With the above objective, COAI had been providing requisite inputs to the Government on all aspects to formulate a New Telecom Policy for the country. The new policy needs to focus on two major public interests areas - the consumer must get the service at a reasonably rates and keep the industry robust. The Indian telecom sector now needs to emerge as a sector that capitalizes on driving reforms and innovation by providing access to information and technology to its citizens.

First and foremost mandate of the policy should be to clearly state that the **telecom sector is to be recognized and treated as part of the national critical infrastructure** with the attendant benefits and responsibilities of this category. There is a need for a National Telecom Infrastructure Policy which is essential for a uniform procedure to be followed across all States. This should be defined by the Central Ministry for the optimal growth of telecom infrastructure in the country.

The scientific and technological progress of a nation is a major determinant of its state of development. Innovation and knowledge will be the key factors in our nation's progress in the 21st century. We must, therefore, **foster an environment that promotes and nurtures technological achievement and makes us a world leader in creating intellectual property.** Mobility or services on the move will drive adoption in India. Voice Networks will converge around data networks. Higher bandwidth coupled with technology innovations will bring about a radical change in the country's mobile market, as it would facilitate higher speed and data throughputs, enabling the delivery of a wide array of multimedia services, such as video streaming, music, movie downloads and mobile TV. Network equipment providers will increasingly provide backward and forward compatibility with various generations of networks and will provide for seamless migration.

Another area of focus for the NTP should be that the **convergence of markets and technologies is forcing a realignment of the industry.** Telecom and broadcasting industries are encroaching upon each other's territories and technology is blurring the difference between various conduit systems such as wireline and wireless. The growing trend of transmitting data in digital form is leading to a convergence that makes the distinction between voice, fax, data, video, and other forms less relevant as all are carried over the same networks. Thus, there is a need to work in sync with different ministries in India to come up with comprehensive guidelines for promotion of services. Convergence of technology is happening rapidly but there is need for matching convergence of regulations. Certainty and confidence in the regulatory environment is essential for the steady growth of this sector. Micro-regulation should give way to a market based approach.

The new policy also needs to focus more on **strengthening research and development efforts** in the country and provide an impetus to build world-class manufacturing capabilities.

As the **renewal of existing telecom licenses** are around the corner, it should be done in a transparent and rational basis.

There is also a dire need to make more and **more wireless spectrum available** to the industry to meet the growing demands of the industry. There is a need to lay down a clear roadmap for increased availability of spectrum introduce a simple, fair and transparent spectrum usage charges regime that is easy to administer and enforce and will help avoid arbitrage opportunities, Identification of new spectrum bands for commercial use, especially exploiting the digital dividend band (700 MHz) for delivering affordable & expeditious mobile broadband to all.

The future technological developments in mobile/ broadband are all focused on higher data speeds, as the need of the future would be higher and higher data speeds. This is also the reason why international bodies like ITU have named them IMT-Advanced technologies. This would also limit access and competition in the market. Thus, it is suggested that in future, in the country, no spectrum band should be allocated/ dedicated to a particular generation of technology. The choice of the technology should be left to the operators as they will decide which is best suited to customer demands.

We appreciate that the Government has realized the potential of **Broadband** and is working towards facilitating its penetration. The Government is working towards making a national optical fiber backbone to promote broadband in the country. However, the **National Broadband Plan** does not cover the last mile – taking services from the towers to the homes/ in the hands of the subscribers. **It is a known fact that wireless is the quickest and most efficient medium to provide broadband services in the access network.** The future growth of broadband in developing countries, especially India, will see wider deployment with greater emphasis on wireless networks. Thus, it is required that all available technologies should be leveraged for building up such a national broadband plan.

The Government should **fund broadband proposals that leverage existing underutilized infrastructure in innovative ways** to deliver the needed services and significantly improve coverage. The funding must avoid costly overbuild or duplication of the existing network where it is capable of delivering acceptable broadband at a lower cost than fiber based alternatives. **Special subsidies may be provided to specifically meet the national**

**broadband objectives of the Government.** For example, operators who provide broadband services by use of 3G & BWA services, a subsidy in the form of lower spectrum charges be provided to them.

Another area of concern and immediate attention of the industry is that the **revenues are stagnating and operating costs are constantly rising.** Despite the drop in tariffs, MoU haven't seen any increase. On the contrary, MoU have fallen by more than 25% in less than two years. As a result, the ARPU levels have almost halved during the same time frame. Other factors contributing in the falling ARPU levels are urban market saturation, expansion in rural markets, use of multiple SIMs and churning of subscribers.

As a result EBITDA and net margin have come under considerable pressure. And the situation has worsened because of the multiple taxes levied by Central and State Government and with the increasing trend of government to push the cost of Government requirements, security and otherwise (e.g. MNP, UCC, Customer Verification, etc.), on to operators. The new example of this is the cost to be borne by operators for implementing Location Based Services (LBS) to meet government's security needs, as per the Equipment Security agreement. While the industry heartily supports the need for ensuring the security of the country and is happy to implement government's requirements, we do not believe this should be done at the sole cost to operators.

Moreover, as the service providers expand to semi-urban and rural areas, they must have the capacity to absorb the significant customer acquisition cost as well as the financial flexibility to fund initial losses.

When you look at an overall performance of the industry, clearly evident from the numbers is the fact that most of the players competing in this market are competing at price points and financials which do not justify a **long-term sustenance.** So the industry has to correct itself with or without regulation to make sure that it is sustainable on a long term basis to be able to service the customer with newer technologies and better service going forward

A **simplified taxation and levy structure** that avoids double-taxation and meets the appropriate objectives of raising revenue for government, the health of the industry and equity in the tax burden.

In view of the security concerns of the nation, it is important to have a policy relating to import of telecom equipment to ensure that the procured equipment / software is free from

black boxes, malware, trapdoor and remote / hidden attack through computerized command and control detectable by means of recognized diagnostic and security procedures and take adequate steps and mechanisms for adequate security against any subversive activity. The policy should aim at facilitating import of equipment taking due care of security conditions rather than aiming at punitive actions. The approach should be to get remedies for the anomalies existing at present.

### **INDUSTRY INITIATIVES**

COAI very proficiently dealt with various industry issues this year. The projects already under consideration were taken forward and a lot of new issues which were beneficial for the industry were also taken up successfully.

**Security issues related** to the mobile industry were the prime focus for all. The industry successfully completed the **re-verification of mobile subscribers**. COAI was also at the forefront to providing inputs to the Government and Regulator on issues pertaining to **lawful interception, encryption policy, IMEI related issues**, etc. COAI also took a step forward in getting some relief on the stringent equipment procurement policy issued by the Government. We took charge of getting a consensus on various issues between the equipment vendors and the service providers to represent them suitably to the Government. We were also successful in getting the **UID (Unique Identification) Number** as an acceptable Proof of Identity and Address for acquiring mobile connections. In fact, the DoT is about to conduct a Proof of Concept for the same with a few operators. However, despite the best efforts of the industry, it was sad to see that DoT was imposing huge penalties on operators and that too in an incorrect manner. Thus, we had to take the step towards litigation to get the issue resolved. The matter is pending in the Hon'ble TDSAT, however, the interim Order had been favorable for the industry.

COAI was at the forefront of conducting an **advocacy programme** to negate the apprehensions associated with the cellular towers from the minds of general public/ government agencies / civic bodies and media. As a joint Industry initiative in which AUSPI and the associate members of COAI were also actively involved, the Association conducted various seminars and media events at New Delhi, Mumbai, Pune and Hyderabad to effectively engage the target audience to create awareness and build positive opinion on concerns and erase the misconceptions related to **EMF** exposure from the base stations. COAI has also responded to the Inter-Ministerial Committee Report bring out the actual facts regarding the alleged health effects due to EMF radiations and disseminating factual information on RF radiations from Mobile stations and mobile phones **based on scientific evidence and the**

**large studies & research carried out by the International bodies of highest repute, e.g. WHO, ICNIRP, ITU, & FDA etc.** COAI will continue to work towards spreading this awareness by conducting many more seminars this year in different cities.

COAI and its members are increasing understanding and need to utilize **“green” eco-friendly technologies and methods**. The use of diesel by the industry isn't by choice. A large amount of opex is spent on running the network on diesel annually due to the shortage of grid supply and limited availability of scalable alternate energy sources. To minimize the environmental impact, all operators first use battery power and switch to diesel generators once the battery runs out. It may also be appreciated that telecom is the only industry which is required to be available 24x7, 365 days. The industry in its self-interest is also aggressively pursuing enhanced use of renewable energy and is on a continuous look-out for alternatives like solar panels and other types of sources of energy and their combinations to achieve cost-effectiveness. Industry has already taken several initiated significant activities aimed at reducing their reliance on the diesel and fossil fuel consumption. COAI has also provided a lot of such inputs to TRAI to work effectively on Green telecom initiative.

COAI is actively working with TRAI, TEC and MPFI (Mobile Payment Forum of India) on **inclusion of financial services through mobiles**. The debate is now on the regulatory and operational issues and the aim is to reach at a consensus amongst all stakeholders for smooth implementation. The mobile operators are now recognized as the Business Correspondents for the same and this will give a boost to the industry.

COAI is also playing a vital role in the **TCOE (Telecom Centres of Excellence) initiative**. Over 200 researchers are working on 64 projects in diverse areas of telecom in the seven TCOEs. 12 projects have reached the prototyping stage and projects like Power Supply Backup Solutions for Rural Networks are ready for commercialization. 9 patents have been filed by the TCOEs and 1 US patent has been granted to TICET, IIT Bombay. A total of 14 contributions from TICET, IIT Bombay have made it to IEEE 802.16m & 802.1Qbf global standards. Proposals for the TSDO (Telecom standards Development Organization), TEDC (Telecom Entrepreneurship Development Centre) and TETSCL (Telecom Equipment Testing and Security Certification Laboratory) have been submitted to the Dept. of Telecommunications and are under active consideration for being set up. The TCOE is contributing immensely towards the R&D efforts of the industry.

Apart from the above initiatives, COAI had been actively involved with the Regulator in providing inputs on issues including Infrastructure Sharing, National Broadband Plan, Interconnect Usage Charges, Unsolicited Commercial Communication, Domestic Equipment Manufacturing, etc.

### **Changes that the market will undergo in the coming year**

**Market Consolidation:** Next year will witness consolidation in the country's crowded telecoms market, with new entrants scaling down their rollout plans and shying away from reducing tariffs further.

**Shift of Focus from Urban to Rural:** With rural teledensity at about 30% as compared to urban teledensity of over 100%, the next wave of growth will come from rural areas. Connecting the unconnected will be the prime focus in the coming year 2011 as we look towards a great rural push by all service providers. Broadband will get a boost with the launch of the National Broadband Plan.

**Indigenous Telecom Manufacturing:** In spite of being the second largest telecom market in the world, telecom equipment manufacturing in India is still to take off and the repercussions of this delay are now being felt. The growing demand, impetus from the Government will surely result in boosting the manufacturing of telecom infrastructure in India.

**Voice to Video and Data Applications:** Increased utilization of Video and Data and other Applications will lead to more revenue streams and will contribute enhanced revenue. Voice will see a gradual downward shift.

**Financial Services on Mobiles:** There will be a significant increase in the banking and other financial services, as well as other payments being offered on the mobile platform. With dedicated efforts in the implementation of allocation of the UID, this has the potential to facilitate financial services significantly in the coming year.

**Brand differentiation:** One of the key differentiator between operators would be the VAS offerings they have in their portfolio and the quality of service they are providing. This is expected to gain momentum, with the introduction of MNP and 3G.

### **Growth Drivers, Trends and Services for the coming year**

**Mobile Banking:** Another initiative expected to gather pace in this year is that of Mobile Banking. Operators in India will increasingly leverage Mobile technology to open up

channels beyond the branch network of the banks and create a banking footprint to reach banking services to the un-banked masses.

**Use of Non-Conventional Energy Sources:** Some mobile operators are already in the process of carrying out trials on the use of non-conventional energy sources. This year will see a greater emphasis on use of alternate energy in telecom sector.

**Shift Towards smart handsets:** Though the trend was started in last year, we believe that the demand for smart phones will pick-up this year because of growing economy, increasing demand and affordability.

**Keeping the above market changes and growth drivers in mind, COAI is all geared up to contribute incalculably towards the success of the industry.**

#### **OTHER ACTIVITIES OF THE ASSOCIATION**

We at COAI realized that with the convergence of markets and technologies, there is not only a need for realignment of the industry but also for the Association. Hence, the Association is also expanding its horizon and is moving from a cellular Association to a Communications Association. To position the Association to benefit from the emerging impact of “Convergence”, we have welcomed **new Associate Members** including **Alcatel Lucent India Ltd., Cisco Systems India Pvt. Ltd., Huawei Telecommunications (I) Pvt. Ltd. and QUALCOMM India Pvt. Ltd.** In the coming year, the focus of the Association would be to increase the membership of COAI by identifying the players in the growing eco-system important to our industry (e.g. VAS companies, Equipment Manufacturers, R&D Centers, etc.). This will immensely benefit the industry as the entire eco-system will get a common platform to discuss on various issue and come to more comprehensive and holistic solutions.

COAI remained unremitting in its endeavor to be at the forefront of national and international events held in the year 2009-10. COAI took a lead in taking a worthy contingent to **3GSM World Congress 2011, held in the month of February at Barcelona.** COAI also organized various **Seminars and Workshops** on issues of interest and benefits for its members and the industry. The issues included Mobile Broadband, EMF Radiations, LTE, Location Based Services, etc. COAI and its members also actively participated in the Organization as well as the activities of many other telecom events in India. COAI was closely associated and played an important role in the organization of the **India Telecom Summit – 2010**, a reputed international conference and exhibition.



Last year on the request of some members a **sub-committee was set up to review the COAI Rules & Regulations**. The new set of rules and regulations have been formulated for the Association keeping in mind the changing dynamics of the telecom industry and thus the membership of the Association.

The **COAI Executive Council** headed by Chairperson, Mr. Sanjay Kapoor, Vice Chairperson, Mr. Sanjeev Aga and comprising senior representatives from all member operators, met quite a few times over the last year to deliberate on a variety of issues impacting the GSM industry. They were adroitly assisted by proficient advice from the various **Working Committees** that had been set up in COAI.

Many **special committees and working groups** formed in COAI also discussed various issues related to certain specific projects like Subscriber Verification and Security related Issues, National Do Not Call Registry, Infrastructure Sharing, MNP, EMF, etc. and continued to work assiduously on the related issues.

In the end, I would like to convey my deep appreciation and thank **all the Committees and Working Groups** and their **Chairmen and Vice Chairmen** for their dexterous leadership and earnest contribution towards various industry issues and helping the Association in representing them suitably at various forums.

I would like to personally **thank the Chairperson, Mr. Sanjay Kapoor**, for his personal involvement and support in all the activities and initiatives of the Association for the last year and hope for the same leadership and guidance in the coming year as well. I also thank the **Vice Chairperson, Mr. Sanjeev Aga** for all the support and guidance that he has provided during his tenure.

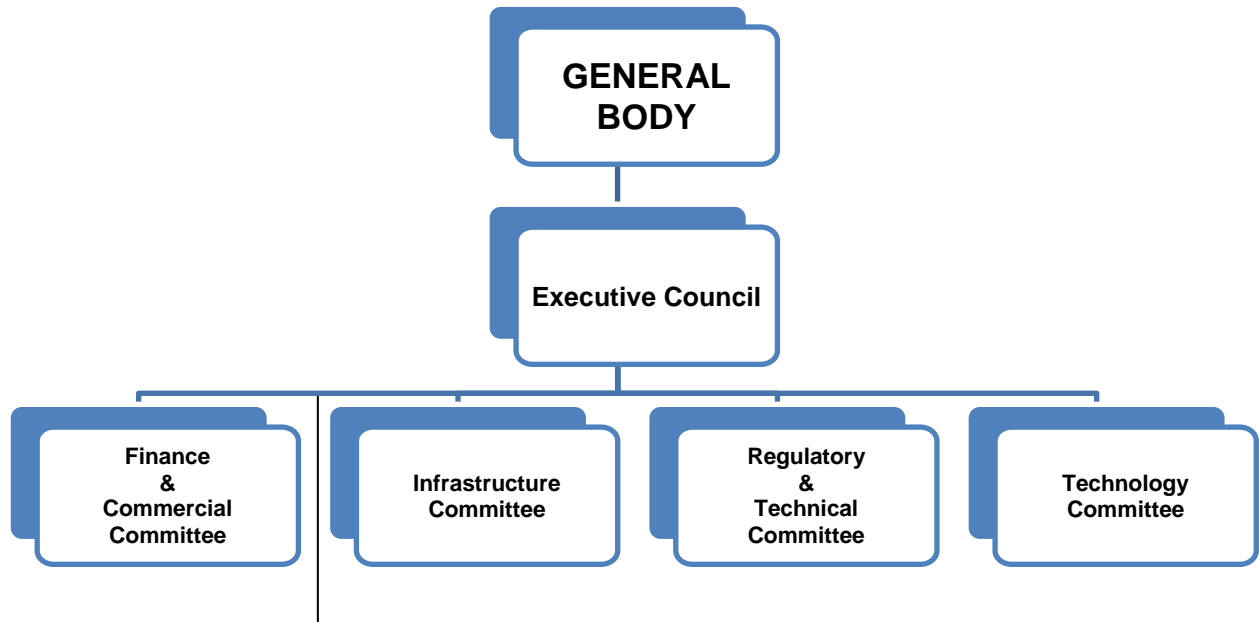
I would especially like to record my deep appreciation to the unfaltering efforts and support of the **COAI Secretariat** team who have always been fully committed to the task before us and have always been ready to take up new challenges for the Association and sail through them smoothly.

Going forward, we would like to see the Association as **the Acknowledged Thought Leader for the entire telecom Industry and I am sure to get unstinting support of our members as well as the Secretariat to make it a reality**.

**Rajan S. Mathews**

July 6, 2011

## IV. COAI Structure



### Working Group and Special Projects

- **ACT ( Apex Advisory Council for Telecom in India )**
- **Mobile Number Portability**
- **NDNC ( National Do Not Call Registry)**
- **Rules & Regulations sub-group**
- **EMF and Environment Related Issues**
- **Advocacy Group**
- **Working Group on Spectrum**

## V. COAI Secretariat

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- Mr. Rajan. S. Mathews, Director General
- Mr. Vikram Tiwathia, Associate Director General
- Mr. J. Jena, Associate Director General – Special Projects
- Mr. Saurabh Puri, Deputy Director - Research & Analysis
- Mr. Gopal Mittal, Deputy Director - Commercial & Finance
- Ms. Priya Sawhney Mohindru, Deputy Director - Communications & Regulations
- Ms. Vertika Misra, Assistant Director
- Mr. Kshem Kapoor, Deputy Manager
- Ms. Seema Gupta, Deputy Manager- Administration
- Ms. Amrita Anand, Deputy Manager
- Ms. Sweta Chauhan, Deputy Manager
- Ms. Anandhi Nair, Senior Executive – DG office
- Ms. Lalitha Ravichandran, Executive
- Ms. Sugandha Berry, Executive
- Ms. Sanki Lalwani, Executive

### TEAM COAI

Youthful, dynamic and dedicated....trailblazers traversing the vast and rapidly changing landscape of mobile telephony and allied services, that's COAI, a team spearheaded under the able guidance of Rajan S Mathews. The fields are many, the challenges often unforeseen, technologies ever evolving and the slate of the business environment being rewritten umpteen times. In this environment of challenge and exhilaration, the responsibility to streamline and safeguard the stake holders of this bright industry, rallying everyone's consensus and support, to ensure a fair-play for all those foraying into the meadows offering unlimited potential, is a task requiring steadfast commitment from every gear of this well-oiled machinery.



COAI takes pride in the fact that though small in size, it takes cognizance of technical, regulatory, legal and public relations, all under one roof. This year also saw changes in the secretariat while we bid adieu to Mr. T.R.Dua upon his retirement in January 2011, the secretariat welcomed Vikram Tiwathia, Sweta Chauhan and Sanki Lalwani.

The work environment may be busy and fraught with meeting daily challenges, yet on the front of caring for the team, bonding exercises and management workshops were undertaken. Two such exercises were conducted this year that gave good opportunity for each of the 'gears' of this small yet intricate 'COAI engine' to further improve mutual understanding and enhanced responsiveness while working towards common goals. More training and skill set enhancement programmes are in the offing in the near future.

## VI. COAI Members

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### A. COAI Core Members

1. Aircel Ltd.
2. BhartiAirtel Ltd.
3. Etisalat DB Telecom India Pvt. Ltd.
4. Idea Cellular Limited
5. S-Tel Ltd.
6. Unitech Wireless
7. Videocon Mobile Services
8. Vodafone Essar Limited

### B. COAI Associate Members

1. Alcatel Lucent India Limited
2. Ascend Telecom Infrastructure Pvt. Ltd.
3. CISCO Systems India Pvt. Ltd.
4. Ericsson India Pvt. Ltd.
5. Essar Telecom Infrastructure Pvt. Ltd.
6. GTL Infrastructure Ltd.
7. Huawei Technologies Co. Ltd.
8. Indus Tower Ltd.
9. Nokia Siemens Networks
10. Qualcomm India Pvt. Ltd.
11. SPX India Pvt. Ltd.
12. ZTE India Pvt. Ltd.

## A. COAI Core Members

### **Aircel Ltd.**

5<sup>th</sup> Floor, Spencer Plaza  
769, Anna Salai  
Chennai – 600 002  
Tamil Nadu.



Aircel, is a joint venture between Maxis Communications Berhad, a leading regional telecommunications group based out of Malaysia and Sindya Securities and Investments Private limited. It is now India's fifth largest and fastest growing GSM mobile service provider with a subscriber base of over 57 million. It is the market leader in Tamil Nadu, Assam, North-East and Chennai. Aircel is a Pan India operator with a presence across 23 circles. Aircel won 3G spectrum in 13 circles and BWA spectrum in 8 circles. Aircel has successfully launched 3G services in 13 circles across India, the fastest 3G roll out ever in the Indian Telecom Space.

Aircel has positioned itself as a data led telecom player and has addressed the multi-functionality of a mobile phone in many innovative ways which are Industry firsts, be it the Aircel Pocket Internet, the first social networking mobile INQ on Aircel, Aircel Apollo Mobile Health Care, Blyk on Aircel an enriching engagement for the Youth, the first telecom player to introduce Facebook Voice Updates on Aircel and very recently introduced iPhone4 to the Indian Market. For more information, please log on to [www.aircel.com](http://www.aircel.com).

### **Bharti Airtel Limited**

AirtelCenter - Gurgaon  
Plot no 16, Udyog Vihar, Phase IV  
Gurgaon-122 001 (Haryana)



Bharti Airtel Limited is a leading global telecommunications company with operations in 19 countries across Asia and Africa. The company offers mobile voice & data services, fixed line, high speed broadband, IPTV, DTH, turnkey telecom solutions for enterprises and national & international long distance services to carriers. Bharti Airtel has been ranked among the six best performing technology companies in the world by BusinessWeek. Bharti Airtel had over 226 million customers across its operations at the end of May 2011. To know more please visit, [www.airtel.com](http://www.airtel.com)

**Etisalat DB Telecom India Pvt. Ltd.**  
Infinity Towers, 5<sup>th</sup> Floor, A-Wing,  
Mindspace, Link Road, Malad (West),  
Mumbai – 400064



Etisalat DB Telecom Pvt. Ltd. is a joint venture between Etisalat and DynamixBalwas Group. Headquartered in Mumbai, the company and its subsidiary has the Unified Services Access License in 15 circles including Andhra Pradesh, Delhi, Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Mumbai, Punjab, Rajasthan, Tamil Nadu (including Chennai), Uttar Pradesh (East), Uttar Pradesh (West), Madhya Pradesh and Bihar. These licenses enable the Company to provide a full spectrum of telecom services covering a population of over 900 million across these circles.

Etisalat DB's services include national & international long distance telephony solutions, full range of prepaid & postpaid products, national & international roaming and Value Added Services. Etisalat has been ranked 140th among the Financial Times Top 500 Corporations in the world in terms of market capitalization. For more information, please log on to [www.etisalat.ae](http://www.etisalat.ae)

**Idea Cellular Limited**

'Windsor' 5<sup>th</sup> Floor  
Off CST Road, Near Vidya Nagari,  
Kalina, Santacruz (East), Mumbai 400098



IDEA Cellular is a publicly listed company, having listed on BSE & NSE in March 2007. It is the 3rd largest mobile services operator in India with wireless revenue market share at 13.6 %. It recorded a subscriber base of over 93.75 mn as of 31st May 2011. Idea is a pan-India integrated GSM operator and has its own NLD and ILD operations, and ISP license. Idea won 3G spectrum in 11 service areas which contribute about 80% of the company's existing 2G revenues. Idea has now launched 3G services in 9 service areas and is committed to extend services in 10 new towns per day to progressively grow to cover 3,200 towns by the end of FY 2012.

Idea's service delivery platform is ISO 9001:2008 certified, making it the only operator in the country to have this standard certification for all 22 service areas and the corporate office. Idea emerged as the biggest gainer, post the launch of Mobile Number Portability in India.

Idea's strong growth in the Indian telephony market comes from its deep penetration in non-urban & rural markets. It has the highest share of rural subscribers as a % of total subscribers, amongst other GSM players. It is the winner of 'The Emerging Company of the Year Award' at The Economic Times Corporate Excellence Awards 2009, the prestigious Avaya GlobalConnect Award for being the 'Most Customer Responsive Company' in the Telecom sector in the year 2010. For more information, please log on to [www.ideacelluar.com](http://www.ideacelluar.com)

**S Tel Private Limited**

1<sup>st</sup> Floor Tower B,  
Unitech Cyberpark, Sector-39  
Gurgaon (Haryana) - 122001



S Tel Private Limited (S Tel), a new telecom operator in the Indian Telecom Space, is a joint venture of Siva Group (formerly Sterling Infotech Group) and BMIC Limited ( a 100% subsidiary of Batelco, Kingdom of Bahrain). Headquartered in NCR region of Delhi, S Tel acquired Unified Access Services Licenses (UASL) to operate in 6 category C circles - HP, Bihar, Orissa, North East, Assam and Jammu & Kashmir. It has already rolled out its services across its 5 license areas wherever requisite GSM spectrum frequencies have been allocated viz; Orissa, HP, Bihar & Jharkhand, Assam and North East. Equipped with these licenses, S Tel offers Unified Mobile service and innovative Value Added Services (VAS) to a population of over 226 million across these states and currently serving to more than 3.3 Million customers.

S Tel also obtained 3G Service licenses for HP, Bihar and Orissa circles which has placed S-Tel as one among the seven 3G Operators in the country and, the only new operator to obtain 3G Spectrum. For more information, please log on to [www.stel.in](http://www.stel.in)

**Unitech Wireless**

Sector 54, Golf Course Road,  
DLF Phase V, Opposite IBIS Hotel  
Gurgaon - 122002



Uninor is a young mobile operator in India. We combine forces of the Norway based Telenor Group, one of the world's leading mobile operators, with India's second largest real estate company Unitech Ltd. Telenor Group today has mobile operations in 11 markets across 3 world regions as well as a significant economic interest in VimpelCom Ltd. in Russia that operates in 10 markets. It employs over 33,000 employees; has over 200 million subscribers and is one of the top 500 global companies by market value. It is also one of the largest mobile operators in Asia with over 100 million subscriptions across the region.

Uninor holds Unified Access Service Licenses to offer mobile telephony services in each of India's 22 circles with spectrum in 21 of these. Uninor services are retailed across 320,000 points-of-sale and 622 exclusive stores and over 1700 distributors. The company employs close to 10,000 direct and partner employees and has already crossed the 25 million subscriber mark across India. The 13 telecom circles where Uninor's services are commercially available together account for over 900 million people or 75% of India's population. For more information, please log on to [www.uninor.in](http://www.uninor.in)

**Videocon Telecommunications Limited**

# 248, UdyogVihar Phase IV,  
Gurgaon – 122 015



Videocon Telecommunications Limited, a Videocon group company offers GSM mobile services under the brand name “*Videocon Mobile Services*”. The GSM services are being provided in 16 service areas namely Andhra Pradesh, Bihar, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Mumbai, Orissa, Rajasthan, Tamilnadu incl. Chennai, UP East, UP West & West Bengal and shall soon provide mobile services on a pan-India basis.

Videocon Telecommunications Limited is part of the Videocon Group which is a global business conglomerate with a strong presence in Household Consumer Goods, Telecom, DTH, Retail, Oil & Gas and the Power sector. The Group is rated amongst India's Top 15 Business Houses and is listed among the 100 Emerging Giants of the World according to a Boston Consulting Group study. It has also been rated amongst the Top 15 of India's 'buzziest brands' by agencyfaqs in 2010. For more information, please log on to [www.videocon.com](http://www.videocon.com)

**Vodafone Essar Limited**

Peninsula Corporate Park  
Ganpat Rao Kadam Marg  
Lower Parel, Mumbai – 400 013



Vodafone Essar is a member of the Vodafone Group and commenced operations in 1994 when its predecessor Hutchison Telecom acquired the cellular license for Mumbai. The company now has operations across the country with over 139 million customers. In a survey conducted by India's leading business weekly, Vodafone Essar was awarded 'Most Respected Company' in the Telecom Sector for 2010 and the 'Most Trusted Service Brand' in India for 2010, by a leading financial daily.

Vodafone is one of the world's largest mobile communications companies by revenue with over 370 million customers in its controlled and jointly controlled markets as at March 31, 2011. Vodafone currently has equity interests in over 30 countries across five continents and more than 40 partner networks worldwide. For more information, please visit [www.vodafone.com](http://www.vodafone.com)

The Essar Group is a diversified business corporation with a balanced portfolio of assets in the manufacturing and services sectors of Steel, Energy, Power, Communications, Shipping Ports & Logistics, and Projects. Essar employs more than 50,000 people across offices in Asia, Africa, Europe and the Americas.

## B. COAI Associate Members

### **Alcatel Lucent**

Alcatel Lucent India Limited  
15th Floor, Tower C, DLF Cyber  
Greens, DLF City, Phase – III  
Gurgaon - 122002, Haryana, India.



With operations in more than 130 countries and one of the most experienced global services organizations in the industry, Alcatel-Lucent is a local partner with global reach. The Company achieved revenues of Euro 16 billion in 2010 and is incorporated in France and headquartered in Paris. Alcatel-Lucent in India operates in three countries: India, Bhutan and Nepal. The company is engaged in R&D, Sales, Marketing, Customer Support, Services, Operations and Development of Embedded as well as Application Software for Telecom Networks in the region. Alcatel-Lucent has emerged as the single largest supplier of digital switching in India for both Fixed and CDMA wireless lines with over 50% market share. With more than 20 offices and 10000 employees across India, Alcatel-Lucent is strongly present in the region. For more information, please log on to [www.alcatel-lucent.com](http://www.alcatel-lucent.com)

### **Ascend Telecom Infrastructure Pvt. Ltd.**

A - 25 / 26,  
2nd Crescent Road,  
Sainikpuri,  
Hyderabad - 500 094



Ascend Telecom Infrastructure Private Limited (formerly Aster Infrastructure (P) Ltd ), incorporated in the year 2002, is a leading independent owner and provider of world class passive telecom infrastructure on a shared, multi tenancy basis for the mobile services and wireless sector in India. Ascend is a Category I Infrastructure Provider (IP-I) registered with the Department of Telecommunications, Government of India. Ascend has been created so as to cater to the emerging needs of telecom infrastructure requirements in India.

Ascend is the first Indian company to offer sites with complete passive infrastructure to Mobile Communication operators, on the Build-Own-Lease model (BOL) basis. Presently Ascend has its presence in 15 states including Andhra Pradesh, Karnataka, Tamilnadu, Punjab, Haryana, Uttar Pradesh (East), Jharkhand, Madhya Pradesh, Chhattisgarh, Gujarat, Rajasthan, Maharashtra, Assam, West Bengal and Orissa. For more information, please log on to [www.aipl.net](http://www.aipl.net)

**CISCO System India Pvt. Ltd.**

7<sup>th</sup> Floor, East Tower  
25, Barakhamba Road  
New Delhi – 110 001



Cisco is the worldwide leader in networking that transforms how people connect, communicate and collaborate. Cisco was founded in 1984 by a small group of computer scientists from Stanford University. This tradition of innovation continues with industry-leading products in the core areas of routing and switching, as well as advanced technologies in areas such as Home Networking, IP Telephony, Optical, Network Security, Storage Networking and Wireless LAN. Cisco India commenced operations in 1995 and it has 7 Sales Offices in the region - New Delhi, Mumbai, Bangalore, Chennai, Pune, Kolkata and Hyderabad. India headcount is 7000+, including R&D, sales and business support staff. For more information, please log on to [www.cisco.com/in](http://www.cisco.com/in)

**Ericsson India Pvt. Ltd.**

DLF Cyber City, Sector  
25A  
Gurgaon - 122002



Ericsson is the world's leading provider of technology and services to telecom operators. Ericsson is the leader in 2G, 3G and 4G mobile technologies, and provides support for networks with over 2 billion subscribers and has the leading position in managed services. The company's portfolio comprises mobile and fixed network infrastructure, telecom services, software, broadband and multimedia solutions for operators, enterprises and the media industry. Ericsson held 27,000 granted patents globally as of December 31, 2010. The Company is expected to hold approximately 25 percent of all essential patents in LTE. The Sony Ericsson and ST-Ericsson joint ventures provide consumers with feature-rich personal mobile devices.

Ericsson has been associated with the Indian telecom industry for over 100 years. Today, Ericsson India Pvt. Ltd has over 6500+ resources in India and offices across 25 locations. The company successfully pioneered the concept of Managed Services in India. Investment in factory operations (the first company to manufacture GSM equipment in India), R&D and building Global Services Centre (with close to 3500 employees to manage networks of multiple operators across geographies catering to 150 million global subscribers) have been significant. Ericsson is advancing its vision of being the "prime driver in an all-communicating world" through innovation, technology, and sustainable business solutions. For more information, please log on to [www.ericsson.com](http://www.ericsson.com)

**GTL Infrastructure Ltd.**

Maestros House,  
MIDC Building No. 2  
Sector 2, Millenium Business Park  
Mahape, Navi Mumbai -400710



GTL Infrastructure Limited (GTL Infra), a Global Group enterprise, is in the business of Shared Passive Telecom Infrastructure in India. The company has a portfolio of over 30,000 towers located across India. It is a publicly listed company (BSE: 532775 & NSE: GTL Infra), and has emerged as the world's largest independent tower company in India. It is registered with the Department of Telecommunications as an Infrastructure Provider in Category I (IP-I).

It has a portfolio of towers serving all the major cellular operators and is associated with prestigious projects being promoted by DoT and COAI. In phase 1 of the USO tendering process, GTL Infra has emerged as the leading independent tower infrastructure player. It has won several awards and recognitions like the "Best Independent Infrastructure Provider" from Tele.Net, "Innovative Infrastructure Company of the year" by CNBC TV18 and "Top Independent Infrastructure Provider of India" by V&D. For more information, please log on to [www.gtlinfra.com](http://www.gtlinfra.com)

**Huawei Technologies Co. Ltd.**

1st Floor, JMD Pacific Square,  
Behind 32nd Milestone,  
Sector-15, Part-II,  
Gurgaon, Haryana - 122002



Huawei, founded in 1988, is a leading telecoms solutions provider serving 45 of the world's top 50 telecom operators. Huawei's products and solutions have been deployed in over 100 countries and support the communications needs of one third of the world's population. The company is committed to providing innovative and customized products, services and solutions to create long-term value and growth potential for its customers. Huawei established its largest overseas R&D center in Bangalore in 1998 employing over 2000 Indian software engineers. This R&D center develops components, platforms and products in the areas of Next Generation Networks, Intelligent Network, Network Management, Data communication, Optical Transmission, and Mobile Handset applications for leading telecom operators around the world including India For more information, please log on to [www.huawei.com](http://www.huawei.com)

**Indus Towers Limited**

Building No. 10,  
Tower-A, 4th Floor, DLF Cyber City,  
Gurgaon 122 002  
India



Indus Towers, headquartered at Gurgaon in the National Capital Region of Delhi, offers services to all telecom operators in the wireless space and other wireless service providers such as broadcasters and broadband service providers. “Customer Equality” is a key goal for Indus and the management team remains steadfast to its principles of neutrality and equality towards its customers.

With a portfolio of more than 110,000 towers, Indus is the largest telecom tower company of the world, ensuring significant scale benefits for its customers by way of ‘speed to market’. It has a presence in the 16 major telecom circles of India and has recently achieved a significant milestone of 200,000 tenancies - a first in the industry. Its commitment towards continuous innovation endeavors optimization of future tower rollouts, enhanced operational efficiencies – leading to substantial cost savings for its customers. Indus also aims to achieve the objectives enshrined in the Government of India’s policy to intensify tele-density & rural coverage. For more information, please log on to [www.industowers.com](http://www.industowers.com)

**Nokia Siemens Networks**

7<sup>th</sup> Floor, Building 9A,  
DLF Cyber City, DLF Phase III,  
Gurgaon 122002 (Haryana) India



Nokia Siemens Networks is a leading global enabler of telecommunications services. It is one of the largest telecommunications hardware, software and professional services companies in the world operating in 150 countries. The company is a 50-50 joint venture combining the Nokia Networks Business Group and the carrier related businesses of Siemens Communications which began its operations on 01 April 2007. On 29 April 2011, Nokia Siemens Networks completed the acquisition of Motorola networks.

Nokia Siemens Networks India has fully indigenized operations and workforce with 15,000 people (direct & indirect) at 50 principle offices and present in 177 locations. The Company and was recently ranked as India ‘s number one wireless infrastructure company by Voice & Data 100 annual survey report. It also won prestigious ET Now award for “Best Managed Service partner – 2010’ and “Best Telecom vendor – 2010’ by Frost & Sullivan. It is the vendor of choice for all major Communications Service Providers. It has top market share in Managed Services, Packet Core, Messaging and Browsing and GSM-Railways apart from adding 30% market share in 3G. For more information, please log on to [www.nokiasiemensnetworks.com](http://www.nokiasiemensnetworks.com)

**Qualcomm India Pvt. Ltd.**

DLF Centre, 3<sup>rd</sup> Floor,  
Parliament Street,  
New Delhi – 110001



Qualcomm Incorporated (NASDAQ: QCOM) is the world leader in 3G and next-generation mobile technologies. For more than 25 years, Qualcomm ideas and inventions have driven the evolution of wireless communications, connecting people more closely to information, entertainment and each other. Today, Qualcomm technologies are powering the convergence of mobile communications and consumer electronics, making wireless devices and services more personal, affordable and accessible to people everywhere. For more information, visit [www.qualcomm.com](http://www.qualcomm.com)

**SPX India Pvt. Ltd.**

415, Ansal Chambers II  
Bikaji Cama Place  
New Delhi 110066



Founded as an automotive components supplier in 1911 in Michigan, SPX Corporation (NYSE: SPW) is a global, Fortune 500, multi-industry company. SPX provides products and services for multiple industries—telecommunications, food and beverage, transportation, automotive, power generation and distribution, gas and oil production, manufacturing, pharmaceutical and biotechnology, agriculture and others. SPX Corporation is composed of numerous businesses that serve three primary end markets.

With headquarters in Charlotte, North Carolina, USA, SPX has under its fold over a 100 brands marketed in over 100 countries; and 17,000 employees in more than 35 countries worldwide. SPX Communication Technologies, a division of SPX's Industrial Segment, is a leading global provider of innovative solutions for broadcasters and wireless network operators. From industry changing antennas to custom designed transmission lines, its proven technology and next generation thinking has revolutionized the way the world communicates. Since the 1940's, SPX Communication Technology has had a rich tradition in RF technology, with unparalleled antenna technology expertise. Today, its technical staff and manufacturing team continue to foster a culture of leadership, and have used their depth of antenna expertise to create an unprecedented innovation in the telecom world, opening up new possibilities for affordable rural coverage. For more information about general company facts, history, mission and vision, please look at <http://www.spx.com/en/>



**ZTE India Pvt. Ltd.**

6<sup>th</sup> Floor, Tower-B, BuildingNo.10,  
DLF Cyber City, Phase -II,  
Gurgaon -122002

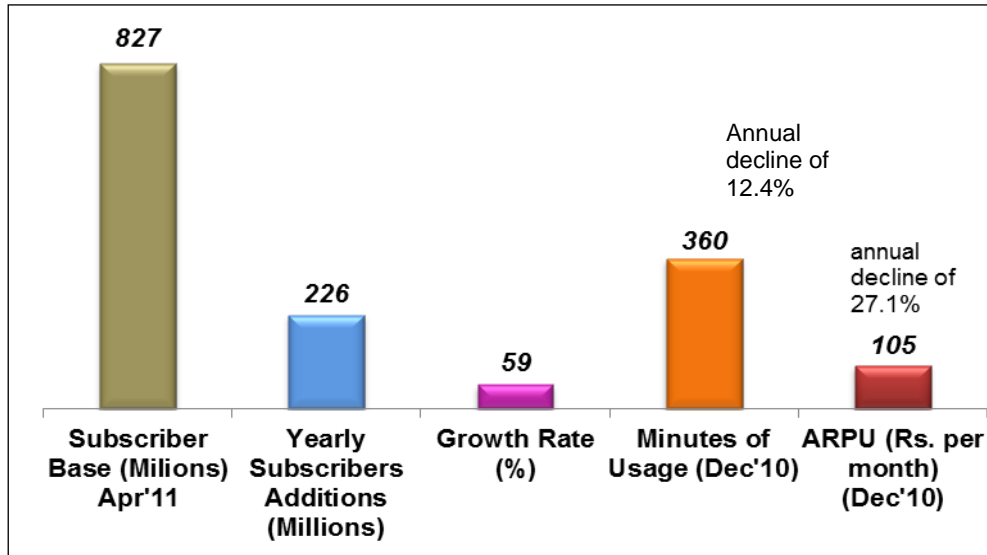


ZTE Corporation is a publicly-listed global provider of telecommunications equipment and network solutions operating in more than 140 countries. It offers a wide choice of products ranging from voice, data, multimedia and wireless broadband services. Founded in 1985, ZTE is China's largest listed telecom equipment company and trades on both the Shenzhen (A share: 000063.SZ) and Hong Kong (H share: 0763.HK) stock exchanges

In 2010, ZTE recorded revenue of RMB 70.264 billion. The Group's revenue from its international operations grew 27.45% to RMB38.066 billion and accounted for 54.18% of total operating revenue. The company has 15global R&D centers located in the U.S. France, Sweden, India and China. It employs 30,000 researchers around the world who develop new and innovative products. In 2010, ZTE applied for 1,863 international patents, putting it in second place globally when it comes to innovation. ZTE has become the first Chinese company to be issued with a CC (the Common Criteria for Information Technology Security Evaluation) security certificate. For more information, please log on to [www.zte.com](http://www.zte.com)

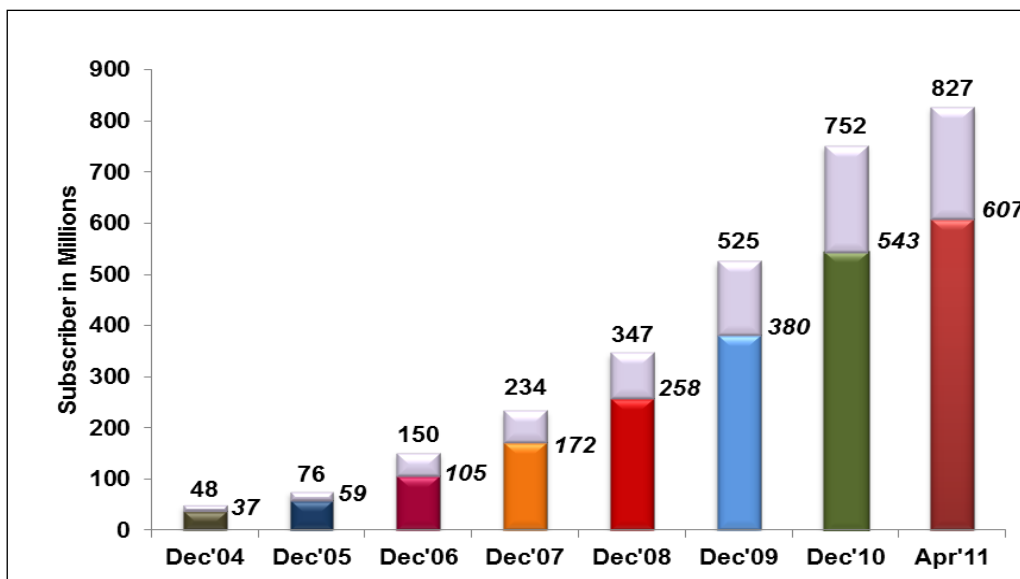
## VII. Indian GSM Cellular Industry- An Overview

### A. Growth of Wireless Industry in India



Source: TRAI Press Release - Apr'11 & Performance Indicator report Dec'10

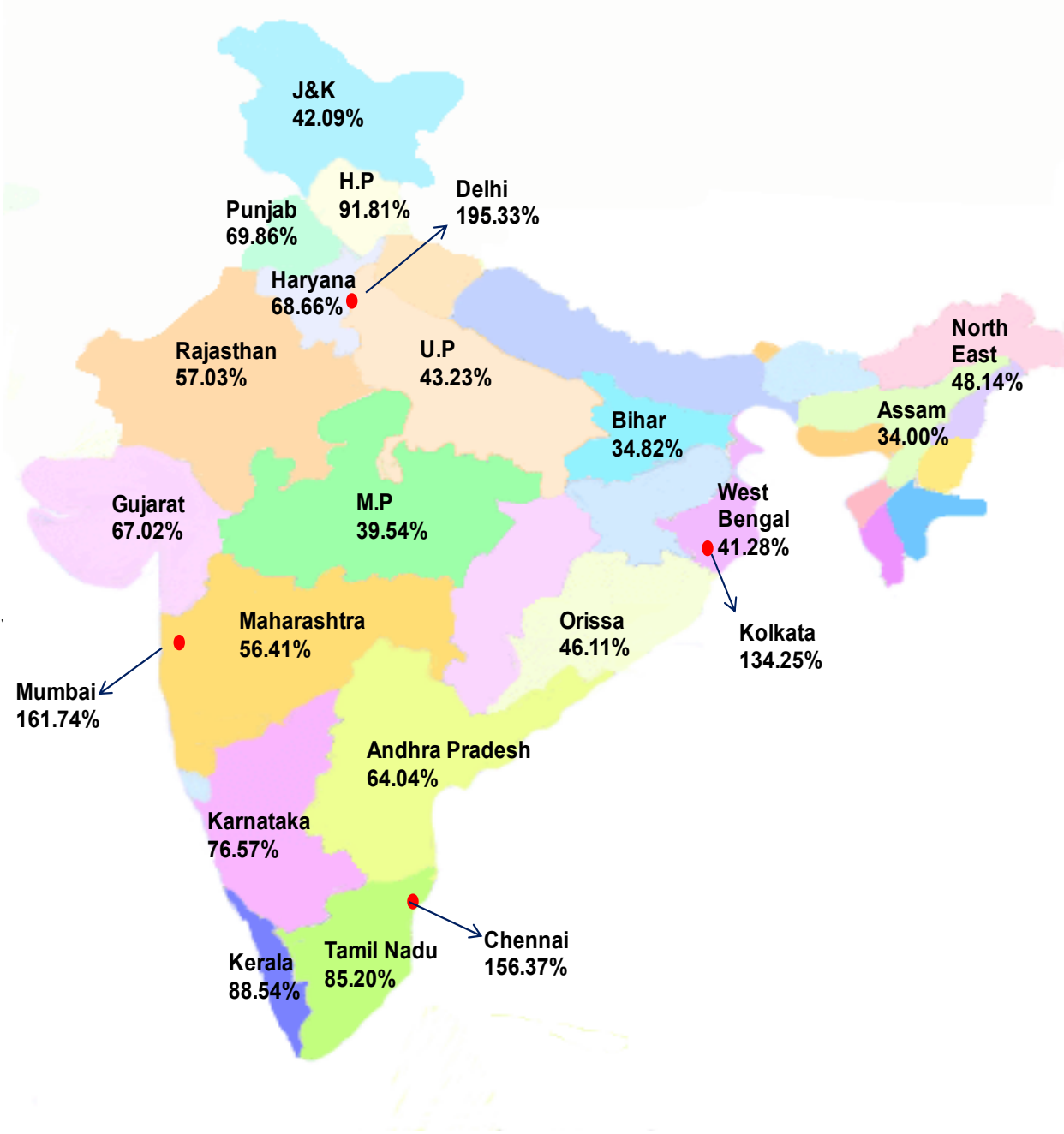
### B. All India GSM Cellular Subscriber Base



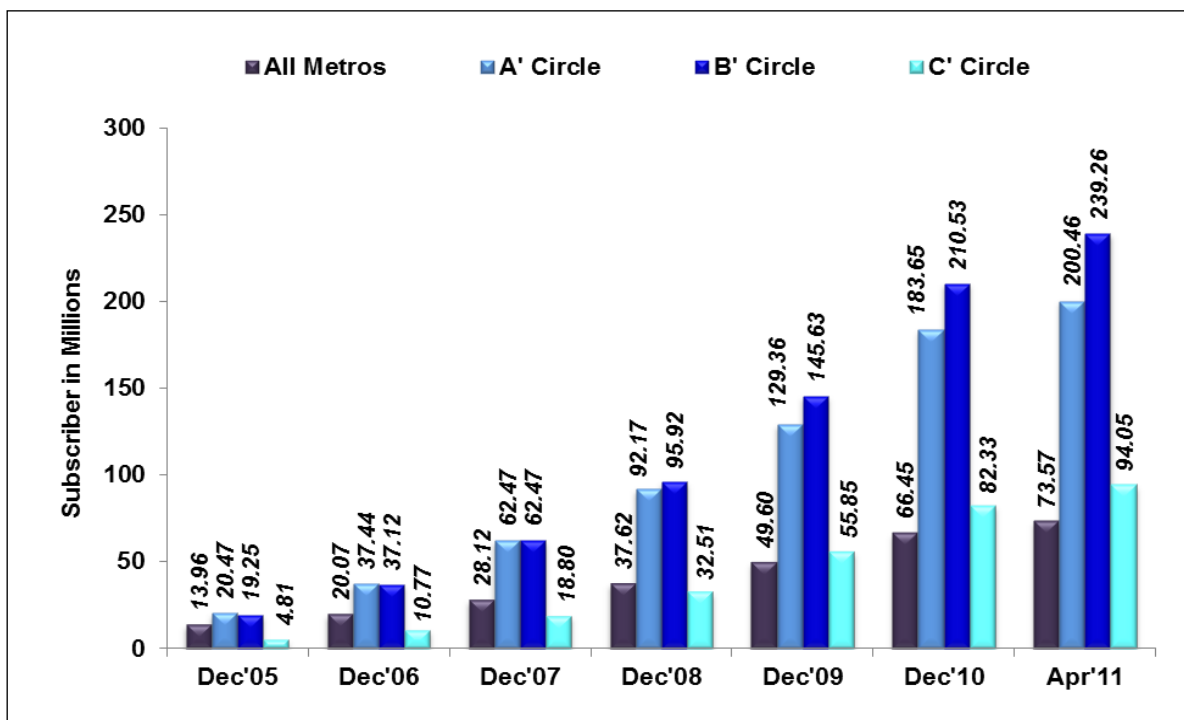
Source: COAI

- Industry added record highest number of **163 Million** GSM subscribers globally during 2010.
- India recorded the highest monthly GSM subscriber addition of over **17 Million**.

**C. Mobile Tele-density Across Telecom Circles**

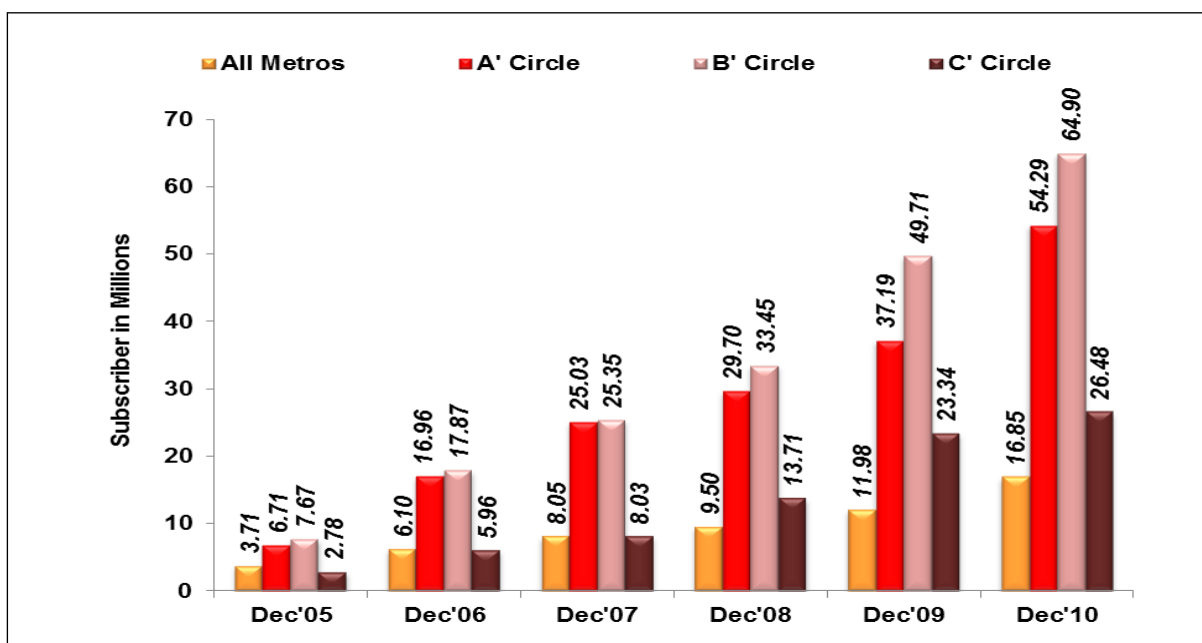


**D. All India GSM Cellular Subscriber Base – Circle wise**



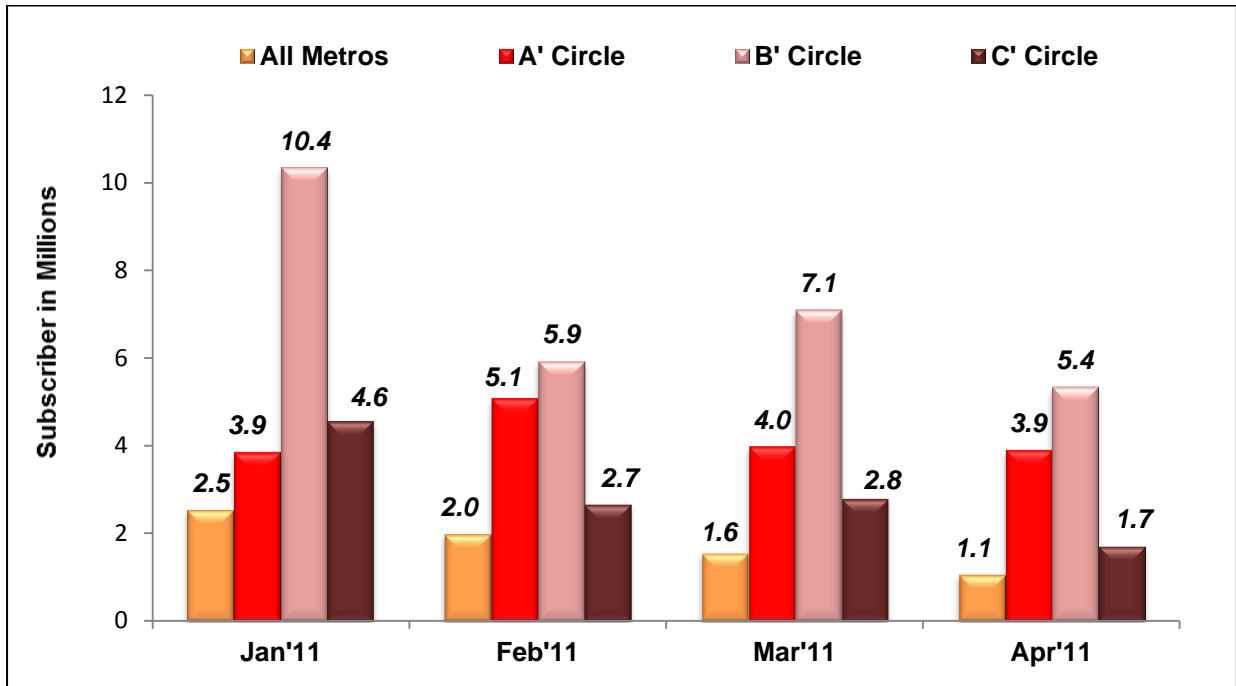
Source: COAI

**E. All India GSM Cellular Subscribers – Annual Net Additions (Jan'10-Dec'10)**



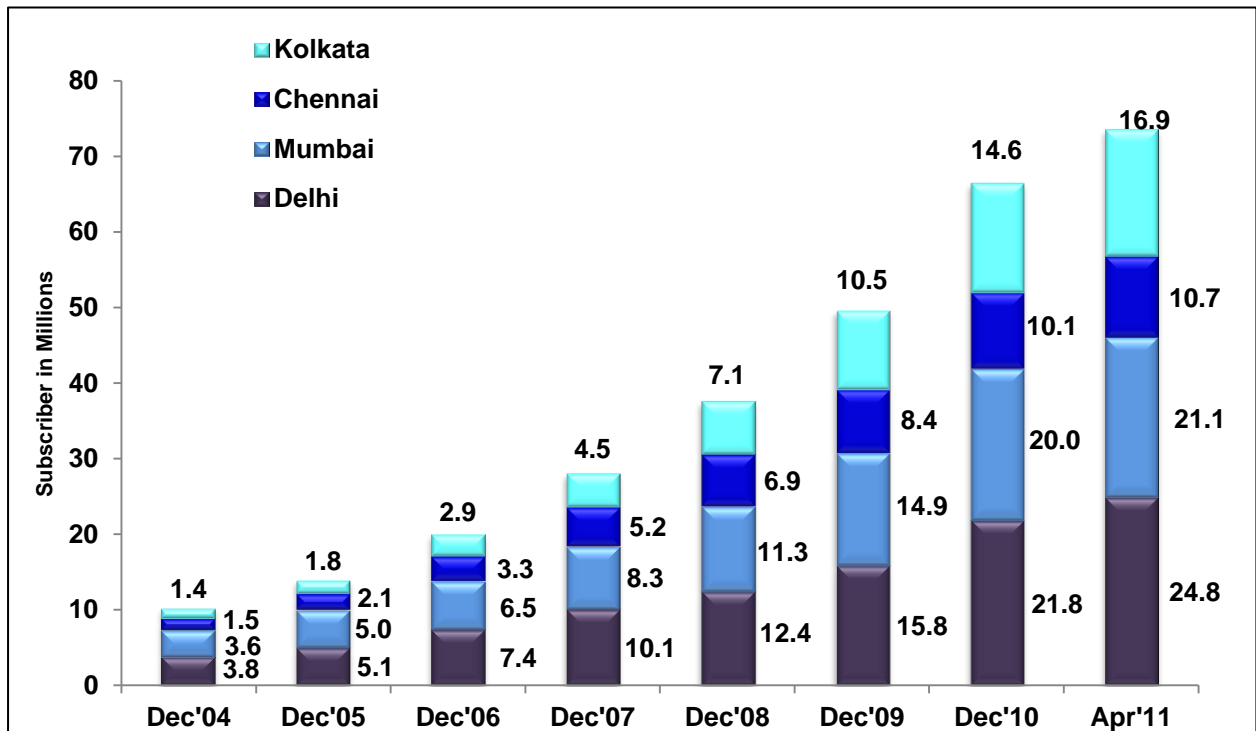
Source: COAI

**F. All India GSM Cellular Subscribers – Net Additions (monthly)**



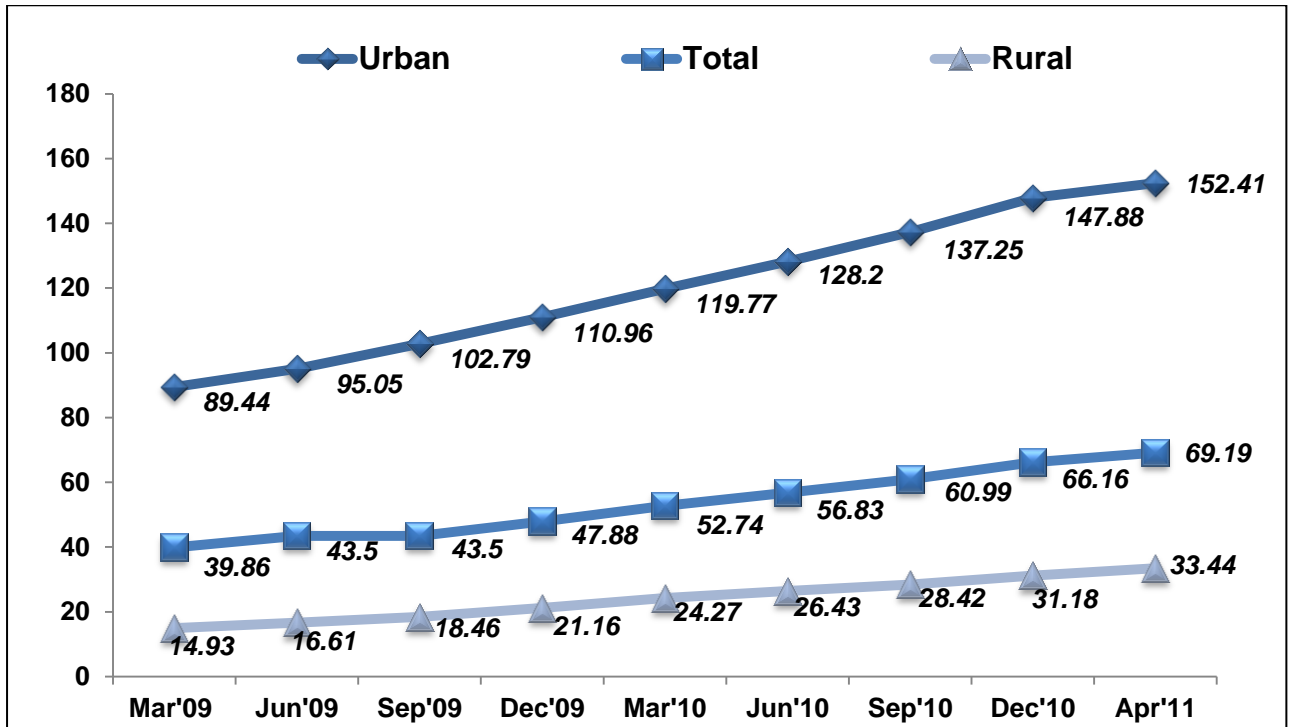
Source: COAI

**G. All India GSM Cellular Subscribers – Metros**



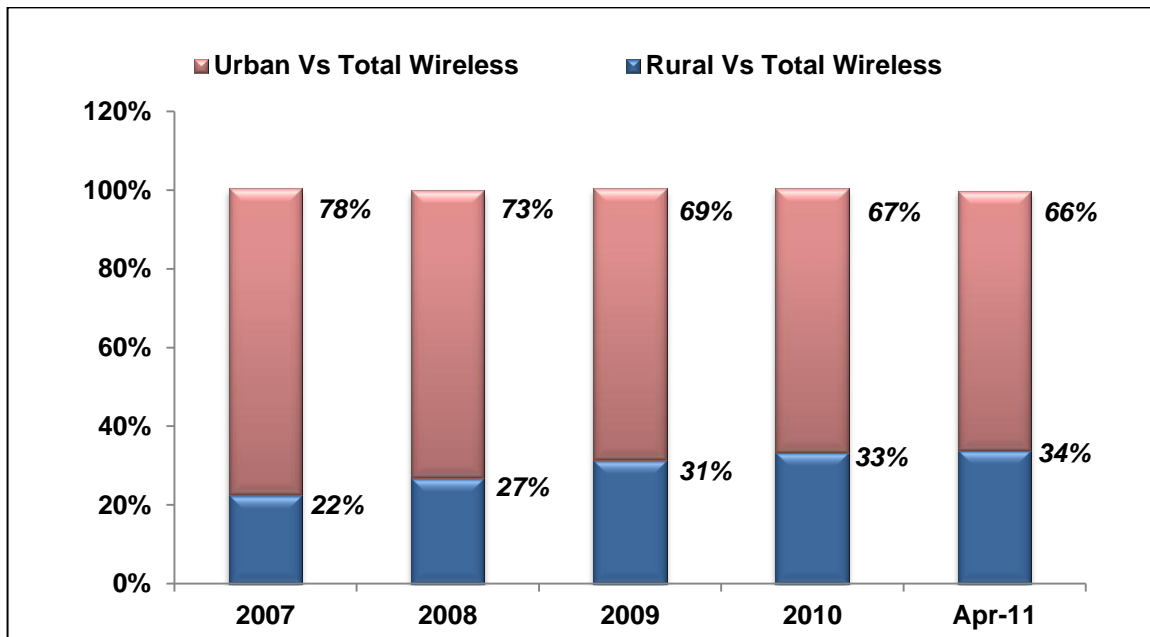
Source: COAI

**H. Teledensity (%)**



Source : TRAI

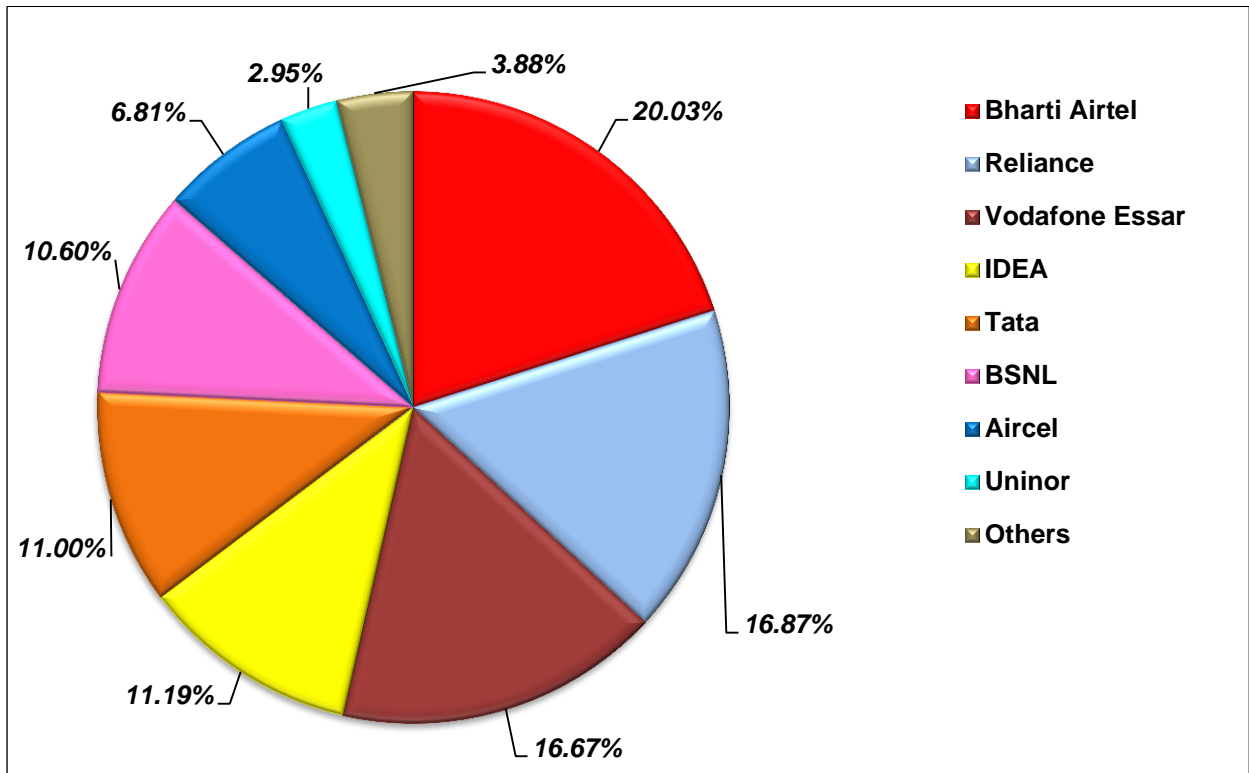
**I. Wireless Rural Subscribers as % to Wireless Subscriber Base**



Source: TRAI

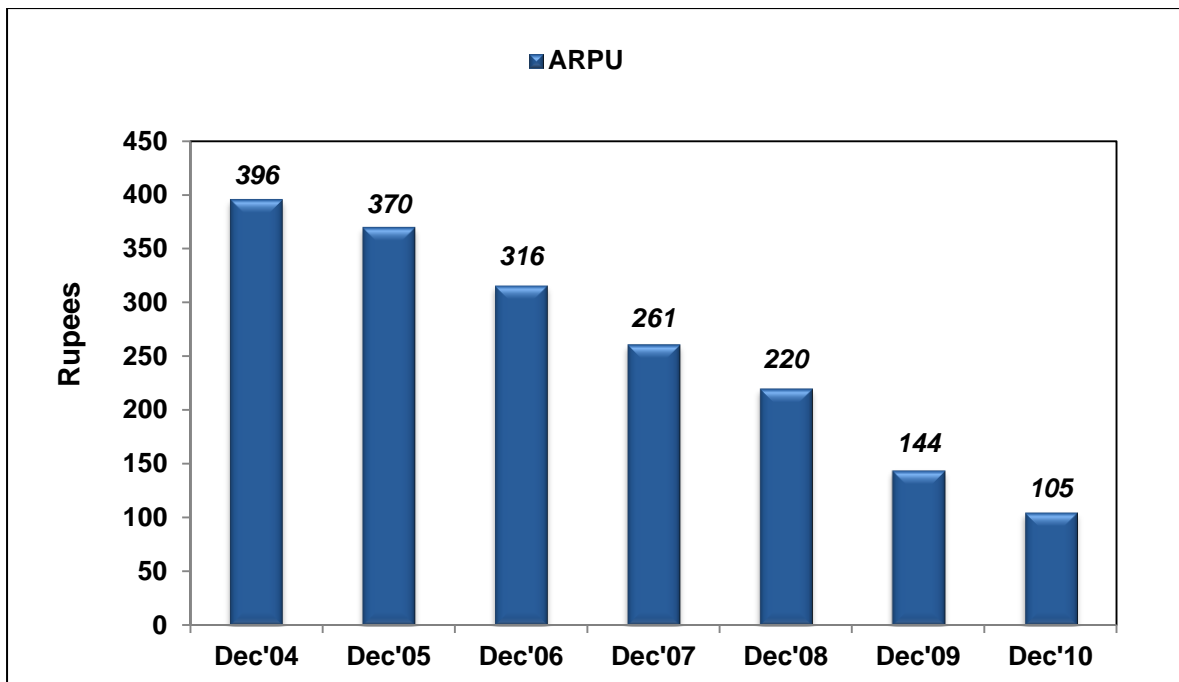
➤ Proportion of Rural Subscribers to the total wireless subscriber at the end of the corresponding years has increased.

**J. Market Share of Wireless Operators (Apr'11)**



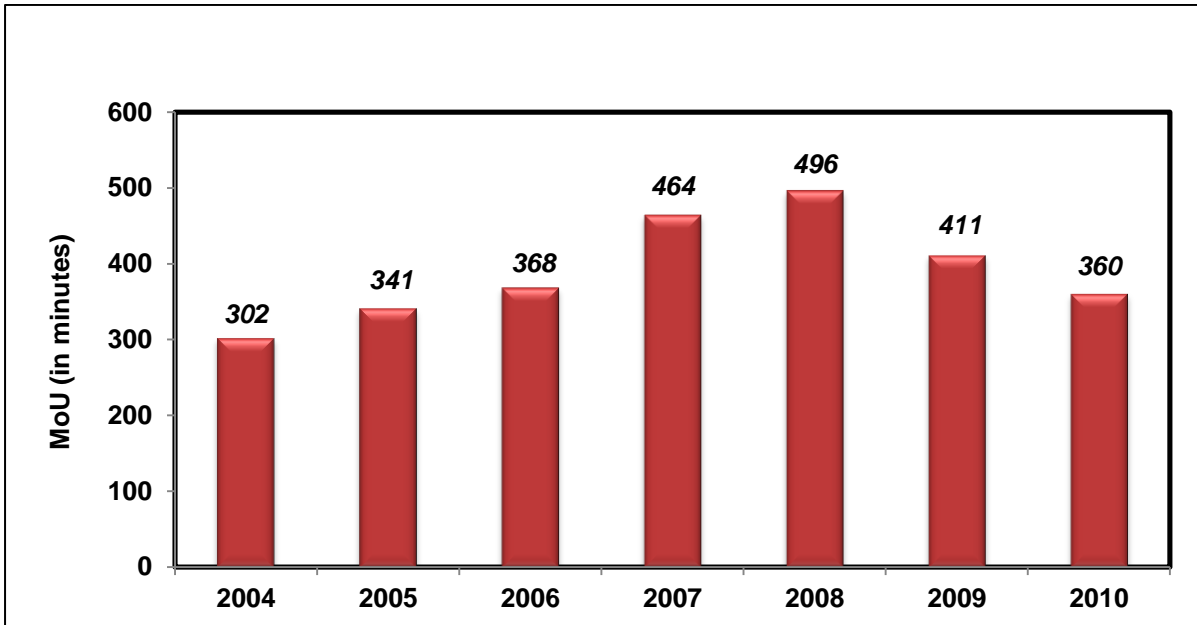
Source: TRAI

**K. Average Revenue Per User**



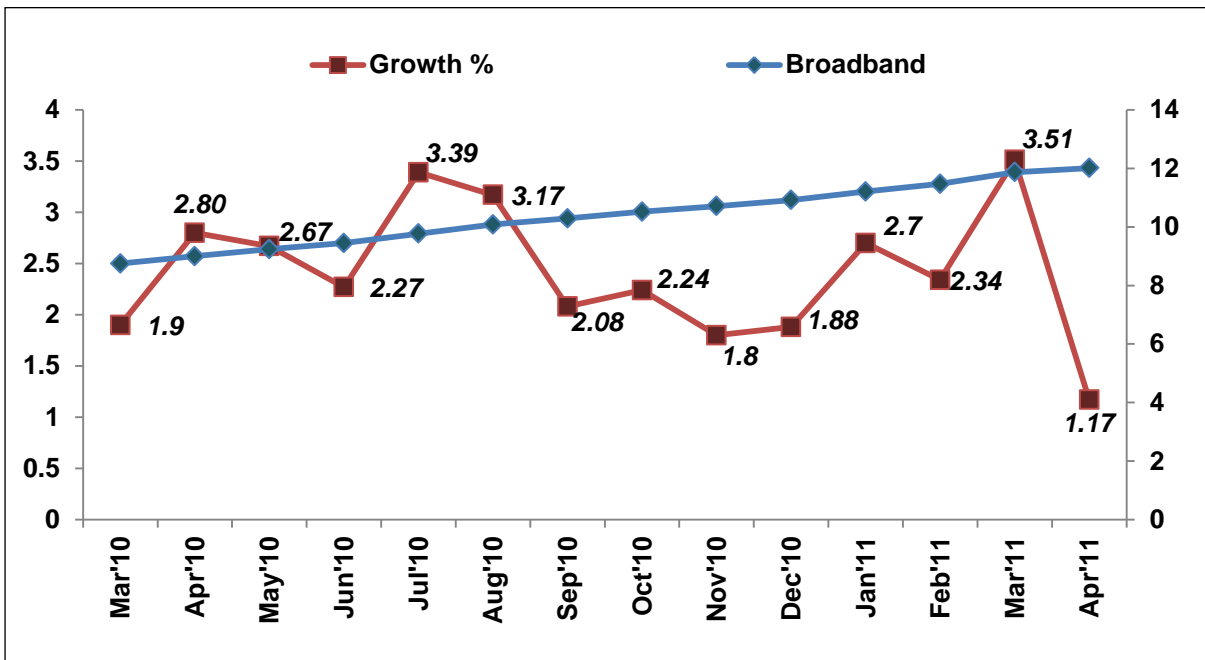
Source: TRAI Performance Indicator Report - Dec'10

**L. Minutes of Usage Per Subscriber Per Month**



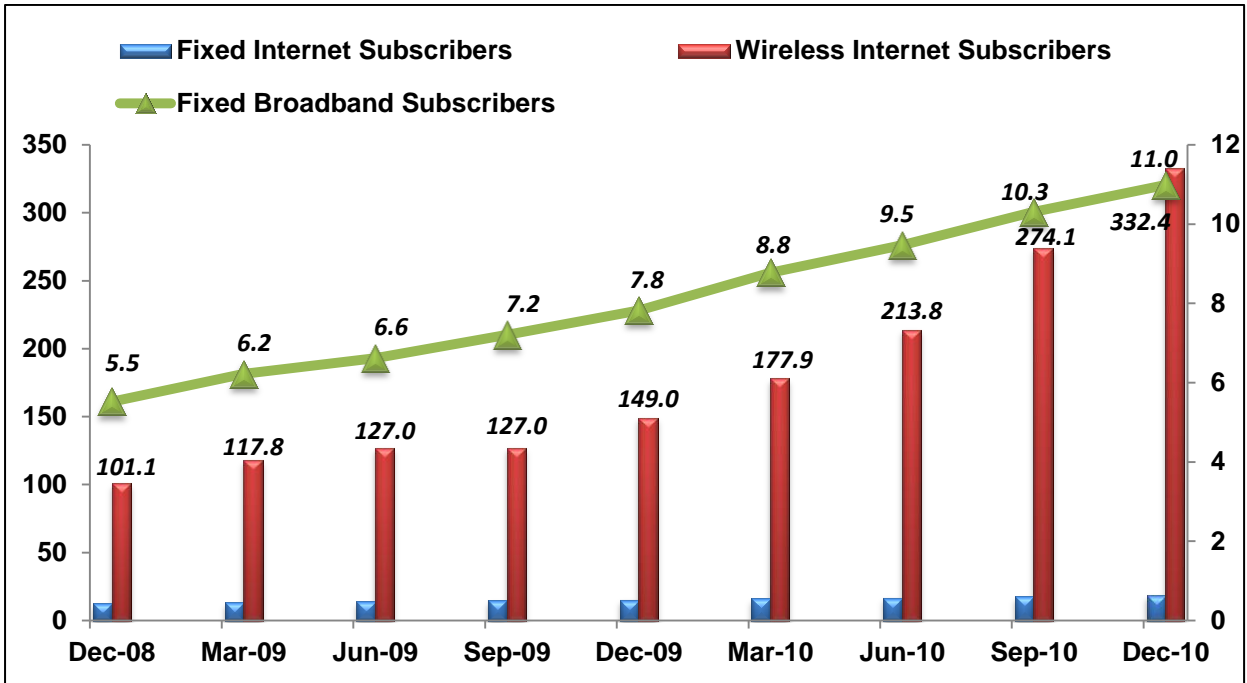
Source: TRAI Performance Indicator Reports – Dec'10

**M. Monthly Analysis of Broadband**



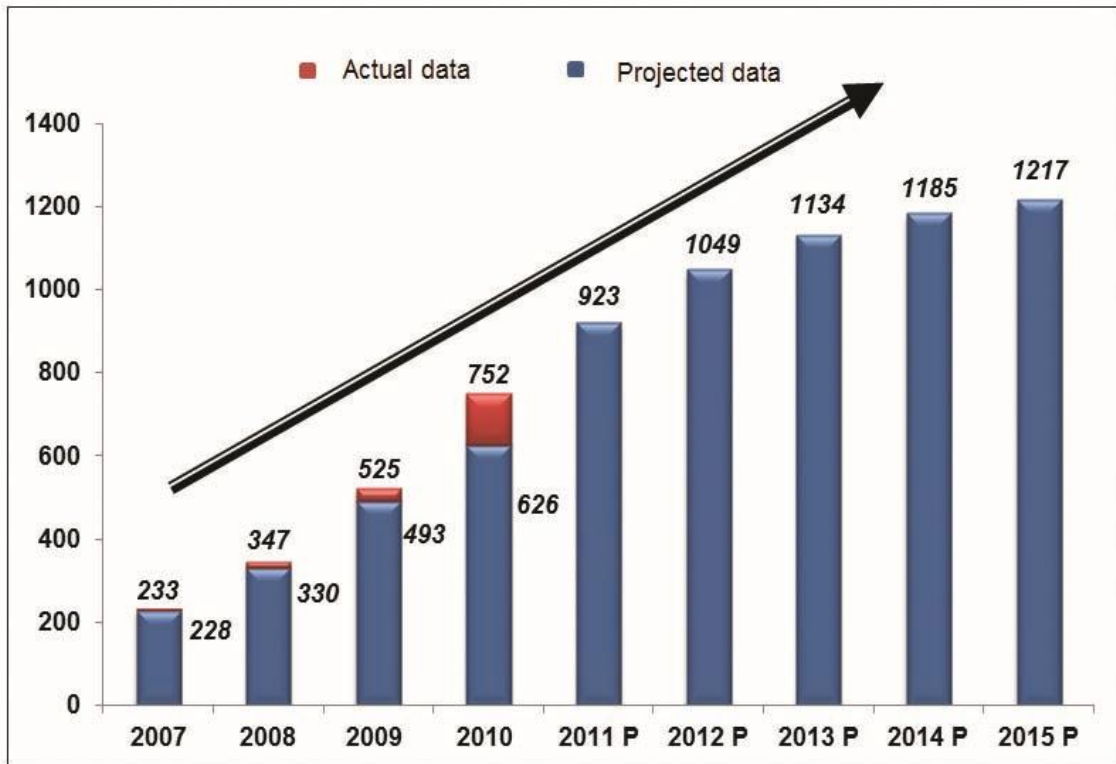
Source : TRAI

**N. Growth of Internet and Broadband Users (in Millions)**



Source : TRAI Performance Indicator Reports – Dec'09&Dec'10

**O. Future Projections (Total Mobile)**



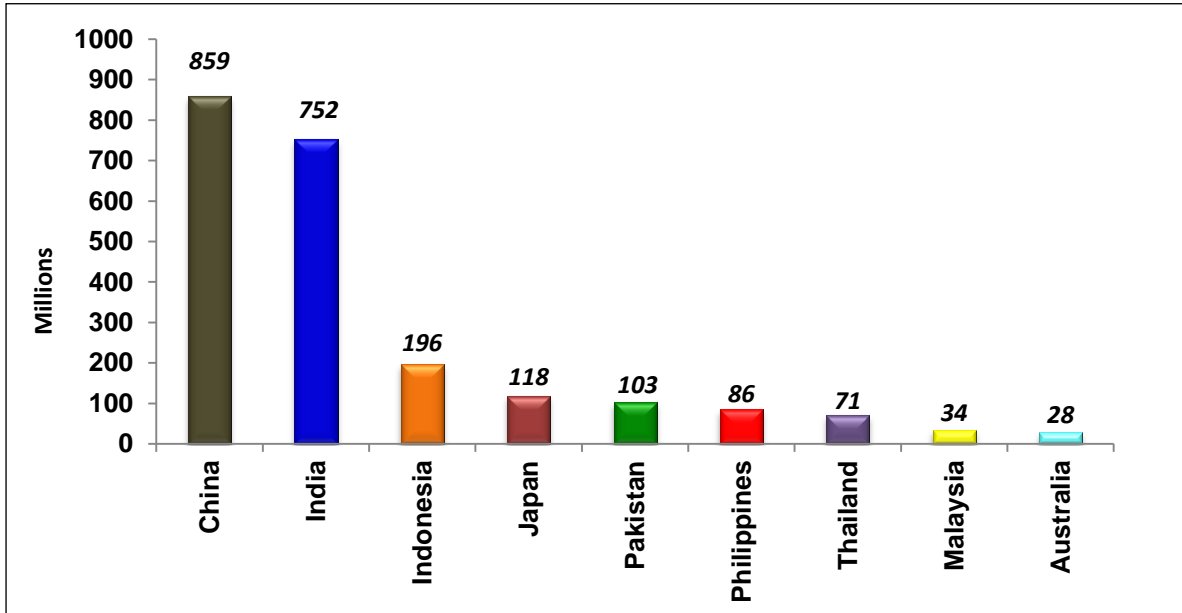


| YEAR ENDED DECEMBER           | 2007 | 2008 | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  |
|-------------------------------|------|------|-------|-------|-------|-------|-------|-------|-------|
| <i>Projections(mn)</i>        | 228  | 330  | 493   | 626   | 923   | 1049  | 1134  | 1185  | 1217  |
| <i>Actual Subscribers(mn)</i> | 233  | 347  | 525   | 752   | -     | -     | -     | -     | -     |
| <i>Population(mn)</i>         |      |      | 1184  | 1201  | 1218  | 1233  | 1249  | 1265  | 1281  |
| <i>Teledensity(%)</i>         |      |      | 44.35 | 62.63 | 75.85 | 85.09 | 90.83 | 93.70 | 95.01 |

Source: Ovum; Ernst & Young analysis

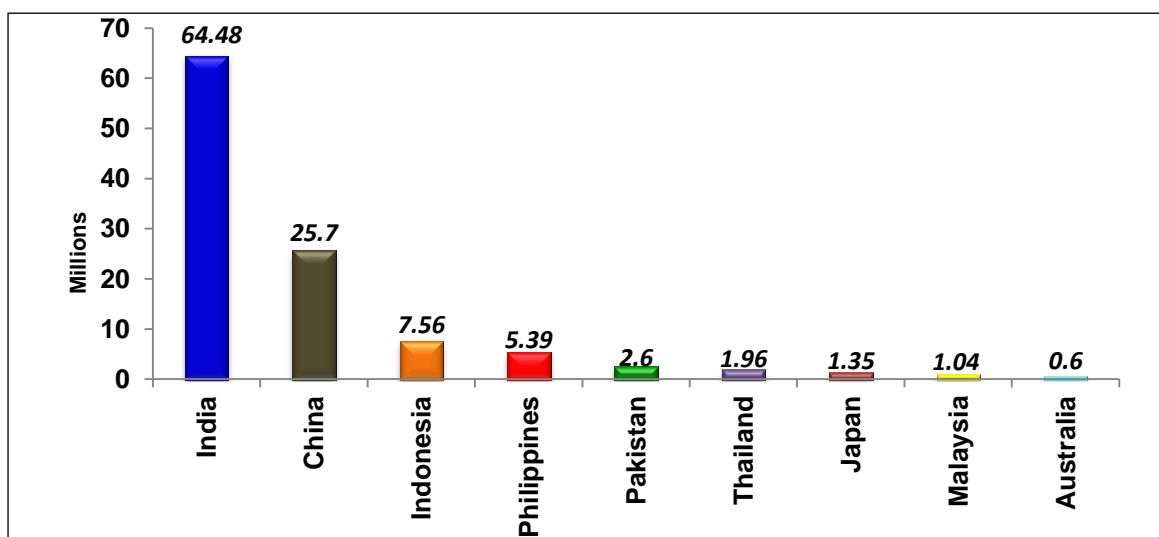
## VIII. International Trends (Asia Pacific Region)

### A. Subscriber Base (in millions)



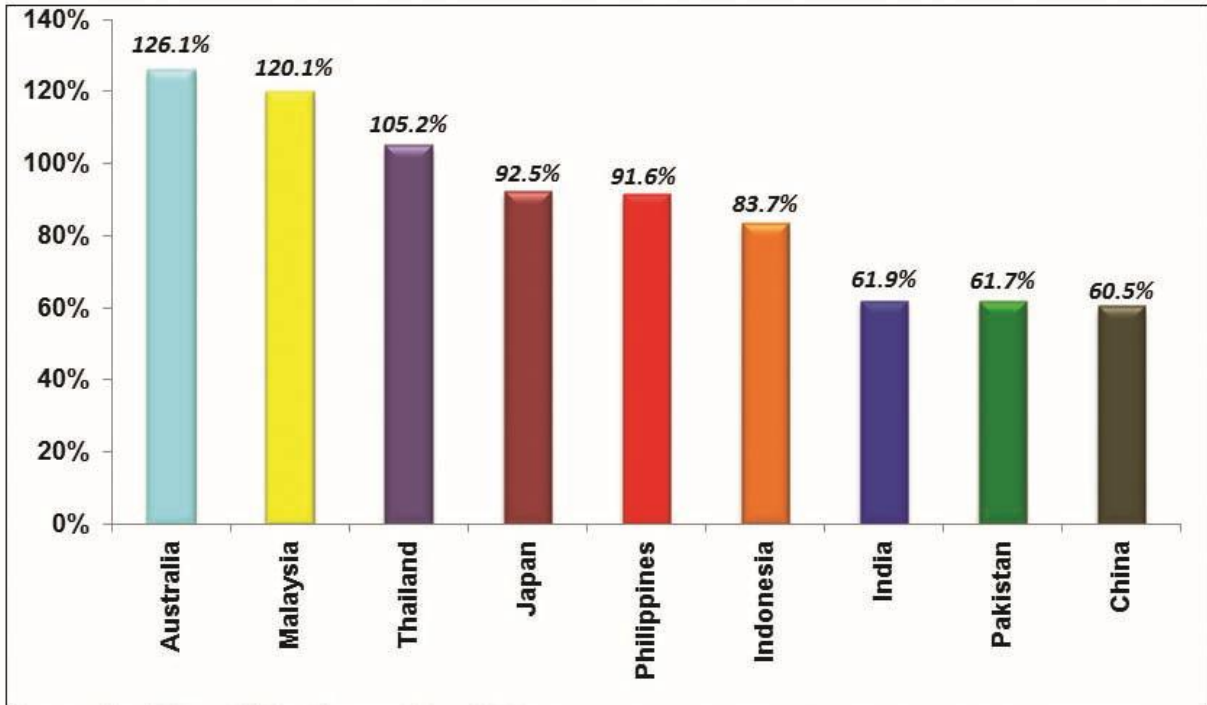
Source : Merrill Lynch Global Research Dec- 2010

### B. Subscriber Addition (in millions) during 4Q'10, Oct-Dec'10



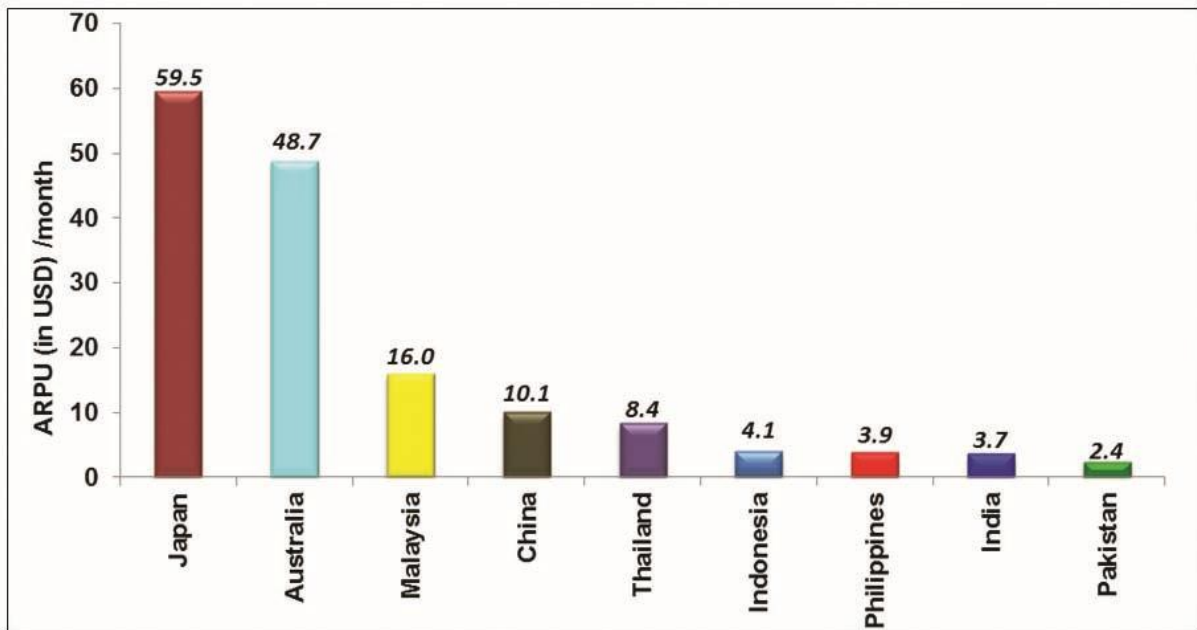
Source : Merrill Lynch Global Research Dec-2010

**C. Wireless Penetration**



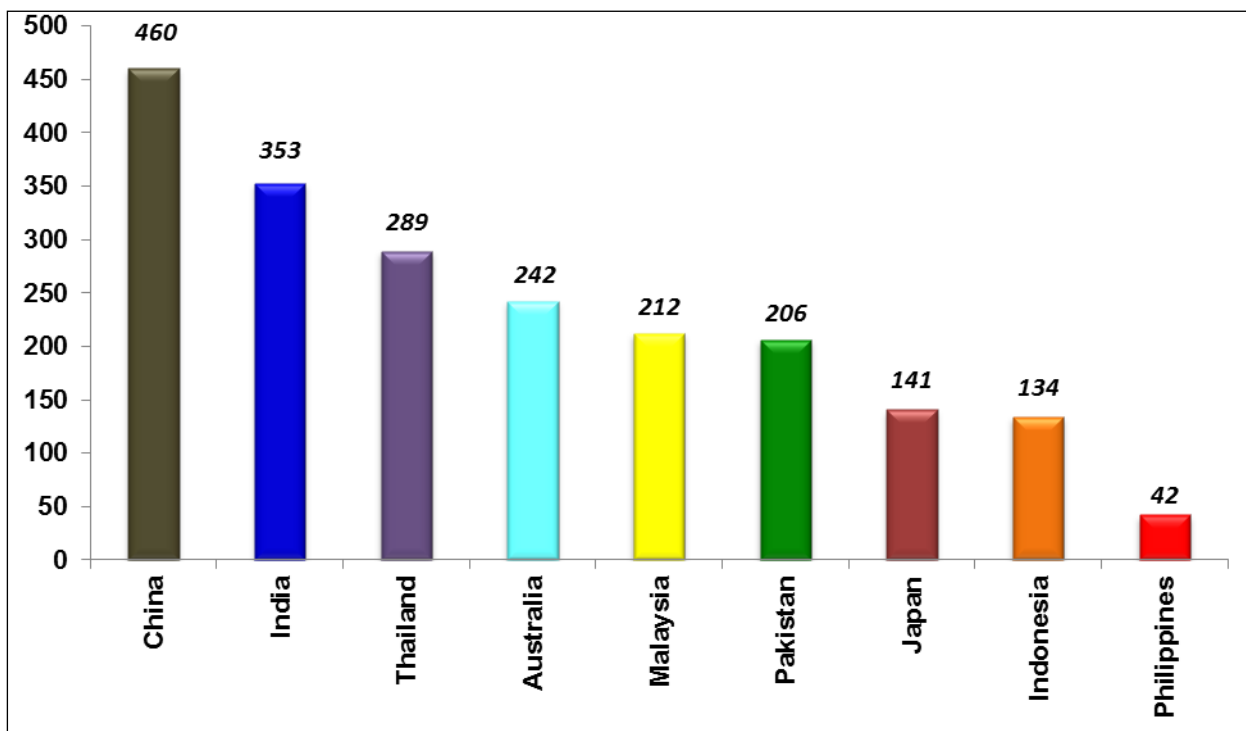
Source : Merrill Lynch Global Research Dec-2010

**D. Average Revenue Per User as of 4Q'10**



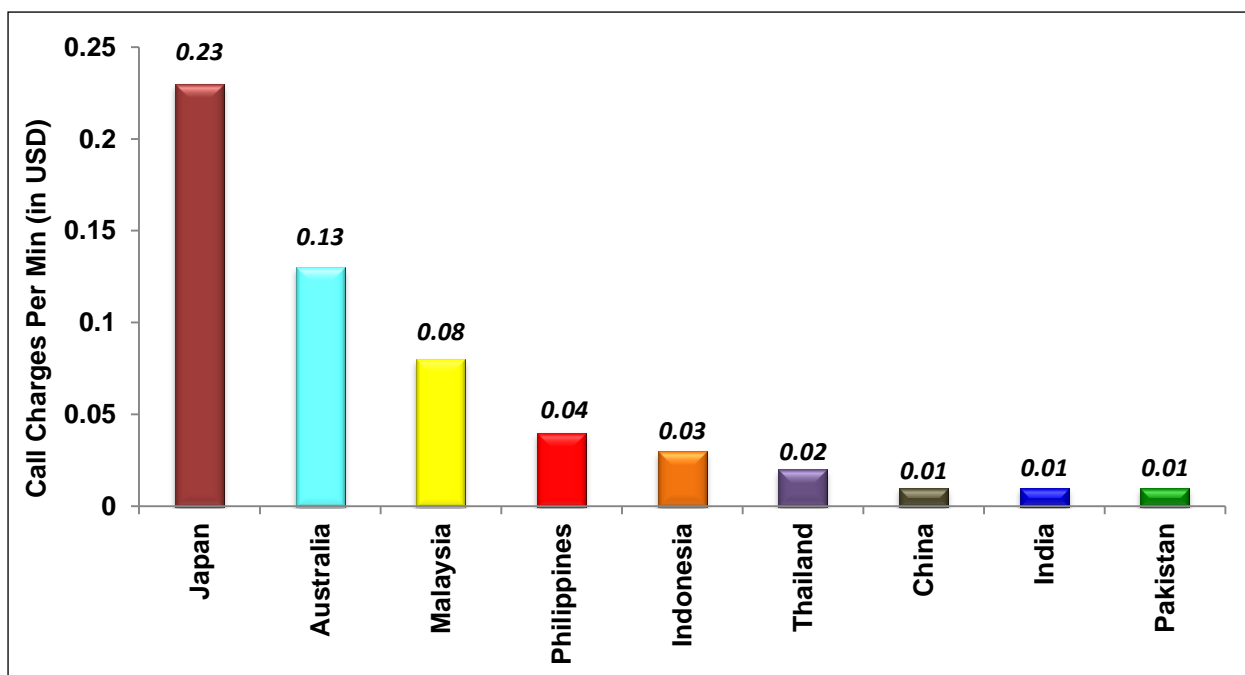
Source : Merrill Lynch Global Research Dec-2010

**E. Average Minutes of Usage Per Subscriber Per Month**



Source : Merrill Lynch Global Research Dec-2010

**F. Call Charges Per Minute**



Source: Merrill Lynch Global Research Dec-2010

## *IX. Significant Achievements for Year 2010-2011*

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### **1. Mobile Number Portability**

- Implemented National MNP with no penalties to Member Companies. Due to increasing frustrations and threatened penalties from the DoT in implementing the national roll out of MNP, COAI was requested to take the lead in coordinating the implementation and commercial roll out of nationwide MNP in June, 2010. Completed this in a record time of 6 months with no penalties to the industry and national roll out of MNP in conformity with the requested time lines of GSM member companies. The requested roll out date of Jan. 20, 2011 was obtained from DoT in the face of aggressive lobbying by the CDMA players for an earlier roll out. Close working with the DoT was able to avert over a minimum of Rs.50 Crores in threatened penalties to member companies for inability to achieve testing parameters laid down by the DoT.
- **Successful Launch of Mobile Number Portability:** Mobile Number Portability was successfully implemented in the Haryana Licensed Service Area on November 25, 2010, followed by Pan Indian launch on 20<sup>th</sup> January 2011 by the Hon'able Prime Minister of India. With there being up to 14 operators in a service area and 2 MNPOs, project of this complex nature was successfully launched mainly because of the unified effort of the, Ministry of Communication, TRAI, the Telecom Industry and COAI. The project was primarily driven by COAI with active participation from all stakeholders. MNP is yet another milestone in the telecom journey of India and the project gives greater freedom to the subscribers to change their service provider without having to change their number.

### **2. ACT ( Apex Advisory Council for Telecom in India )**

- The guidelines on subscriber re-verification issued on September 30, 2009 had given a deadline till October 31, 2010. Due to the concerted efforts of ACT, the DoT provided two extensions, one till December 2010 and the other till March 2011 for the operators to complete this exercise. This provided the industry sufficient time to complete the exercise as planned.

- ACT also succeeded in getting UID approved as a valid Proof of Identity and Address for acquiring mobile connections. In fact, the DoT will shortly conduct a Proof of Concept for the same with a few operators.
- After the issuance of new guidelines for North East and Assam, two major documents viz., Caste Certificate and Domicile Certificate issued by State Governments were dis-allowed by DoT. Due to pursuant efforts of ACT, these documents were once again included by DoT in list of valid Proof of Identity & Add.
- The TERM Cells of DoT were imposing huge penalties on operators and that too in an incorrect manner. ACT took the step towards litigation to get the issue resolved. The matter is pending in the Hon'ble TDSAT, however, the interim Order had been favorable for the industry and now the industry has to pay penalty as per the slab-wise basis as per industry interpretation.
- Last year the industry also faced a lot of police action in various states regarding matters related to subscriber verification. ACT was actively involved with the State Police of these states, especially Karnataka and AP and after due deliberations, the issues in these states have been resolved.

### **3. Security**

- On July 28, 2010, the DoT had issued a license amendment as per which a security template had to be signed between the licensees and vendors. There were many clauses in the template which had discrepancies and were not acceptable to the vendors and the operators. As a result, majority of the vendors were not able to sign the agreement. Meetings were organized with MHA and after representation of the issue, it was decided that both the self-certification and the template would be held valid for 2 months and the operators may continue to place orders based on either of these. COAI was able to get this dual regime continue till May 2011. In the interim, COAI was able to get consensus on many issues regarding the Template and made representations to the Government to get the new regime in place.

#### **4. Spectrum**

- Formulated appropriate Broadband and NTP 2011, recommendations for submission to the government and represented industry in roundtable meetings with the Minister.
- Submitted detailed study on response to TRAI 2G Spectrum Pricing Recommendation. DoT did not accept the recommendations of TRAI but has submitted the matter to the Planning Commission for their recommendations. This has at least deferred the imposition of significant demands for payment of additional Spectrum Usage Fees from member companies.
- 700 MHz Band: There were different types of proposals on the use of 700 MHz band (both at national level as well as international level). However, during many meetings at the national level, COAI was able to convince the Indian Administration to send a proposal for use either for FDD or TDD and not a mix of both. As a result, during AWF & WP5D meetings, the Indian delegation was at the forefront of the discussions and finally the proposal of either FDD or TDD along with the band plan was finalized.
- NFAP : Last year, the WPC was very actively working on finalizing the new NFAP for the country. COAI was aggressively involved in all the deliberations and was able to get more bands earmarked for IMT services in the draft NFAP that was made by WPC and is pending finalization by the Government.

#### **5. National Numbering Plan**

- TRAI had issued a consultation paper on numbering plan in Jan 2010, wherein, there was a proposal to increase the length of a number from '10' digit to '11' digit. COAI had submitted a response stating the technical and commercial reasons for which the '10' digit numbering scheme should be retained and how different series could be used efficiently to create huge capacities to cater to the growing demand of numbering. Finally in the recommendation, TRAI had agreed to retain the '10' digit numbering scheme.
- In February 2011, DoT introduced a very stringent VLR based criteria for allocation of numbering resources. COAI made several representations against the criteria, explaining the practical and operational difficulties in its implementation. Thereafter, the DoT and TEC have worked out another criteria and COAI has provided its inputs for its finalization.

**6. Lifetime Tariff Plans.** Member companies requested relief from TRAI to change Lifetime Plan tariff rates due to “hardship/force majeure” conditions. Convinced TRAI to allow such changes. TRAI allowed Individual companies to make requests for change on a case by case basis

## **7. Finance & Taxation**

- **Reduction of Levies and Duties** : COAI has been submitting in various forums about the high incidence of taxes and levies in the telecom sector in India. In the past few months, COAI made several submissions to TRAI on the increasing burden of several levies on the sector. **In view of this, TRAI has now decided to study the impact of various taxes, levies and fees on the Indian telecom sector.**
- **Goods & Service Tax** : Goods & Service Tax (GST), various representation made before TRAI, DoT, MoF etc. Based on the representations made by COAI, TRAI has engaged a consultant and making a report on duties & Levies for the sector.
- Made several presentations to key MoF members, Member Finance-DoT and staff, on industry position on Goods and Service Tax (GST). COAI recommendations are being actively considered in proposed version of GST act.
- Met with J&K Finance Minister and his Advisors on a proposed settlement on the vexed issue of Sales Tax on mobile services and entry tax. State Finance Minister has tentatively agreed to the recommended course of action and is working on putting together a working group between state and industry representatives to resolve the matter.

## **8. EMF Related Issues**

- Obtained modification of EMF filing requirements and extension of deadline for EMF compliance from Nov. 30, 2010 to March 31, 2011, as requested by the members. Savings in penalties to member companies from such extension is well in excess of Rs.30 Crores
- Contained the negative fallout of EMF radiation concerns raised by the press, media and certain sections of the public. Conducted EMF media workshops in Mumbai, Hyderabad Delhi and Pune, to educate the media and the public on the truth behind EMF radiation.
- Engaged IIM-Madras and Thiagarajar College of Engineering to conduct actual street level measurements of EMF radiation emissions in Delhi, Mumbai and Pune to assure the public, media and government that EMF radiation emission norms laid

down by the DoT were not being violated as alleged by certain of the media and press. Such activity helped prevent further shut down of cell towers by certain RWA and vested interest groups.

## 9. Legal Cases

- Obtained favorable ruling from Delhi High Court on certain fees imposed on the towers of member companies by the NDMC in the Delhi area. This ruling, among other things, struck down the imposition of the Rs 5 lakh per year fee hike imposed on cellular towers by the NDMC and removed the necessity to obtain approvals from all members of a Housing Association prior to construction of a roof top cellular tower. Savings for the industry is estimated at over Rs. 20 Cr.
- Obtained a favorable ruling from the TDSAT on Interconnect Charges whereby TRAI was instructed to consider all relevant costs, including Capital costs, in the formulation of Interconnect termination charges.
- On April 22, 2010, TDSAT ruled in favor of operators, setting aside claims of the DoT for increased Microwave charges. This provided significant savings to member operators.
- On May 7, 2010, TDSAT ruled that DoT could not claim “Non-Telecom related revenue” as part of AGR. This provided significant savings to member operators.
- On May 28, 2010, the Supreme Court provided an interim measure that the claims of the CAG to audit member company’s financial records be held in abeyance.

## 10. Enhanced Scope and Membership for the Association

- To position the Association to benefit from the emerging impact of “Convergence”, we have welcomed **new Associate Members** including **Alcatel Lucent India Ltd., Cisco Systems India Pvt. Ltd., Huawei Telecommunications (I) Pvt. Ltd., QUALCOMM India Pvt. Ltd., ZTE Telecom India PVT LTD and SPX India Pvt. Ltd.** In the coming year, the focus of the Association would be to increase the membership of COAI by identifying the players in the growing eco-system important to our industry (e.g. VAS companies, Equipment Manufacturers, R&D Centers, etc.).
- COAI also renewed its long standing relationship with GSMA and a “Cooperation Agreement” was signed between Mr. Rob Conway, CEO GSMA and Mr. Sanjay Kapoor, Chairperson COAI on 11<sup>th</sup> April 2011, ensuring enhanced support and cooperation between the two trade associations to promote the mobile communications in India.

- **3GPP Membership:** It is a matter of great honour / pride for COAI that it has been accorded the status of **3GPP Market Representative**. This is a unique appointment which has been accorded to COAI as in India so far there is no member / partner including the premier institutions like TEC which is the standard setting body in India. This partnership will offer COAI and its members to make use of the opportunities offered by 3GPP. With regard to access to technical reports / technical specifications for 3G Mobile Systems based on evolved GSM core network radio access technologies and would also facilitate COAI to make use of 3GPP expertise. Further COAI and its members will have the benefit of advising 3GPP regarding services, features and functionalities required by the market. Besides this, COAI would have the right to participate in project coordination group and Technical Specification Groups of 3GPP.
- **Support to ITU for Indian Candidature for Board Membership :** COAI provided immense support to ITU for the Indian Candidature for Board Membership during the **Planning Plenipotentiary Conference 2010 (PP-10) in Mexico, October 2010, where as an industry only COAI represented, which was highly appreciated by DoT and members.**

## 11. Workshops and Seminars

COAI took a lead in taking a worthy contingent presided by Shri. Sachin Pilot, Minister of State for Communications & IT to **3GSM World Congress 2011, held in the month of February at Barcelona.**

For the first time COAI also organized various **Seminars and Workshops** on issues of interest and benefits for its members and the industry. The issues included Mobile Broadband, EMF Radiations, LTE, Location Based Services, etc. COAI and its members also actively participated in the Organization as well as the activities of many other telecom events in India. COAI was closely associated and played an important role in the organization of the **India Telecom Summit – 2010**, a reputed international conference and exhibition.

## *X. COAI Reports / Submissions*

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### **JULY 2010**

#### **COAI COMMENTS ON TRAI CONSULTATION PAPER ON NATIONAL BROADBAND PLAN**

COAI supported TRAI's vision to achieve accelerated, affordable and ubiquitous broadband access across the length and the breadth of the country as it is a key enabler for inclusive growth, social equity and sustainable economic development.

#### **COAI SUBMISSION ON GREEN TELECOM – INDIAN PERSPECTIVE**

'Going green' is no more an option for telecom operators. It has become a necessity in a market where margins are nose diving due to tariff wars, denting the profitability of the established service providers. COAI pointed out that the Cellular industry contributed less than 1% to total carbon emissions in India now and that this was projected to grow to 1.5% by the year 2015. Further, COAI committed to engage a competent third party entity to assist its members with "best international practices" and provide independent verification of achievement of programs and milestones and efforts have already begun.

### **NOVEMBER 2010**

#### **COAI PRE-BUDGET MEMORANDUM 2011-2012**

COAI submitted its pre-budget submissions for the year 2011-2012 to the Finance Ministry and the DoT covering the two key issues, i.e., multiple taxes and levies and amortization of the amount paid for 3G licenses.

### **DECEMBER 2010**

#### **COAI COMMENTS ON TRAI CONSULTATION PAPER ON ISSUES RELATING TO BLOCKING OF IMEI FOR LOST/ STOLEN MOBILE HANDSETS**

COAI agreed with the Authority that mobile phone theft is a serious problem world over. COAI believed that the level of security of mobile phones is becoming increasingly important as the mobile phones are also used as payment terminals for M-Commerce.

**JANUARY 2011****COAI RESPONSE ON TRAI CONSULTATION PAPER ON 'ENCOURAGING TELECOM EQUIPMENT MANUFACTURING IN INDIA'**

COAI supported that there is a need for emphasis on the growth of domestic manufacturing in India. According to COAI, the focus of regulatory and policy initiatives should be on enhancing skill development, IPR development, improving competitiveness of domestic manufacturing, overall domestic manufacturing to compete against the international equipment manufacturing, improving component manufacturing etc. Therefore, the endeavour should be to leverage policy tools to overcome some of the barriers which hamper growth and competitiveness of the domestic telecom manufacturing industry.

**FEBRUARY 2011****COAI SUBMISSION TO TRAI'S CONSULTATION PAPER ON 'ISSUES RELATED TO TELECOM INFRASTRUCTURE POLICY'**

To ensure sustained growth of the telecom sector as well as the overall economic growth in India, a sound telecommunication infrastructure development policy is essential. This is because the telecom sector faces multiple hurdles, various policy impediments and multiple levies which inhibit expansion of telecom infrastructure in the country.

**FEBRUARY 2011****COAI SUBMISSION TO TRAI ON 'PROVISIONING AND DELIVERY OF BASIC FINANCIAL SERVICES USING MOBILE PHONES'**

Mobile operator needs to invest and manage the service and there shall be different investments which are required for the provisioning and delivery of basic financial services using mobile phones. Such services will include Interactive Voice Response (IVR), SMS, WAP sites, Unstructured Supplementary Service Data (USSD), Mobile Application Client and SIM based application. Also, COAI recommended that the tariffs for providing these services should be kept under forbearance and be left to the market forces.

## *XI. COAI Media Desk*

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### **JULY 2010**

#### **COAI ANNUAL REPORT 2009-10**

The COAI released its Annual Report for the year 2009-10 highlighting the status of the Indian GSM Industry. The report illustrated the impetus to the growth and penetration of mobile broadband services in the country and the existing record progress of the telecom industry. It also covered the major activities and achievements of the Association in the previous year.

### **NOVEMBER 2010**

#### **MOBILE NUMBER PORTABILITY IN INDIA**

Mobile Number Portability launch was announced from Haryana Licensed Service Area on November 25, 2010. COAI and the GSM industry warmly welcomed the implementation of Mobile Number Portability (MNP) in India. It began with the DoT's initiative of MNP project on April 17, 2009 by granting licenses to two MNP operators. COAI worked very closely with DoT, TEC and all operators to ensure smooth and early accomplishment of MNP.

### **DECEMBER 2010**

#### **COAI SUPPORTS HON'BLE MINISTER MR. KAPIL SIBAL'S GOALS FOR TELECOM INDUSTRY**

Communications Minister Mr. Kapil Sibal, stated that instead of looking only at the financial aspects of telecom, one must calculate the larger societal benefits that accrue from tele-density and broadband penetration. The additional benefits of telecom need to be factored into the calculus of determining the policy governing the industry. COAI fully endorsed and supported the vision of the Hon'ble MoC and advocated that the Telecom Industry is a powerful engine for the socio-economic development of the country.

### **DECEMBER 2010**

#### **RECORD GROWTH IN GSM SUBSCRIBERS**

The All India GSM subscriber base continued to grow aggressively in November 2010, recording an addition of nearly 17.16 million. Expressing delight at the sustained growth of the industry, Mr. Rajan S Mathews, Director General COAI stated that it was the GSM industry that was primarily responsible for powering the overall growth of the telecom sector and will be the key contributor in realizing the goals set by the Indian government for the tele and broadband penetration in the country.

**DECEMBER 2010****CELLULAR TOWER STUDY DEBUNKS RADIATION MYTH**

The first of its kind study, specific to the Indian environment carried out independently by the premier engineering institutes was commissioned by the COAI and AUSPI as a proactive measure stemming from the concern for the public health and safety issues. It revealed that “Levels of Radiation” from cellular base stations in Delhi, Mumbai and Pune fall considerably below international safety standards.

**JANUARY 2011****PAN INDIA MNP LAUNCH-20TH JAN 2011**

Dr. Manmohan Singh, Hon'ble Prime Minister of India and Shri. Kapil Sibal, Minister for Communications & IT launched PAN-India MNP Service on 20<sup>th</sup> January, 2011. Director General -COAI, Mr. Rajan S Mathews stated that “MNP has been successfully implemented by the unified effort of the, Ministry of Communication, TRAI and the Telecom Industry”.

**MARCH 2011****UPSURGE IN RURAL SUBSCRIBERS– ROLE OF THE INDUSTRY IN DEVELOPMENT OF RURAL INDIA**

COAI took pride in announcing that 70% of the total of 258.93 million rural subscribers was connected to the cellular mobile services at most affordable rates due to efforts and huge investments made by its member operators.

**MOBILE NUMBER PORTABILITY- EARLY TRENDS; CONSUMERS PREFER GSM OVER CDMA**

Mr. Rajan S Mathews, Director General stated that it is a worldwide trend that consumers of mobile services prefer GSM over CDMA. GSM networks are hailed for their better network quality, wide selection of valued added services and a variety of handsets and open networking systems.

**APRIL 2011****COAI RESPONSE TO TRAI RECOMMENDATIONS ON “TELECOM EQUIPMENT MANUFACTURING POLICY”**

COAI welcomed the objective of the TRAI Recommendations included in the “Telecom Equipment Manufacturing Policy” including the various fiscal incentives which had been announced by the Authority to promote domestic manufacturing such as limiting the

incidence of excise and VAT to 12%, providing tax holidays, setting up of Telecom Manufacturing Fund (TMF) for providing soft loans etc.

### **JUNE 2011**

#### **COAI STATEMENT ON THE IARC CLASSIFICATION**

Mr. Mathews responded that, COAI recognizes that there is a public concern about the safety of mobile communications. It may however, be noted that the present safety standards remain valid and the International Agency for Research on Cancer (IARC) result should be understood as indicating the need for further research. He reaffirmed that COAI and the mobile industry remain fully committed to the issue of safety of mobile communications and health of their consumers and the public at large and will continue to closely monitor the scientific research and studies in the area of mobile phones, base station and health.

### **JUNE 2011**

#### **INDIAN TELECOM INDUSTRY CONTRIBUTES LESS THAN 2% OF THE TOTAL GREEN HOUSE GAS EMISSIONS IN INDIA**

As per the recent report by SMART 2020; reveals that Telecom industry's carbon footprint contribution across the World is less than 2%. Industry has already initiated significant activities aimed at reducing their reliance on the diesel and fossil fuel consumption. It is evident that the CO2 emissions from the Indian telecom sector are abysmally low and are ALREADY ON THE GREEN TRACK. The Industry is committed towards clean & green practices and looks forward to significant support from the government.



**JUNE 2011**

**COAI DECLARES ADOPTION OF COMMON EVALUATION METHODOLOGY FOR GHG EMISSIONS**

COAI emphasized the need for COAI and Green Peace to work together to adopt a coordinated and cooperative action plan for the industry, instead of taking an adversarial approach, as both organizations had the same objective of reducing carbon emissions in India. COAI committed within three months, to develop a clear, detailed and sustainable emission reduction program with realistic time frames for achievement and share this with Green Peace and other interested parties.

## *XII. Telecom Centres of Excellence (TCOE) India*

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The seven TCOEs and the Coordination Centre, set up in PPP mode, have been in existence for close to 3 years now.

**RESEARCH:** Over 200 researchers are working on 64 projects in diverse areas in the seven TCOEs. The projects are of short, medium and long term durations. M. Tech. and research scholar intake has already been increased to meet the requirement of additional researchers. 12 projects have reached the prototyping stage and projects like Digital Mandi for the farmers and power supply backup solutions for rural networks are ready for commercialization. A project 'Heart Sound Monitor' developed at VEICET, IIT Kharagpur was awarded Gold Medal by Lockheed Martin India Innovation Programme. 9 patents have been filed by TCOEs and 1 US patent has been granted to TICET, IIT Bombay.

**CAPACITY BUILDING:** TCOEs have carried out 11 workshops and 15 short term courses on telecom to aid capacity building in India. All workshops and courses have received phenomenal response from industry as well as academia with almost all the events being oversubscribed. Over 30 Research papers and Project studies have been completed.

**STANDARDIZATION:** A total of 14 contributions from TICET, IIT Bombay have made it to IEEE 802.16m & 802.1Qbf global standards.

**TCOE INDIA AS 4G TECHNOLOGY EVALUATOR:** TCOE India was accepted as one of the 12 evaluating groups by ITU-R for Radio Interface Technology Candidates for IMT-A standards (4G technologies). TCOE India has developed an Open Area Rural Model which reflects the requirements of the Indian telecom landscape. The model has been accepted as an evaluation criterion for future international telecom standards by ITU.

**POLICY ADVOCACY:** Three proposals from the TCOEs have been incorporated into the 4G pre-consultation paper of TRAI. In April 2010, a one-day national workshop on developing an

agenda for a national broadband initiative was organized. The objective of the workshop was to engage with all stakeholders including policymakers and researchers to develop the outline of a medium term action plan and a policy research agenda. IITCOE IIM Ahmedabad organized a workshop on “Mobile Broadband: Igniting the Service Revolution” on 26-27 November 2010 which saw large participation from the Industry.

## **MAJOR INITIATIVES OF TCOE INDIA FOR THE GROWTH OF TELECOM ECOSYSTEM**

### **I. Telecom Standardization Development Organization (TSDO)**

India’s presence in International telecom technology development is practically non-existent and in International telecom standards is also marginal. As a result, standards and technology developed elsewhere do not reflect the needs and requirements of Indian service providers and/or may not be optimized. A need has been felt to promote Indian service providers’ requirements and Indian IPRs into International standards. The TSDO of India is envisaged to fulfil this need. It will be a non-profit legal entity in Public Private Partnership (PPP) mode with participation from all stake holders including Government, Service Providers, Equipment Vendors, Academic and Research labs. Finally, the TSDO of India shall operate along the lines of ETSI (for Europe), ARIB (Japan), TTA (USA), TTA (Korea) and CCSA (China).

#### **Objectives of the TSDO:**

- a. Develop and promote India-specific requirements in Telecommunications.
- b. Standardize solutions for meeting these requirements and contribute these to International Telecom Standards
- c. Safe-guard the related IPR
- d. Help create manufacturing expertise into the country to eventually drive the standardization efforts.

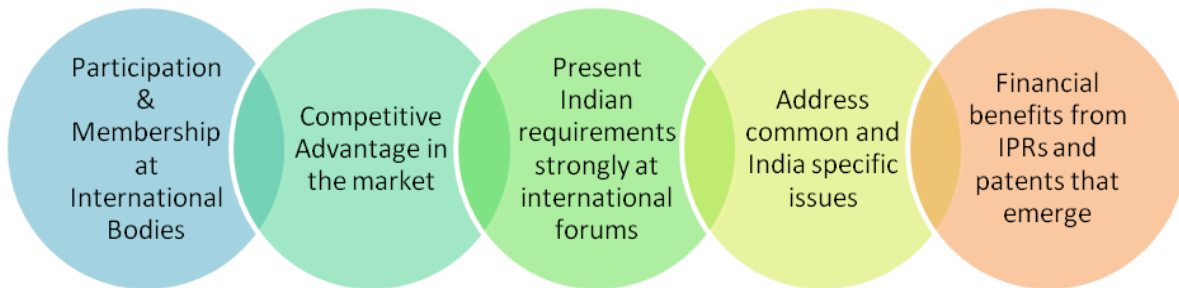
#### **Effective Model:**

Telecom is one of the most dynamic and fast moving technology and telecom standards are highly technical in nature and need the experts to work through them. These are voluntary agreements and need to be based on a consensus of international expert opinion and industry to be successful. The most effective model for TSDOs has been the Public Private Participation model. TSDO for India is also proposed to follow a similar model with right mix of industry and regulatory participation including Academia and research labs, TEC, TRAI, DoT, service providers and equipment vendors.

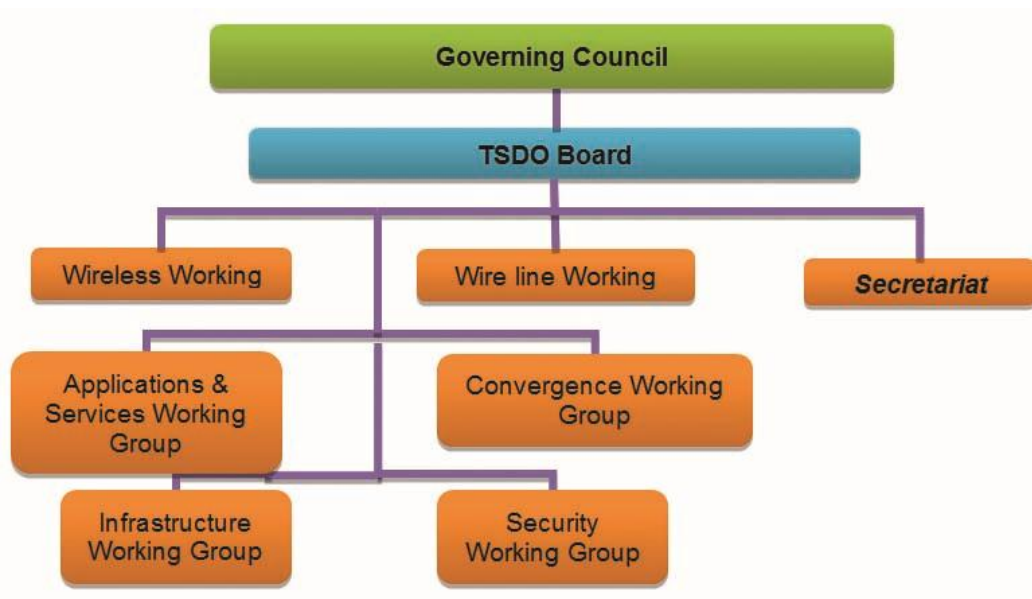
**Funding for the TSDO:**

The financial support to TSDO is planned in such a way that Government may primarily bear the expenses towards making TSDO a national representative member in the international bodies, while the industry can bear the running expenses through membership fees.

**Benefits to the Industry:**



**Proposed Structure for the TSDO:**



**Current Status:**

The proposal has been submitted to DoT and is under active consideration by the Govt.

**II. Telecom Entrepreneurship Development Centre (TEDC)**

Innovation and entrepreneurship are seen as two important pillars of development of a sector and any economy in general. Growth of Information Technology and Telecom sector in India are examples of how innovation and entrepreneurship combined with right

government policy can bring about a revolutionary growth in a sector. However, rural India has been, to a large extent, deprived of the telecom boom because of lack of innovation and entrepreneurs geared towards solving rural India's problems. The problem is further deepened because of the fact that currently there is no formal system of promoting innovation and entrepreneurship for rural telecom sector that is growing exponentially.

### **Objectives of the TEDC**

TEDC aims at providing conducive environment comprising of necessary technical, financial, infrastructure and mentoring support for early stage telecom start-ups aimed at creating solutions for rural India and democratizing telecom. The goal of TEDC is to build at least 20 innovative and successful enterprises focused on providing telecom solutions for rural India within the next 5 years. The TEDC would build a symbiotic relationship between various stakeholders to accomplish the following –

- a. Build and leverage the existing infrastructure (physical and technical) in India to provide support to innovators and entrepreneurs
- b. Leverage the human resources and expertise existing in research institutes in India
- c. Spin-off technologies being developed by innovators into viable enterprises
- d. Attract the best brains and existing institutions to collaboratively work towards solving problems of mass applications beginning with rural India

### **Partners**

The TEDC is proposed to be a collaborative effort between USO Fund, Telecom Centres of Excellence Coordination Center and IIM Ahmedabad's CIIE and IITCOE with support from organizations like C-DOT, all TCOEs and other leading research labs in the country. Considering the risk involved, the TEDC would be started as collaboration between Government/semi-Government agencies, but it would also engage closely with private stakeholders like operators, equipment manufacturers, and handset manufacturers among others.

### **Proposed Activities of the TEDC**

Under the TEDC umbrella, several activities are proposed to be carried out to promote innovation and entrepreneurship in the rural telecom space. These activities would vary from seed-funding of innovation to training and development of talent. The broad activities of the TEDC will be as follows-

- a) A unique incubation and innovation Centre to promote development of breakthrough telecom innovations
- b) Support training of entrepreneurs, mentoring, R&D, commercialization of innovations etc
- c) **Physical incubator** to be created at CDOT and CIIE – to house innovative ventures; receive mentoring, training, infrastructural support; infrastructural commitment from CDOT/CIIE and financial commitment from DST
- d) **India Telecom Innovation Fund** as a separate VC Fund to be managed by TEDC partners.

Three stage support:

- |                    |                          |
|--------------------|--------------------------|
| ➤ <i>Idea</i>      | <i>Prototype</i>         |
| ➤ <i>Prototype</i> | <i>Product</i>           |
| ➤ <i>Product</i>   | <i>Commercialization</i> |

### **Budget & Funding Sources**

Creation and smooth running of the TEDC Incubator, seed-fund and India Telecom Democratization Fund shall require an investment of around Rs 125 crore over the next 5 years. More than half of this amount shall be raised from private stakeholders as equity investment. The returns from the initial first three years from the Fund shall be reinvested into furtherance of the TEDC objectives along with the funds raised through private stakeholders.

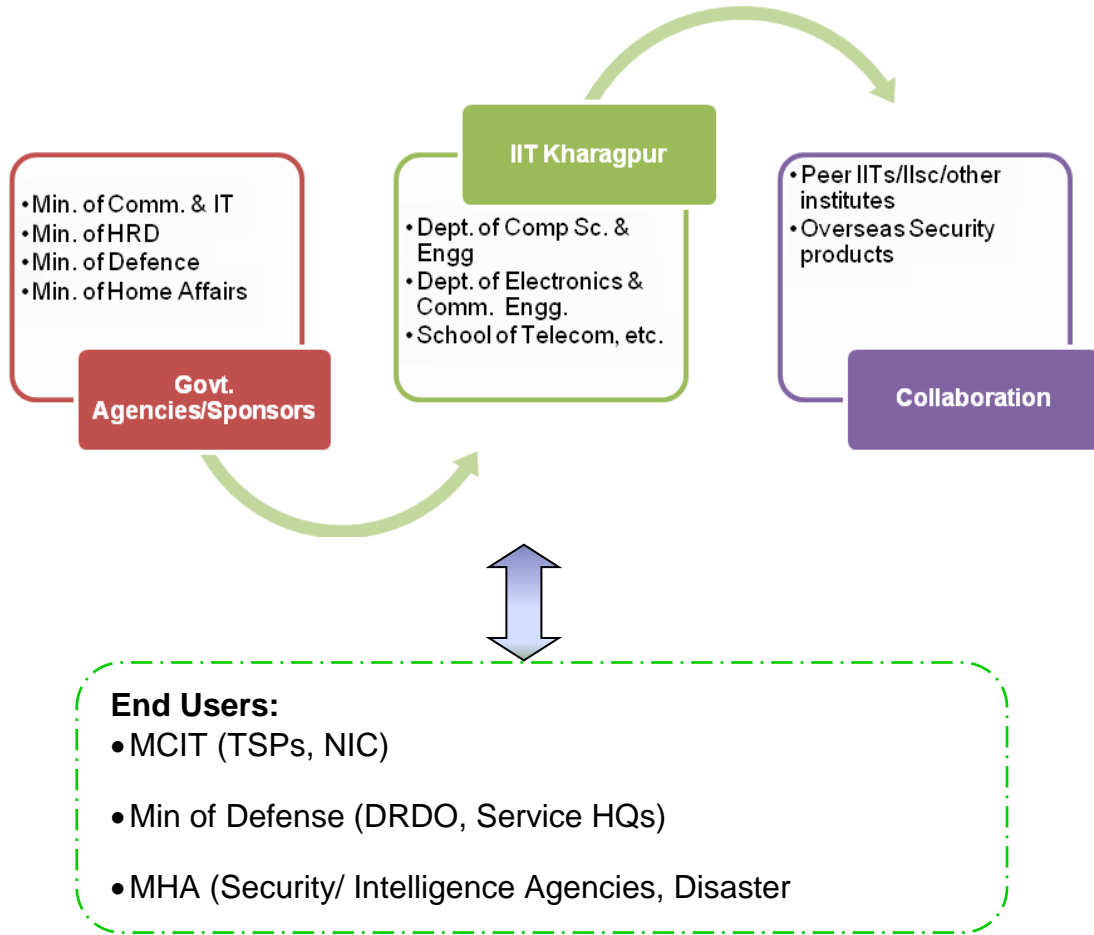
### **Current Status**

The proposal has been submitted to DoT for approval. During the last Governing Council Meeting of TCOE India held on 8<sup>th</sup> June 2011, the formation of a committee to review the TEDC proposal was approved by DoT under the chairmanship of Advisor (T) with members from C-DOT, TEC, USOF, and 2 members from TCOEs.

### **III. Telecom Equipment Testing and Security Certification Laboratory (TETSCL)**

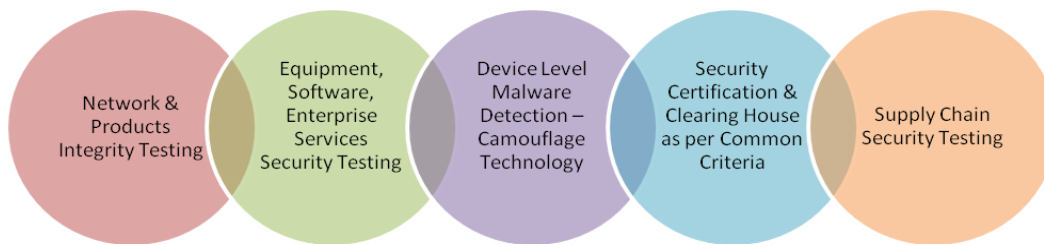
The TCOEs are also aiming at the creation of a TETSCL at IIT Kharagpur which will align with the National Common Vision 2025 for ICT Security. This lab will bring in agencies such as MCIT, MoD, MHA, and MHRD as main stream development partners in thought leadership role for tasking developments and will foster strategic collaborations with peer institutions & industry globally

### **Proposed Structure & Collaboration:**



The TETSCL is proposed to be set up at the Indian Institute of Technology (IIT) Kharagpur as there is a pool of expertise in Telecom, Electronics, IT, Computer Science and certain areas of security. There is ready availability of support and physical infrastructure with the potential of scaling up. The institute is open to a PPP Model for the TETSCL to leverage expertise and operations support from industry & peer institutes under a society model

**Building Blocks of the Proposed Security Testing Facility:**



**Collaborations with the following International Organizations are being explored for the TETSCL:**

- Codenomicon Finland: Security of CPE & Network Elements
- Detica UK: Digital Forensics
- Clarified Networks Finland: Network Monitoring & Analysis
- TUV Germany: Common Criteria
- SMI USA: Device Level Malware Detection – Camouflage Technology
- Ripples Home Land Security Group, UK: Semantics/ Ontology based Correlation
- Intertek USA/ India: Supply Chain Security Testing
- IISc Bangalore, STQC, ETRL

**The technical knowhow and Expertise needs to be developed in the following areas:**

- Security Framework
- Assurance framework: Assessment of deliverables, Assessment of products, Assessment of environment, Evaluation Assurance related to parts of design, development and operation, Development Assurance related to development stages, Testing Assurance related to tests at each stage of lifecycle.
- Secure Operations Framework
- Metrics
- Consultancy Framework: Design Guidance, Risk Management, Security Engineering, Product Evaluation, Certification & Accreditation, Clearing House Functions, Awareness & Education, Secure Operations

**Current Status:**

The proposal has been discussed during the TCOE India Governing Council Meeting held on 8<sup>th</sup> June 2011. Talks are underway with various international organisations for knowledge sharing.

### *XIII. Legal Update*

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#### **TDSAT Orders**

## 1. Hike in Microwave Charges : TDSAT

A petition was filed by COAI before TDSAT against DoT for unilaterally and arbitrarily increasing the charges for operators for spectrum used for Microwave backbone and Microwave access network.

In its judgment dated April 22, 2010 the Hon'ble TDSAT allowed the petition while setting aside all impugned orders of DoT pertaining to hike in Microwave Charges.

The Hon'ble Tribunal inter alia remarked that a contract cannot be challenged unilaterally in the absence of an express provision to do so. The Tribunal has further observed that amendment to a contract cannot be given retrospective effect.

The key highlights of the judgment are as below:

- *“When the statute itself provides for the mode and the manner in which the licences are to be granted, the terms and conditions thereof and working out of interconnect agreements being exclusively within the realm of the jurisdiction of TRAI, in our opinion, it cannot be said that the Central Government would be entitled to do whatever it likes. It’s actions, as a ‘State’ must be fair and reasonable. The State is bound to comply with the constitutional requirements of ‘equality before law and equal protection of law’. Right of a citizen of India to carry on a business being a fundamental one, the same can be restricted/regulated only in accordance with law and not otherwise. The respondent while doing so was liable to keep in mind its constitutional obligations to also maintain the level playing field as has been held by the Supreme Court of India in a large number of decisions.”*
- *“Increase in the charges is required to be done in accordance with law. Charges whether in terms of a license or otherwise can be increased only in terms of the provisions of statute or a contract.”*
- *“It is now almost a well settled principle of law that when a matter is governed by a contract, the parties must be ad-idem in regard to variation and/or novation.*
- *The power to increase an amount under a contract unilaterally must flow from it.”*
- *“In any event, the increase in the rates could not have been given a retrospective effect and retroactive operation.”*

- *“The executive orders do not partake to any statutory rules framed under the Act. Clause 18.3.2 of the UASL license provides that authorization of frequencies for setting up microwave links by cellular operators and issue of licenses should separately be dealt with WPC Wing as per the existing rules. The rules in terms of the provisions of ‘the Act’ would mean rules framed thereunder. Indisputably, such rules were required to be laid before both the Houses of Parliament in terms of the statute. The word ‘prescribed’ would ordinarily mean prescribed by rules. It is true that the said provision is directory in nature but there cannot be any doubt or dispute that all such rules should ordinarily be published in the official Gazette.*

*The Office Orders filed by the respondent herein, thus, are not rules; but are merely circular letters. There is furthermore nothing on record to show that these circular letters were issued by the authority, who could frame the rules. By reason thereof, the terms and conditions of license might have been fixed but in absence of any statutory sanction in regard thereto, they cannot fall in the category of a subordinate legislation. The parties having entered into a contract, the terms thereof could not be modified in absence of any express provision.”*

*In March 2011, DoT filed an appeal against the TDSAT judgment dated 22.04.2010 on hike in Microwave Charges in the Supreme Court*

*The appeal has been admitted however **no stay was granted to DoT.***

## **2. AGR 2007/AGR New Licensees : TDSAT**

The TDSAT Order dated 30.08.2007 on the definition of AGR reconfirmed the basis of its earlier judgment that revenue sharing can be only of that part of gross revenue which is derived from “establishing” “maintaining” and “working” of telecommunication (licensed activity). However, the Tribunal also held inter alia that the benefits of the revised definition would be made available only to named petitioners and that too from the date of filing of the Petition. COAI has challenged this Order in Supreme Court.

In the meantime, as a matter of abundant caution, various member operators of COAI who were not named parties in the COAI Petition and subsequently the new

licensees (2008), filed separate Petitions in the TDSAT, seeking benefit of the revised definition of AGR.

All the AGR petitions being inter related were taken for hearing together and were disposed of by the common judgment dated **May 7, 2010**, wherein the Hon'ble TDSAT allowed the petition while setting aside the impugned demands of DoT.

The key highlights of the judgment are as below:

- *“Licenses for dealing with telegraphs have been granted for carrying ‘telegraph activities and, thus, we have no doubt, in our mind that for the purpose of computation of ‘Adjusted Gross Revenue’, the licensor by no stretch of imagination could have included any item for the purposes thereof beyond the licensed activities of the operators.”*
- *“There cannot, however, be any doubt or dispute that ordinarily the benefit granted to a class of litigants should be extended to all who fall within the said class. If in the case some of the licensees of ‘AGR’ is to be calculated on one basis, the said principle should not be denied to be applied in the case of the others”*
- *“The respondent is ‘State’ within the meaning of the provision of Article 12 of the Constitution of India. It is, therefore, constitutionally obligated to give effect to the equality clause contained in Article 14 of the constitution. Applying the said principle, there cannot be any doubt or dispute that effect of a judgment, subject of-course to just exceptions, should be given equally in favour of persons similarly situated.”*

*Pursuant to this judgment, COAI has filed appeals in the Supreme Court in July 2010 against the TDSAT judgment challenging the judgment to the limited extent that the relief given should be granted from the date of the signing of the License agreements and not merely from the date of filing the petitions. The appeals have not yet come up in the Supreme Court.*

### **3. CAG Petition : TDSAT**

COAI challenged the jurisdiction of DoT to audit telecom companies and prayed inter alia, to set aside/quash the impugned communication inter-alia dated 16.3.2010, seeking audit of telecom companies by the CAG and seeking information beyond the ambit and scope of the UAS license.

In its judgment dated **February 10, 2011**, the Hon'ble TDSAT allowed the petition filed by COAI thereby setting aside the impugned notices by DoT to the member operators.

The key highlights of the judgment are as below:

- *“An audit or a special audit within the meaning of clauses 22.5 and 22.6 envisages some special actions. For the purpose of taking recourse to clause 22.5 the respondent was required to form an opinion which would mean an honest and bonafide one. The respondent as a ‘State’ within the meaning of Article 12 of the Constitution of India is also required to act reasonably and fairly.”*
- *“An audit in terms of Clause 22.5 of the license, therefore, can be directed, provided a misstatement or a mis-declaration is noticed. The opinion can be formed only if the statement of accounts is found to be inaccurate or misleading. The licensees are also required to bear the costs of the Auditors. In terms of the aforementioned provisions, not only the same would require assignment of reasons but also compliance of the principles of natural justice.”*
- *“Furthermore after a special audit has been conducted, the question of having another audit in terms of Clause 22.5 of the condition of license would not arise. The process cannot be reversed having regard to the statutory scheme noticed hereto before.”*

#### **4. Reliance/TTSL - 6.2MHz : TDSAT**

A Petition was filed by TTSL contesting inter alia that GSM Operators have been allocated spectrum beyond their contractual entitlements in an arbitrary and non transparent manner in violation of NTP-99, various pronouncements of the Hon'ble Supreme Court thus bestowing huge largesse on GSM Operators.

TDSAT released its judgment in the petition filed by TTSL on December 16, 2010 wherein the Tribunal dismissed the petition filed by TTSL.

The key highlights of the judgment are as below:

- *“The concept of ‘Equality’ contained, inter alia, in Article 14 of the Constitution of India, would not, however, mean that unequals are to be treated equally. It*

*is now well-settled that the concept of equality applies only in regard to the case where the persons required to be compared stand on equal footings. It is a positive concept. No equality can be claimed in illegality, and even if some directions have been issued which has its foundation thereon, the same cannot be followed.”*

- *“The question as to whether the CDMA operators and GSM operators stand on equal footings is essentially a question of fact which is required to be determined by the appropriate authority.”*
- *“We, are of the opinion that the petitioner in this Petition has not been able to establish that it was entitled to be treated equally so as to attract the ‘Equality Principle’ contained in Art. 14 of the Constitution of India or in terms of the doctrine of ‘level playing field’ or otherwise.”*
- *“The petitioner has failed to produce any material to show that the policy decision adopted by the respondent is arbitrary or purely discriminatory in nature.”*