



# The Tech Trendsetters

Having shown stupendous growth in the last two decades, the Indian telecom industry now needs to innovate and strategize its offerings and invest in newer technology trends

In the last 2 decades, telecom has taken massive strides on the back of fast evolving technological advancements and an all-encompassing need for communication services among the consumers. From 0.67 mn subscribers in India in Dec 1997 to close to 900 mn today, the stupendous growth in the past 14 years is a testimony to the above. The telecom industry in India has played a major role in the economy as well. The Indian government has also been enforcing some effective telecom policies and regulations for the infrastructural growth of this industry. The industry is expected to reach a size of \$70 bn by 2012, growing at 26% and generate employment for about 10 mn people, directly or indirectly. However the future growth and health of this industry will also depend on how the players innovate on their strategies and their offerings to stay relevant in an ever changing market, and also on how the government nurtures and supports this industry through economically viable policy decisions.

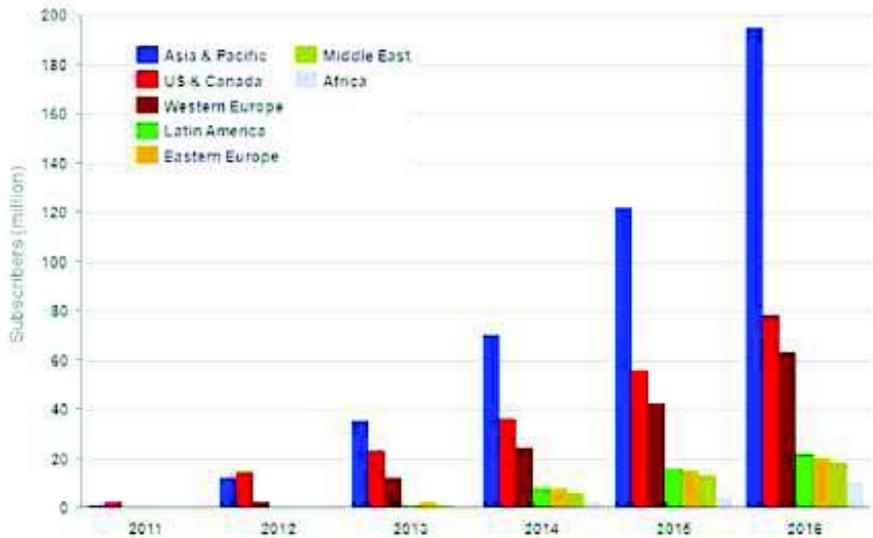
Looking into the near future, how will telecom operators respond to the ever-changing horizon of technology trends? We have identified 8 such trends which we think will be most impactful:

## Trend #1: LTE is Not Far Away

While Indian operators had to satisfy themselves with 2x5 MHz spectrum allocation in the last 3G auction, most European operators got 2x15 MHz for roughly 1/5 the customer base at the beginning of this century. Given the shortage of 3G spectrum available with the operators here, it is likely that the industry will start to feel the pinch sooner than expected.

Moreover the average consumption of bandwidth per user is going to be up 5-10 times in the future, buoyed by increased awareness and reach of internet services. The Indian operators will face challenges in carrying that additional burden on their voice-centric networks and will increasingly start looking at the innovative technologies to prevent technological obsolescence and prolonging their returns on investments made on the existing networks.

## Growth of LTE Subscribers, 2011-2016



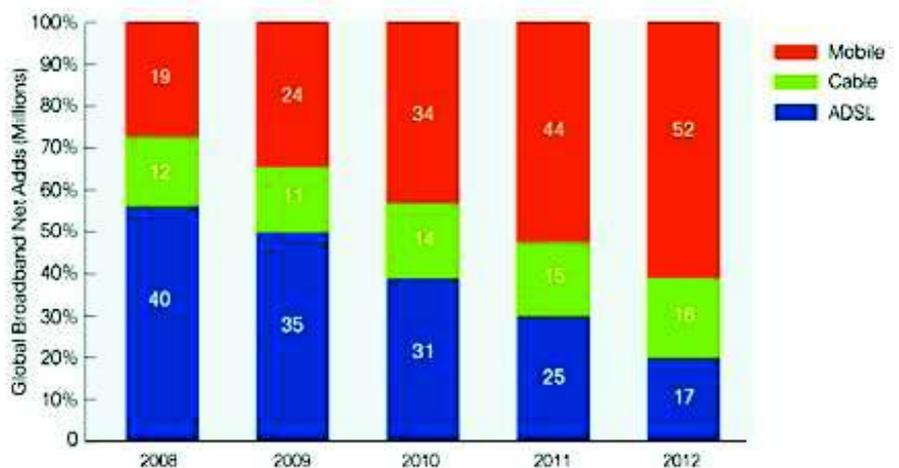
Source: Telegeography

Players are already contemplating LTE or WiMax as a viable alternative. With higher speeds on offer, this will lead to a boost in uptake of voice and data convergence services. This will also result in a spurt of services around GPS, social networking, and mobile commerce. Though India doesn't have an affordable LTE standard for an extensive roll-out at present, a lot of operators are realizing the long term benefits of TD-LTE and might only use WiMax as a stop-gap measure before a viable standard for LTE is implemented.

## Trend #2: Operators Plan to Float in Cloud 9

In India, every operator today is either seriously contemplating or has already ventured into the business of cloud computing. Cloud computing presently is the fastest growing component of data center services, accounting for more than 11% of the business and touted to contribute more than 33% by 2015. The activity in the market is growing hot, with Huawei launching 2 new generation cloud handsets, McAfee and ZTE coming up with its cloud security solutions, Tata introducing cloud services for the SMB market, Mahindra Satyam and Autodesk launching a dozen web based capabilities on cloud, products, and services that enable customers to enhance their desktops

## Global Broadband Net Additions by Access Type



Source: In-Stat, August 2008

with mobility, new viewing and sharing capabilities, and more computing power. This is only the tip of the iceberg, as more and more players are about to enter the arena.

Cloud computing is likely to create 350,000 jobs in India in the next 5-6 years, as India will prepare itself to play a key role in the global cloud based IT applications. Cisco has estimated in its global cloud index (2010-15) that the global cloud computing traffic will grow 12 times from the existing 130 exabytes, to reach a total of 1.6 zettabytes by the year 2015, with a 66% compound annual growth rate (CAGR).

## Trend #3: The Convergence Story is Far from Over, as Wireless Technologies Fuel Fresh Growth

The market has only started to take steps towards convergence between voice and data services. Reaching the ideal state scenario is still some way into the future. The most recent initiative aims at the convergence of voice and data received from multiple sources, both web based and real-time video streams, on a convenient mobile wireless platform (either a phone, or a handheld media device like a tablet). We see a gradual move from the fixed broadband technologies, of the likes of DSL or cable, to fixed wireless and mobile wireless broadband technologies. This phenomenon is specially pronounced

in the emerging markets and India is no exception. As it becomes economically unviable to reach the next frontier of growth on the back of fixed broadband technologies, we will see a distinct shift on wireless broadband uptake in the new markets based in tier-2 and -3 cities in India.

## Trend #4: Increasing Use of Green Technology in Powering Telecom

The explosive growth in the Indian telecom market has also resulted in an equally fast growing telecom infrastructure market. With increasing revenues, keeping costs low was not on high priority