

Indian telecom industry overview

[Technology](#), [Mobile Phone](#)



INTRODUCTION Indian telecom is more than 160 years old, beginning with the commissioning of the first telegraph line between Kolkata and Diamond Harbour in 1839. In 1948, India had only 0.1 million telephone connections with a telephone density of about 0.02 telephone per hundred population. By June 2006 there were 153.42 million telephone (including cellular mobile) connections in the country with a telephone density of 13.96 telephones per hundred population. The Telecom Commission, set up in April 1989, has the administrative and financial powers of the Government of India to deal with various aspects of telecommunications. The Commission and the Department of Telecommunications (DoT) are responsible, inter alia, for policy formulation, licensing, wireless spectrum management, administrative monitoring and control of the Public Sector Undertakings (PSUs) engaged in telecommunication services, research and development, and standardization/validation of equipment. In addition to the Telecom Commission, other Government organisations engaged in the telecom sector (as a part of DoT) are the Centre for Development of Telematics (CDOT), the Telecom Engineering Centre (TEC) and the Wireless Planning and Coordination (WPC) wing. CDOT was established with the objective of developing a new generation of digital switching items. It has developed a wide range of switching and transmission products both for rural and urban applications. TEC is devoted to product validation and standardization for user agencies. It also provides technical and engineering support to the Telecom Commission and the field units. The WPC wing deals with the policies of spectrum management, licensing, frequency assignments, international coordination for spectrum management and administration of

the Indian Wireless Telegraphy Act, 1933. In order to administer the use of radio frequencies, the licences/renewals for use of wireless equipment and the frequencies are authorised by WPC. The licences are granted for specific periods on payment of prescribed licence fees and royalty in advance and are renewed after expiry of the validity periods. The entry of private service providers in 1992 brought with it the inevitable need for independent regulation. The Telecom Regulatory Authority of India (TRAI) was thus established with effect from 20 February 1997 by an Act of Parliament, called the Telecom Regulatory Authority of India Act, 1997, to regulate telecom services, including fixation/revision of tariffs for telecom services, which were earlier vested in the Central Government. The TRAI Act was amended by an ordinance, effective from 24 January 2000, establishing a Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) to take over the adjudicatory and disputes functions from TRAI. TDSAT was set up to adjudicate any dispute between a licensor and a licensee, between two or more service providers, between a service provider and a group of consumers, and to hear and dispose of appeals against any direction, decision or order of TRAI.

MAJOR PLAYERS IN THE TELECOM MARKET

Players in the Indian Stock Market:

NAME	ISSUE PRICE	CURRENT MARKET PRICE
Bharti Airtel	Rs. 45	Rs. 880
Reliance Communications	Rs. 250	Rs. 610
Idea Communications	Rs. 85	Rs. 109
Tata Teleservices Mah Ltd	Rs. 18	Rs. 35

Players in the PSU Segment: The subscriber growth, as shown above, has been growing at 38 % CAGR (FY 2002-06). This means that nearly 5-6 million customers are being added every month. The following table shows the number of subscribers per company in the fixed as well as mobile segments.

as on July '06 and the percentage of share each company enjoys in both the segments.

Company	Presence	Subscribers Jul 06 (mn)	Share (%) Fixed	Share (%) Mobile
BSNL	Government owned. Has ramped up GSM services. National presence (except Mumbai and Delhi)	37.4	17.7%	74.7%
MTNL	Government owned. Operates in Delhi and Mumbai.	3.8	2.0%	7.7%
Bharti	Integrated operator, with presence in all sectors. Largest mobile services provider.	1.4	19.6%	2.7%
Reliance	Integrated operator. Plans expansion of GSM network apart from being the largest private CDMA operators.	3.0	17.3%	6.0%
Hutch	Pure play GSM operator in 11 circles.	15.4	17.0%	0%
IDEA	Pure play GSM operator in 6 circles	7.4	8.2%	0%
Tata Teleservices	Integrated operator (along with VSNL) with presence in all segments. Provides CDMA services in 20 circles	4.0	4.9%	8.0%
Aircel	Operates in 2 circles. Announced Plans to expand GSM footprint in North and North east	2.6	2.9%	0%
Spice	Pure play GSM player in 2 circles	1.9	2.1%	0%
Others		0.4	1.4%	0%
Total		50.9	90%	90%

As seen above, BSNL enjoys the major share in the pie of the fixed subscribers segment, due to the pre-'91 monopolistic situation in the country. On the other hand, in the mobile segment, there is cut-throat competition for the 1st place. Drivers for increasing mobile coverage are Infrastructure Sharing The government's decision of providing support from USO Fund will open up the vast untapped market in rural areas. 2007 saw rural areas sharing 8000 towers for mobile telephony as well as broadband coverage and an increase in urban area from current 25% to 40%. Research and Development India plays a pre-eminent role as a technology solution provider. Affordable technology for masses and a comprehensive security infrastructure for telecom network will be major

focus areas in the years to come. Government Policies The government has been facilitating the availability of adequate bandwidth at competitive prices to roll out advanced technologies like 3G and Wimax. AGENTS OF CHANGE The telecom equipment sector is expected to hit the \$100 billion mark within next three years according to according to P S Ramesh, president, Telecom Equipment Manufacturers' Association of India (TEMA). The current size of the sector is \$26 billion. Major agents of change would be High Rate of Investment Already \$1. 5 billion has been committed and the next year is likely to see another \$2 billion of investment. Government Initiatives Government initiatives like 100% FDI in telecom equipment manufacturing sector, proposed setting up of Telecom Equipment and Services Export Promotion Council and Telecom Testing and Security Certification Centre (TETC) makes the sector very attractive for the investors. India as Centre Seat Companies like Cisco are making India their global centre while Indian concerns are very upbeat the sector's growth. Exports Exports will form a sizeable component of the domestically manufactured equipment. High-end Technology 3G mobile services, which rolled out in 2007, will see \$6 billion investment in the infrastructure. Domestic manufacturing centres will be major source of the 3G network equipment. WiMax services will require WiMAX compatible high-end technology equipment for its networks. This will lead to increasing domestic production to reduce costs. India as a Manufacturing Base Major telecom companies like Nokia, Motorola and LG have already set up their manufacturing facilities in the country to cater to the massive domestic demand. Decreased cost of production, high volume of sales and increasing research to produce equipment to suit the Indian reality

has led to drop in the cost of entry level mobile handsets which fuels greater demand for it

Investment Policy Framework

1. Foreign Direct Investment of up to 100 percent permitted for the following:
 - Manufacturing of telecom equipment
 - Internet service (not providing international gateways)
 - Infrastructure providers (Category I)
 - E-mail service
 - Voice mail service
 - Call Centers and IT enabled services
2. Foreign Direct Investment of up to 74 percent permitted for the following:
 - Internet service (providing international gateways)
 - Infrastructure providers
 - Radio paging services
3. Foreign Direct Investment of up to 49 percent permitted for the following:
 - National long distance service
 - Basic telephone service
 - Cellular mobile service
4. Additional foreign investment through holding/investment Company.
5. Automatic approval for technology fee up to US\$ 2 million, royalty up to 5 percent for domestic sales and 8 percent for exports in telecom manufacturing (higher amount through specific approvals)
6. Fiscal incentives and concessions for the telecom sector:
 - Amortization of license fee
 - Tax holiday
 - Rebate on subscription to shares/debentures
 - Scope for tax exemption on financing through venture capital
 - Import duty rates reduced for various telecom equipment.

Competition Policy

Countries often differed in pattern of sequencing and the speed of liberalization. Competition has been controlled within limit by state policy through licensing of limited number of market players in certain segments granting thereby a period of exclusivity to the operators. Heterogeneity of routes to sectoral reforms, as seen from the examples of some of the Asian countries, classified into different combination of policies and approaches to telecom reform, are presented below:

1. Competition in the fixed line segment with state owned

incumbents: China, India and Korea. 2. Privatization of state owned incumbents but deferred competition through exclusivity granted to private investors: Hong Kong, Indonesia, Malaysia, Pakistan and Singapore. 3. Simultaneous introduction of privatization and competition: Japan and Sri Lanka. 4. Opening up of local market to competition first: Hong Kong, India and Singapore. 5. Opening up of competition in the international services first: Korea, Malaysia and the Philippines. 6. Introduction of second domestic long distance carrier first: China. 7. The sector ministry exercises regulatory functions: China, Indonesia, Japan, Korea, Malaysia, Taiwan and Thailand. 8. Separate regulator with the responsibility for interconnection lying with the dominant operator while regulator is responsible for arbitration of disputes: Hong Kong, Pakistan and Philippines. In India, for instance, competition in cellular telephony was allowed in a duopoly mode. This was gradually increased to licensing of four operators in each of the four metros and thirteen circles. Basic service in India is still limited to one private operator competing with state owned incumbents in the circles. Though private sector has been licensed and they are laying infrastructure, metros are still in the grip of public sector monopoly and it will take a while before private competition takes place. Differences in modes of privatization have been observed in other countries.

Indian Firms Gaining a Foothold in the Global Market

1. Indian service providers are acquiring scale in the International Long Distance market through acquisitions of the following nature: - FLAG by Reliance, Tyco and Teleglobe by Videsh Sanchar Nigam Limited - VSNL is now the world's fifth largest carrier of voice globally - Reliance's FLAG network connects with 28 countries. FLAG's FALCON cable system when

completed would connect 12 countries with 25 international cable landing stations 2. Investments in Infrastructure: - Bharti-Singtel and VSNL investments in undersea cable 3. The Indian companies are emerging as Integrated telecom companies, and then positioning themselves as full service providers - Tata teleservices-VSNL, Bharti, Reliance have end-to-end presence in ILD, NLD and Access; BSNL has announced plans to get into ILD - Focus on corporate connectivity - IPLCs, Frame relay, VPNs - Strong thrust on internet and broadband - both corporate and retail segments Policy Reforms 1. " The Decade of 1980's saw private sector being allowed in telecommunications equipment manufacturing. Mahanagar Telephone Nigam Limited (MTNL) and Videsh Sanchar Nigam Limited (VSNL) were formed and a Telecom Commission was set up to give focus to telecommunications policy formation. 2. In 1990s, telecommunications sector also benefited from the general opening up of the economy. NTP 1994 was the first attempt to give a comprehensive roadmap for the Indian telecommunications sector. 3. Availability of telephones on demand (targeted by 1997) 4. Universal service covering all villages and one PCO per 500 persons in urban areas at the earliest (targeted to be achieved by 1997) 5. Telecom services at affordable and reasonable prices 6. World standard quality of services 7. NTP 1999 brought in the third generations of reforms in the Indian telecommunications sector. THE ROAD AHEAD Telecom sector will drive up the rate of growth of Indian GDP in the coming years. The growth rate of mobile subscribers in India is currently an amazing 82. 2%. According to Union Minister of Communications and Information Technology, Dayanidhi Maran, by the end of the year 2007 India will have 250 million mobiles subscribers (a tele-

density of 22 %) of whom 50 million will be rural connection. The 2007 geographical coverage by mobile connectivity is targeted at 85% of the country. By end of Nov ' 06 India had 100 million GSM subscribers and 36 million CDMA subscribers taking the tally to 136 million. Of the total GSM subscriber base of 100, 786, 048, - Metro contributed 19, 471, 600, - A Circle cities -36, 058, 626, - B Circle - 35, 096, 746, and - C Circle - 10, 159, 076. Of the 136 million subscribers, more than 90 million subscribers added in the last two years. More than 5 million subscribers added every month since Dec. 2005, translating into the highest growth rate in the world. On a comparison of growth since introduction of mobile telephony, India surpasses China at the same stage of market evolution. The government has announced the following targets for the telecom sector growth in India. - 500 million subscribers by 2010 - 20 million broadband subscribers by 2010 - Mobile access to all villages with population more than 5, 000 by 2006 - Mobile access to all villages with population of more than 1, 000 by 2007 Also, it is predicted that the Indian telecom market would be anywhere between a USD 40 — 45 billion dollar market by financial year 2010. The vision of telecommunications in 2020 is a vision of information society built on an edifice where IT and telecommunications merge. Rapid technological convergence has already implied a symbiotic overlap between the development strategies of IT and telecommunications. Part of today's IT is ' telecom writ large', it flourishes on the telecom-network and in turn permits modern day telecommunications to use sophisticated IT-software. Hardware is a common platform for both IT and telecom. There is a legacy vision derived from export-success of India's software that has given rise to

optimism regarding India's growing pre-eminence in global IT canvas. Such a vision builds on a much larger vision of all round development of IT that pervades wide cross-section of Indian economy and society. Deeper analysis shows that there is need for a comprehensive IT development strategy to ensure India's durable presence in the global software market. As discussion in the subsequent paragraphs will show, 'enclave' type development of software with exclusive focus on export can not bring about desired benefits if such a strategy ignores the linkages between export and the domestic market. Vision 2020, therefore, is a much larger vision. Internet kiosks, telekiosks, telecottages and cybercafes have emerged in important roles in expanding community access to ICT popularizing IT among the masses and promoting domestic market. However, their expansion crucially hinges on the growth of telecommunications infrastructure. In India, a spectrum of technologies has been unleashed to connect remote villages, which includes Wireless in Local Loop (WLL), wireless cum wired technology developed by C-DOT, radio systems, switching systems of different capacities integrated with underground cables, CorDect and medium capacity satellite systems. Besides, a number of small-scale ICT initiatives is already at work in different parts of the country. It is envisaged that with the growth of telecom infrastructure such examples would multiply and create an information society in not so distant a future. Future vision of telecom is a vision of IT. Telecom will be the springboard of future expansion of IT heralding in an information society. ICT will spread among the masses and will spur innovation, entrepreneurship and growth. An expanding domestic market will deepen the synergy between the domestic and the export market and

strengthen India's presence in the high-value segment of the global trade and investment. ICT benefits will spread among all, the rich and the poor, the young and the old, the men and the women, the organized and the unorganized and the government and the governed.