



TELECOMMUNICATIONS

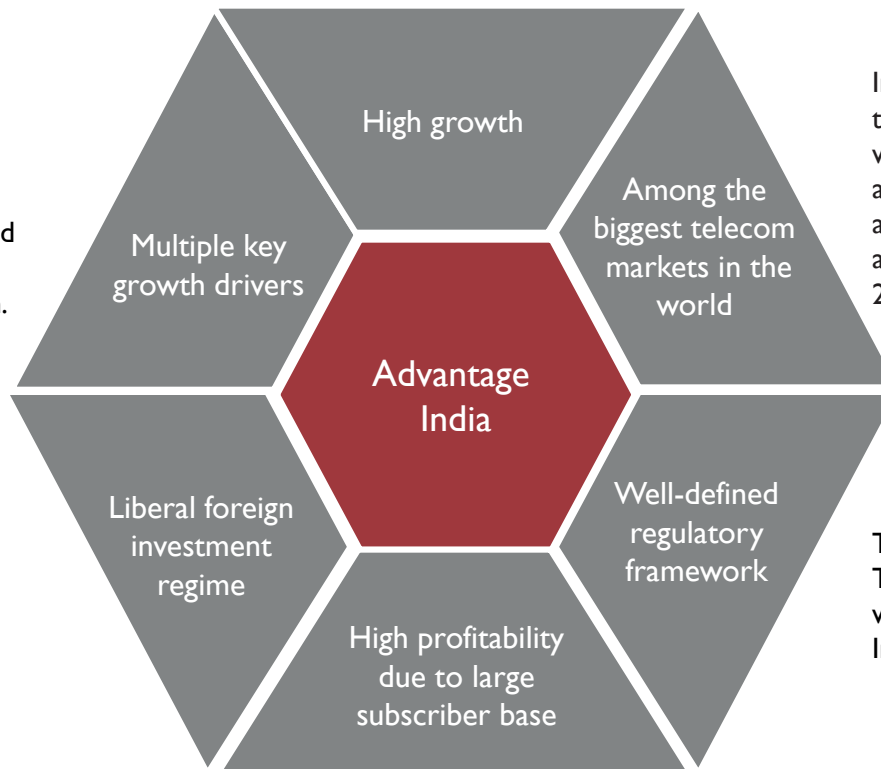
April 2010

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Advantage India

For over a decade, the telecom sector in India has been delivering strong returns on investments and steady subscriber additions.



Multiple factors including low tariffs, low handset prices, effective government regulations, higher incomes and changes in customer behavior are the key drivers for growth.

The telecom sector is one of the highest FDI attracting sectors in India, and has recorded FDI inflows worth over US\$ 8.8 billion between 2000 and 2010.

India is one of the biggest telecom markets in the world with 581.81 million subscribers as on January 31, 2010, which are estimated to reach approximately 700 million by 2012.

The Department of Telecommunications (DoT) has well-defined regulations for the Indian telecom sector.

The reduction in average revenue per user (ARPU) is mitigated by growth in the subscriber base that contributes to healthy revenue growth. In addition, declining tariffs are compensated by an increase in the minutes of usage (MOU).

Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010
India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

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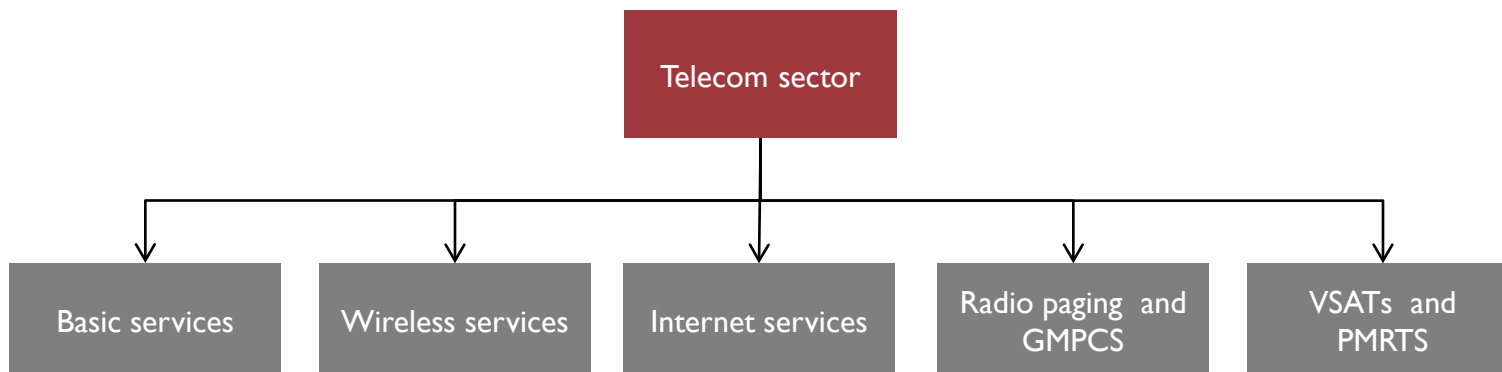
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Market overview

- The telecom sector in India has witnessed unparalleled growth by global standards in the last decade and continues to be one of India's biggest success stories. This growth has been built on the wireless revolution.
- At the end of January 2010, the overall tele-density was recorded at 49.5 per cent with a total telephone subscriber base of 581.81 million.
- By 2012, the total telecom subscriber base is expected to reach approximately 700 million to include about 650 million wireless users and approximately 50 million fixed line users, driven by a rise in the demand for communications from semi-urban and rural India.
- Revenues of the Indian telecom industry are projected to reach US\$ 45 billion by 2012 as compared to US\$ 26 billion in 2008.
- The key players in the Indian telecom market are Bharat Sanchar Nigam Ltd (BSNL) and Mahanagar Telephone Nigam Limited (MTNL), Bharti Airtel Limited, Reliance Communication, Vodafone, Idea Cellular, Aircel and Tata Teleservices.

Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010
India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

Market segments

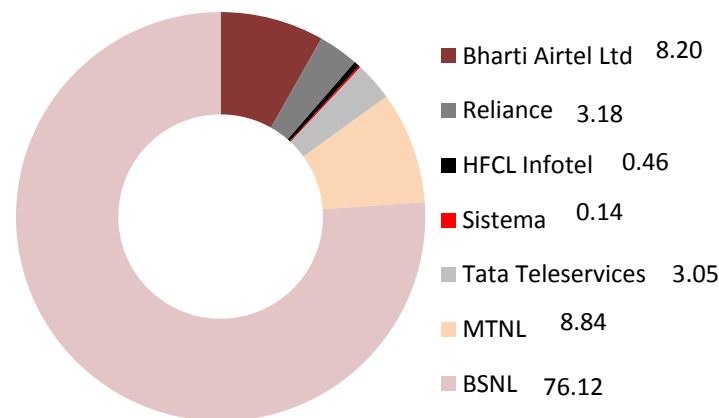


- The Indian telecom industry can be primarily divided into basic, cellular and internet services. It also has smaller segments such as radio paging services, Very Small Aperture Terminals (VSATs), Public Mobile Radio Trunked Services (PMRTS) and Global Mobile Personal Communications by Satellite (GMPCS).

Market segments — wireline

- The subscriber base of wireline services stood at 36.76 million as on January 2010 with a tele-density of 3.13.
- Public sector undertakings — BSNL and MTNL — have a major share of the wireline market covering about 85 per cent.
- MTNL is present in Delhi and Mumbai, while BSNL covers the rest of the country.
- Though private players such as Tata Teleservices, Bharti Airtel and Reliance have registered significant growth, BSNL still dominates the segment in terms of wireline subscriber base.

Market share of wireline services as on January 31, 2010 (in per cent)

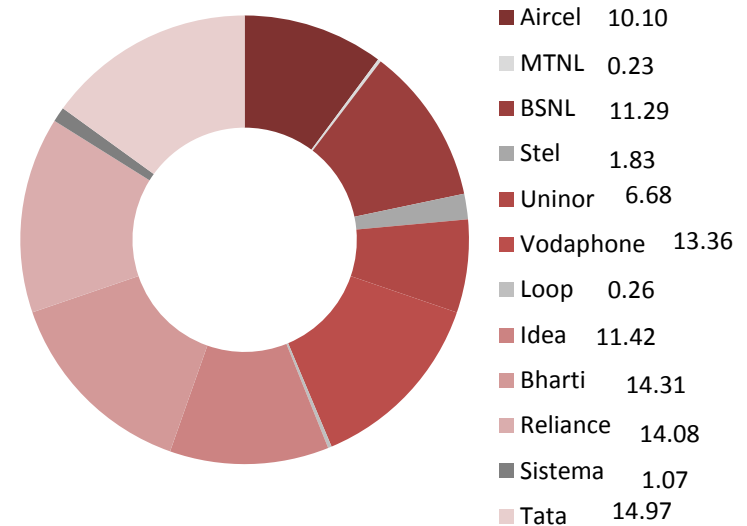


Source: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010

Market segments — wireless

- The wireless segment includes GSM and CDMA services and is much larger than the wireline segment in India. The segment is growing steadily because of the convenience and utility that it offers.
- The subscriber base of wireless services stood at 545.05 million as of November 2009 with a tele-density of 46.37 percent.
- During 2008–09, the cellular market recorded 328.83 million GSM subscribers accounting for 77 per cent of the market and 98.46 million CDMA subscribers accounting for the remaining 23 per cent.
- A major share of the wireless market is being held by private players such as Bharti Airtel Limited, Reliance Communication, Vodafone, Idea Cellular, Aircel and Tata Indicom.

Subscriber base as on January 31, 2010
(in per cent)



Source: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010

Market segments — the Internet

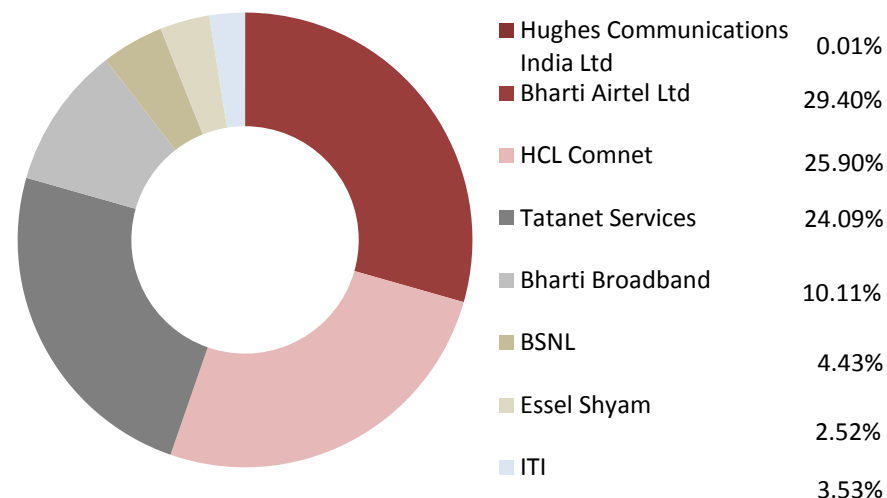
- High growth in broadband penetration is expected to be the driver for the next phase of growth in the telecom industry. While the broadband connections are increasing rapidly, penetration in India is still at 0.3 per cent against the global average of 6.1 per cent.
- As on January 31, 2010, the subscription base of broadband is recorded at 8.03 million. Broadband subscribers are expected to grow to 30 million, while Internet subscribers are expected to grow to 45 million by 2012.
- Key players in the segment are BSNL, MTNL, Bharti, Tata Communication, Reliance Communication, Sify Technologies, YOU Telecom, Data Infosys and Hathway Cables.
- The launch of 3G services is expected to drive data revenues. India's data revolution is expected to be fuelled by 3G and WiMax.

Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010
India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

Market segments — VSAT

- At present, there are 8 VSAT service providers in India including BSNL, Bharti Airtel, Hughes Communications India Ltd and HCL Comnet Ltd.
- The number of VSAT subscribers services grew by 6,108 to 108,328 for the quarter ending June 2009. The market for VSAT services registered a 5.98 per cent growth in the quarter ending June 2009.
- Hughes Communications India Ltd is the market leader, with a market share of 29.4 per cent, followed by Bharti Airtel with 25.9 per cent.

Market Share



Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010
India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

Other segments

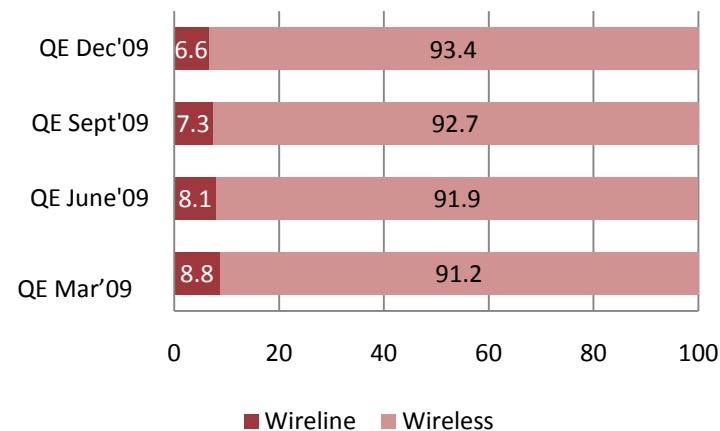
Radio paging services	Public Mobile Radio Trunked Services (PMRTS)	Global Mobile Personal Communication by Satellite (GMPCS)
<p>Radio paging services were launched in India in 1995. This service, however, could not compete well with cellular services in general and SMS technology in particular, and is shrinking continuously. At present, all but four radio paging service providers have been marginalised in the Indian market</p>	<p>In India, 12 operators are offering this service to a total of more than 30,951 subscribers.</p>	<p>GMPCS services were launched in India in 1999. These services allow a subscriber to communicate with others from any point on earth through a hand-held terminal. Moreover, the telephone number remains unchanged, irrespective of the subscriber's location. Iridium India Telecom Limited is the pioneer in GMPCS services in India. The Indian Government has restricted foreign equity participation in this segment to 74 per cent.</p>

Source: TRAI Report

Key trends ... (1/8)

- The wireless segment in India is much larger than the wireline segment and is growing steadily due to the convenience and utility that it offers.
- Wireless services hold a major market share of 93.4 per cent as compared to the wireline segment.
- The subscriber base of wireline segment is decreasing given its limited usage.

Subscriber base trends in wireless and wireline segments (2009)

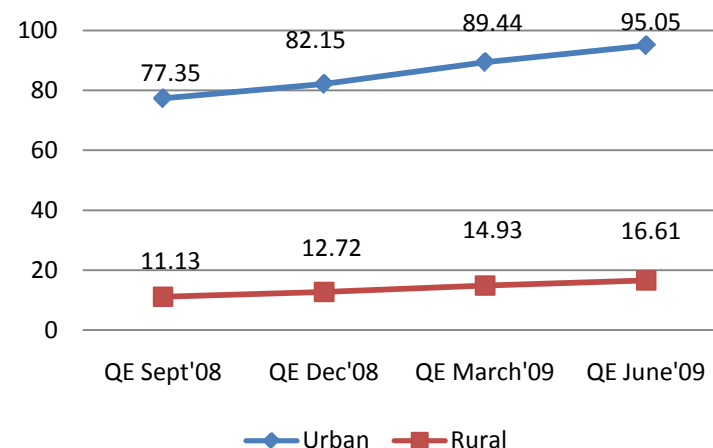


Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010
India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

Key trends ... (2/8)

- Rural markets will be the next key growth driver for the Indian telecom sector given the growing population and disposable income of rural India.
- The subscriber base in the rural market has improved significantly in 2008–09 with tele-density recorded at 16.61 per cent as of June 2009.
- By 2012, the rural subscriber base is expected to account for nearly half of the total subscriber base fuelling sector growth.

Tele-density trends in the urban and rural market between July 2008 and June 2009

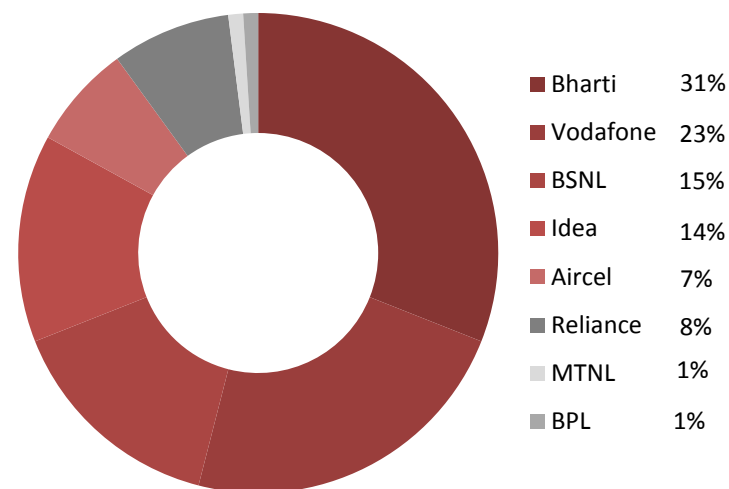


Source: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010

Key trends ... (3/8)

- Bharti Airtel has the largest market share in the GSM segment. During 2008–09, out of the total subscriber base of 328.83 million, private players accounted for approximately 84 per cent, while the public sector operators (BSNL and MTNL) accounted for the remaining share (16 per cent).

Market share of GSM service providers
(as of June 2009)

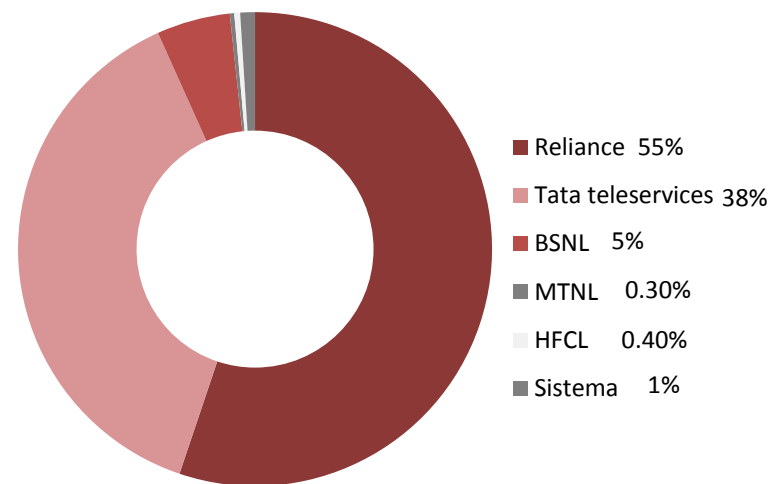


Source: Telecom Regulatory Authority of India (TRAI)
Subscription Data – February 2010

Key trends ... (4/8)

- Reliance Communications dominates the Indian CDMA mobile services segment with a subscriber base of 54.19 million.

Market share of CDMA service providers
(as of June 2009)

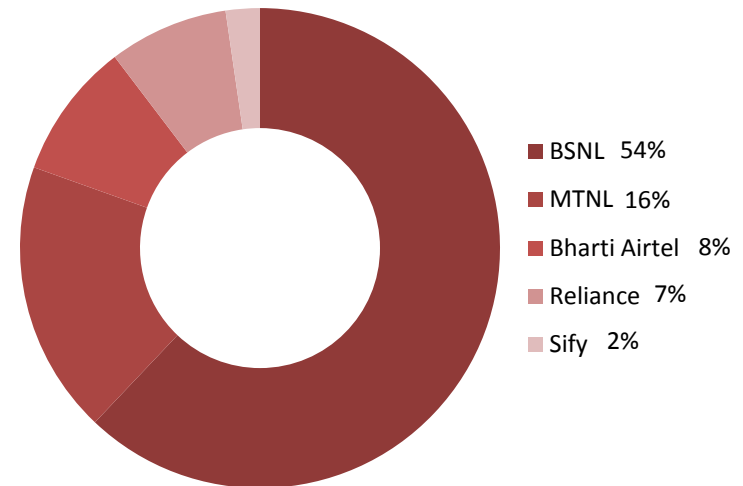


Source: Telecom Regulatory Authority of India (TRAI)
Subscription Data – February 2010

Key trends ... (5/8)

- Despite a slow penetration rate, the Internet services segment holds huge growth potential in India.
- India is expected to feature among the top 10 broadband markets by 2013.
- The total number of Internet subscribers grew from 11.66 million in June 2008 to 14.05 million in June 2009.
- BSNL is the biggest player in this market with 7.6 million subscribers, followed by MTNL, Bharti Airtel, Reliance and Sify Technologies.
- DSL (Digital Subscriber Line) is the most preferred technology used by the service providers to provide broadband services and constitutes 86.66 per cent of total broadband subscribers. Cable modem technology follows with 7.36 per cent connections.

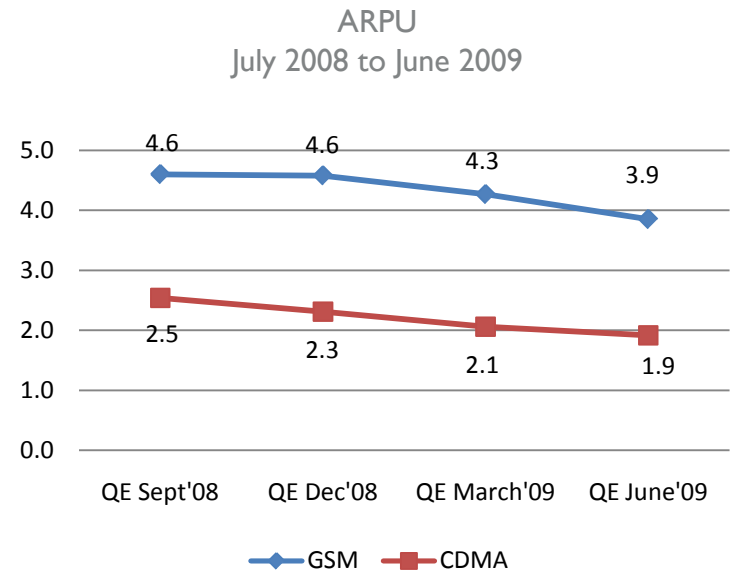
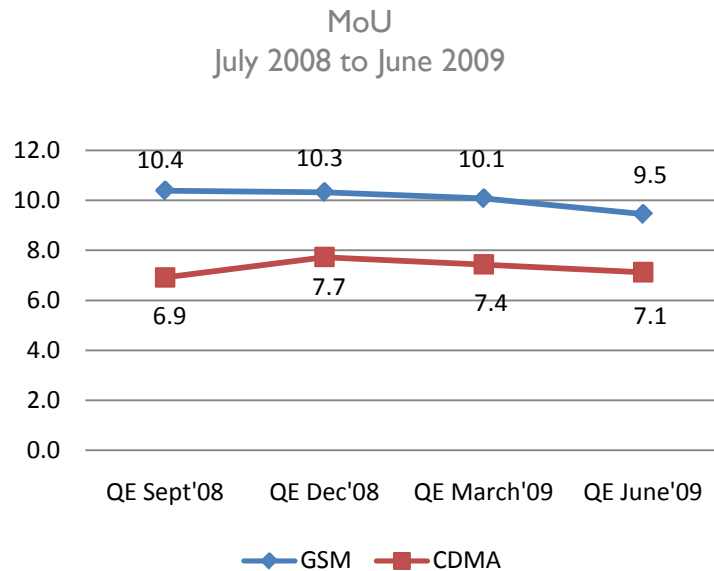
Top five Internet service providers by market share
(as of June 2009)



Source: Telecom Regulatory Authority of India (TRAI)
Subscription Data – February 2010

Key trends ... (6/8)

- In India, the reduction in average revenue per user (ARPU) is mitigated by growth in the subscriber base, which contributes to healthy revenue growth. In addition, declining tariffs are compensated by high minutes of usage (MOU).



Source: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010

Key trends ... (7/8)

- The share of the private sector in total telephone connections has grown to 82.3 per cent in December 2009 as against 5 per cent in 1999.
- From only 54.6 million telephone subscribers in 2003, the number increased to 562 million as on October 31, 2009. This growth has been entirely due to the wireless connections growing at a CAGR of 60 per cent per annum since 2004.
- Operators are reducing operating costs and hiving off infrastructure elements such as towers into separate entities, thus inviting significant investments.
- Passive infrastructure sharing has benefitted the Indian mobile industry and its customers, reducing the cost burden of each operator and speeding the rollout of mobile services.
- In recent years, initiatives such as network cost optimisation, outsourcing of non-core activities, as well as low-cost business models have been in focus.

Key trends ... (8/8)

- Every telecom service provider is looking beyond the basic voice services by offering a composite bouquet of bundled offerings. For example, nearly all the leading operators, including incumbents, are in the testing phase to launch commercial IPTV services. Indian operators are at a nascent stage in terms of offering “quad-play” using the existing network infrastructure for data, voice, video and basic communication services.
- Consumers can get all these services from the same telecom operator and enterprises can also access virtual private networks (VPN), video-conferencing, enterprise solutions, mobility and fixed telephony from the same integrated telecom service provider.

Sources: Telecom Regulatory Authority of India (TRAI) Subscription Data – February 2010

TRAI Annual Report - 2008 – 2009

India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

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Investments ... (1/2)

- Despite the global economic slowdown in 2008–09, the telecom sector is one of the highest FDI attracting sectors in India. At present 74 to 100 per cent FDI is permitted for various telecom services.
- The telecom market is witnessing several M&A activities. This trend has helped companies expand their presence in the Indian telecom market to offer better services to customers.

Investments ... (2/2)

Key deals (2009)		
Deal date	Target name	Acquirer
October 29, 2009	Transcend Infrastructure	American Tower Corp CIA
October 01, 2009	Cellnext Solutions Ltd	Valuefirst Messaging Private
July 27, 2009	Activemedia Technologies Ltd	2 Ergo Group Plc
July 02, 2009	Trackcom Systems International	Kavveri Telecom Products Ltd
July 01, 2009	Mobilenxt Teleservices Pvt Ltd	Gitanjali Gems Ltd
May 18, 2009	Interactive Networks Inc	Geodesic Ltd
February 02, 2009	Cellucom Llc	Spice Group
January 30, 2009	Info Dynamic Telesystems Pvt	Indiaco Ventures Limited
January 05, 2009	Wireless Tata Telecom Infrs	Quippo Telecom Infrastructure

Source: Bloomberg league table for the calendar year 2009

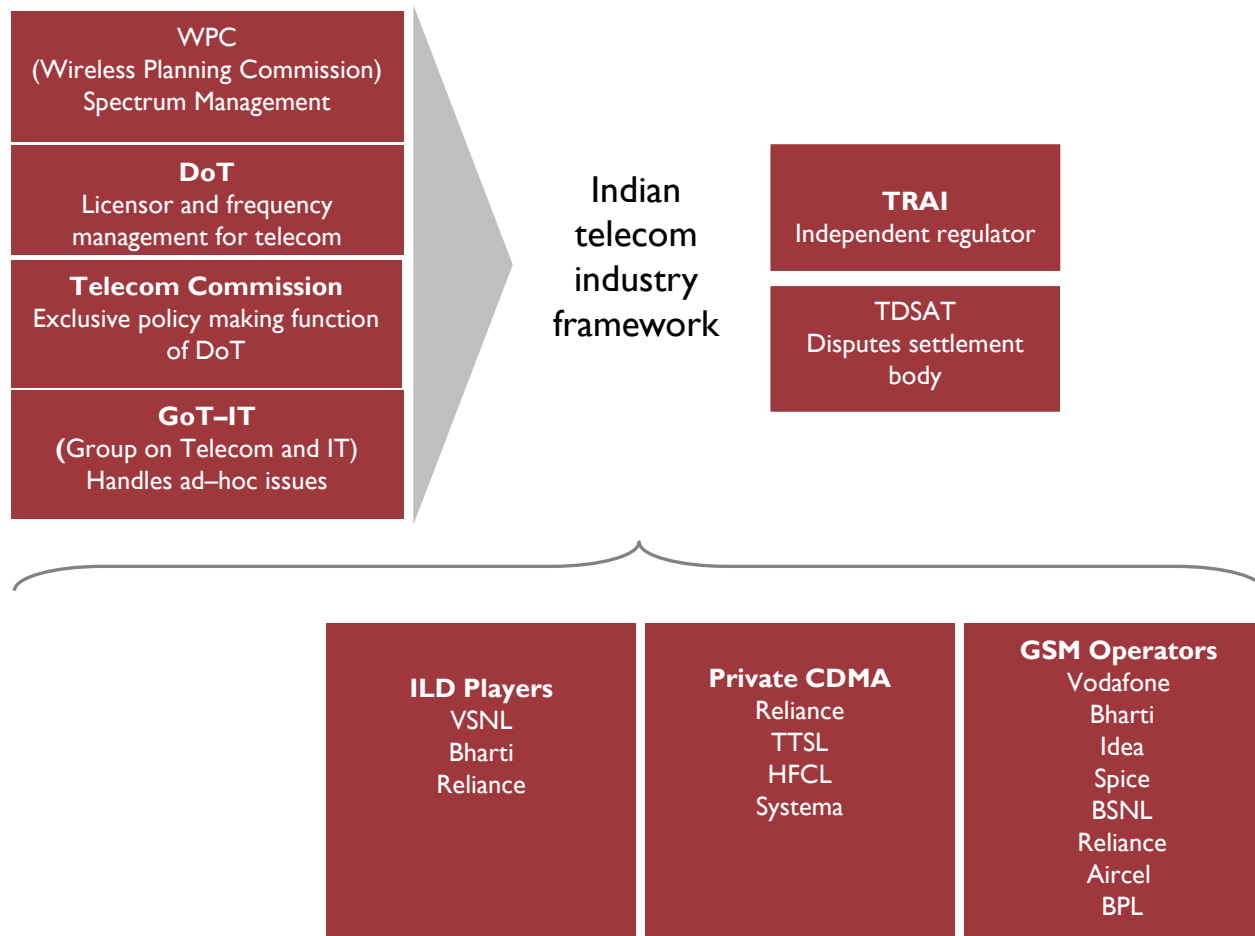
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Policy and regulatory framework ... (1/3)

- The Department of Telecommunications (DoT) governs the Indian telecom industry. The DoT, in coordination with the Telecom Commission, looks after licensing, policy formulation, frequency management, administrative monitoring, research and development, equipment standardisation and validation along with private investments.
- The Telecom Regulatory Authority of India (TRAI) was established in 1997 by the DoT to streamline policy reforms and safeguard consumer interests.
- The Telecom Disputes Settlement and Appellate Tribunal (TDSAT) was also established in the same year.

Policy and regulatory framework ... (2/3)



Policy and regulatory framework ... (3/3)

Unified Access Licensing Regime (UALR)

- The establishment of the UALR (2003) eliminated the need for separate licences for different services. This regime allowed players to offer both mobile and fixed-line services under a single licence after paying an additional entry fee. The regime does not take into account the national and international long distance services and Internet access services.
- Between February and March 2008, the DoT granted 120 new licences to provide unified access services to various companies, including Datacom Solutions Pvt Ltd, Aska Projects Ltd, Swan Telecom Pvt Ltd, Loop Telecom Pvt Ltd and S Tel Ltd.

Universal Service Obligations (USO)

- The USO policy was implemented along with the National Telephone Policy (NTP) in 1999 to widen the reach of telephony services in rural India. All telecom operators are bound to contribute 5 per cent of their revenues to this fund. This system was put in place to bridge the gap between urban and rural tele-density, which is currently at 31 per cent. Initially, only basic service providers were under the purview of USO. Later, its scope was expanded to include mobile services also. Although it increases the cost burden for telecom companies, USO helps in building the telecommunication infrastructure in rural areas.

Source: TRAI Report

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Opportunities

- By 2012, total telecom penetration in the largely untapped potential rural markets of India is expected to reach to about 40 per cent as compared to the current tele-density of about 16.61 per cent as of June 2009.
- **WiMax** has been one of the most significant developments in wireless communication in the recent past. WiMax is expected to attract about 8 to 10 million subscribers and account for about US\$1 billion to US\$1.5 billion by 2012 assuming that low cost devices and data cards are available and services are affordable.
- **Internet services** — Despite the low penetration of internet services in the Indian market, it is expected to grow in the next decade in terms of number of subscribers. India is expected to feature among the top 10 broadband markets by 2013.
- **Telecom equipment market** — The expansion of wireless networks and growth in subscriber base, both in urban and rural areas, has led to a boost in the sale of mobile handsets across India. The mobile handsets sale grew by 7.9 per cent in 2008–09.
- **Telecom infrastructure** is being considered as a critical factor in India's economic development. Telecom infrastructure includes towers and the fibre network; demand for telecom towers is expected to continue to rise due to increasing penetration in rural areas, upcoming 3G service, expanding internet market and an increase in number of operators with pan-India operations.

Source: India 2012: Telecom growth continues, Ernst & Young – Telecom Report, 2008

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Industry associations

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Note

Wherever applicable, numbers in the report have been rounded off to their nearest whole number.

Conversion rate used: US\$ 1 = INR 48.

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