Executive Summary............................. 3
Advantage India................................. 4
Market Overview and Trends..................... 5
Growth Drivers.................................. 22
Success Stories: Airtel, Vodafone and Mobile Number Portability.............. 35
Opportunities..................................... 40
Useful Information.............................. 43
Second-largest subscriber base

- With a subscriber base of nearly 898 million, India has the second-largest telecom network in the world

Third-highest number of internet users

- With 25.3 million internet subscriptions, India stood third-highest in terms of total internet users in 2012

Rising penetration rate

- Urban teledensity stood at 147 per cent and rural teledensity is 41 per cent as of March 2013, up from 111 per cent and 21.2 per cent, respectively, in 2009

Affordability and lower rates

- Availability of affordable smartphones and lower rates are expected to drive growth in the Indian telecom industry

Source: Planning commission, Aranca Research
The engineering sector is delicensed; 100 per cent FDI is allowed in the sector.

Due to policy support, there was cumulative FDI of USD14.0 billion into the sector over April 2000–February 2012, making up 8.6 per cent of total FDI into the country in that period.

Growing demand

Source: BMI (Business Monitor international) Report, Aranca Research

Notes: * figure for 2013 is up to March 2013; MNP - Mobile Number Portability; E - Estimates (2016E - Estimates for 2016)

Robust demand

- India is the world’s second-largest telecommunications market, with 898 million subscribers as of March 2013
- With 70 per cent of population staying in rural areas, the rural market will be a key growth driver in coming years

Attractive opportunities

- Telecom penetration in the nation’s rural markets is expected to increase to 70 per cent by 2017 from the 41.0 per cent as of March 2013
- India is expected to feature among the top 10 broadband markets by 2013

High ratings

- The country has a strong telecommunication infrastructure
- In telecommunication ratings, India ranks ahead of peers in the West and Asia

Policy support

- The government has been proactive in its efforts to transform India into a global telecommunication hub; prudent regulatory support has also helped
- National Telecom Policy 2012 proposes unified licensing, full MNP and free roaming

2013*

Number of subscriber: 898 million

FY16E

Number of subscriber: 1.2 billion

Advantage India

Source: BMI (Business Monitor international) Report, Aranca Research

Notes: * figure for 2013 is up to March 2013; MNP - Mobile Number Portability; E - Estimates (2016E - Estimates for 2016)
THE TELECOM MARKET IS SPLIT INTO THREE SEGMENTS

- **Mobile (wireless)**: Comprises establishments operating and maintaining switching and transmission facilities to provide direct communications via airwaves.

- **Fixed line (wireline)**: Consists of companies that operate and maintain switching and transmission facilities to provide direct communications through landlines, microwave or a combination of landlines and satellite link-ups.

- **Internet services**: Includes internet service providers (ISPs) that offer broadband internet connections through consumer and corporate channels.

Source: Aranca Research
Worldwide, India is currently the second-largest telecommunication market and has the third highest number of internet users.

India’s telephone subscriber base expanded at a CAGR of 26.8 per cent to 895.5 million during 2007-12.

Teledensity (defined as the number of telephone connections for every hundred individuals) increased from 23.9 in 2007 to 73.3 in 2012.

In March 2013, the total telephone subscription was 898 million, while teledensity was 73.3.

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: CAGR - Compound Annual Growth Rate
2013* - Data as of March 2013
Indian telecom sector’s revenue grew by 13.4 per cent to USD64.1 billion in FY12.

Wireless and wireline revenue increased at a CAGR* of 11.9 per cent to USD40.8 billion over FY07-12.

Revenues from the telecom equipment segment in FY12 stood at USD23.5 billion as compared to USD23.4 billion in FY11.

For 9M’13, the telecom sector’s revenue grew to USD30.6 billion.

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: CAGR - Compound Annual Growth Rate
*CAGR has been calculated in Indian Rupee terms.
India’s telephone subscriber base reached 898 million in March 2013.

The wireless segment (96.6 per cent of total telephone subscriptions) dominates the market, while the wireline segment accounts for the rest.

Urban regions account for 61.1 per cent of telecom subscriptions, while rural areas constitute the remaining.

Composition of telephone subscribers (2013*)

- Urban Wireline, 2.6%
- Rural Wireline, 0.8%
- Rural Wireless, 38.2%
- Urban Wireless, 58.4%

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: 2013* - Data as of March 2013
During 2006–12, wireless subscriptions increased at a CAGR of 34.0 per cent to 864.7 million

In 2013*, while urban wireless teledensity stood at 140.7, rural teledensity stood at 40.2

The subscriber base declined slightly due to disconnection of inactive mobile subscribers

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: CAGR - Compound Annual Growth Rate
2013* - Data as of March 2013
The mobile segment’s teledensity surged 5.3x from 13.5 per cent in 2006 to 70.9 per cent in 2013*

GSM services continue to dominate the wireless market with an 88.1 per cent share (June 2012); CDMA accounts for the remaining 10.9 per cent

Growth in Wireless teledensity

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: Teledensity - The number of telephone lines for every 100 people in a country, GSM - Global System for Mobile Communications, CDMA - Code Division Multiple Access
2013* - Data as of March 2013
Bharti Airtel is the market leader, with a 21.7 per cent share of total subscription; Vodafone follows with a 17.6 per cent share market share.

The top five players – Bharti Airtel, Vodafone, Reliance, Idea, and BSNL – account for over 79 per cent of the total subscribers.

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: BSNL - Bharat Sanchar Nigam Limited
2013* - Data as of March 2013
Total fixed line subscription stood at 30.2 million, while teledensity reached 2.5 per cent due to wide usability of wireless segment in 2013*

BSNL is the market leader with a 67.7 per cent share followed by MTNL with 11.5 per cent market share

BSNL, MTNL, and Bharti together account for 90 per cent of the total fixed-line market

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: BSNL - Bharat Sanchar Nigam Limited
2013* - Data as of March 2013
The number of Internet subscribers increased at a CAGR of 19.7 per cent to 25.3 million in 2012 from 8.6 million in 2006.

By 2016, internet subscriptions are expected to rise to 215.0 million, with a penetration rate of 16.2 per cent.

Source: Telecom Regulatory Authority of India, Business Monitor International, Aranca Research
Notes: CAGR - Compound Annual Growth Rate; BSNL - Bharat Sanchar Nigam Ltd
Total internet service provider’s revenues stood at USD2.2 billion in 2012, CAGR* of 12.2 per cent over 2009-12

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: CAGR - Compound Annual Growth Rate
*CAGR has been calculated in Indian Rupee Terms
STRONG GROWTH IN BROADBAND DRIVES INTERNET ACCESS REVENUES

* Broadband subscription increased at a CAGR of 38.8 per cent during 2006–12

* Growth is set to pick up pace even further; the market is set to post a CAGR of 72.1 per cent during 2011–15, with subscriptions increasing to 117.6 million by end-2015

* Broadband subscription was 15.1 million as of March 2013

**Broadband subscriptions (in million)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Subscriptions (in million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>2.1</td>
</tr>
<tr>
<td>2007</td>
<td>3.1</td>
</tr>
<tr>
<td>2008</td>
<td>5.5</td>
</tr>
<tr>
<td>2009</td>
<td>7.8</td>
</tr>
<tr>
<td>2010</td>
<td>10.9</td>
</tr>
<tr>
<td>2011</td>
<td>13.4</td>
</tr>
<tr>
<td>2012</td>
<td>15.0</td>
</tr>
<tr>
<td>2013*</td>
<td>15.1</td>
</tr>
</tbody>
</table>

**CAGR: 38.8%**

Source: Telecom Regulatory Authority of India, Aranca Research
Note: CAGR - Compound Annual Growth Rate
2013* - Data as of March 2013
BSNL has the largest share (66.0 per cent) of the total broadband market

Bharti Airtel has the second-largest share (9.3 per cent) of the total broadband market

Market break-up by broadband subscriptions (2013*)

BSNL 66.0%
Bharti 9.3%
MTNL 7.2%
Others 17.5%

Source: Telecom Regulatory Authority of India, Aranca Research
Notes: BSNL - Bharat Sanchar Nigam Ltd; MTNL - Mahanagar Telephone Nigam Ltd
Notes: 2013* - Data as of March 2013
## Key Companies in the Market

<table>
<thead>
<tr>
<th>Company</th>
<th>Ownership</th>
<th>Presence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mahanagar Telephone Nigam Ltd (MTNL)</td>
<td>Government (56.3 per cent)</td>
<td>Fixed line and mobile telephony (in Delhi and Mumbai), data and internet</td>
</tr>
<tr>
<td>Bharat Sanchar Nigam Ltd (BSNL)</td>
<td>Government (100 per cent)</td>
<td>Fixed line and mobile telephony (GSM – outside Delhi and Mumbai), data and internet in 22 circles</td>
</tr>
<tr>
<td>Reliance communications</td>
<td>ADAG Group (approximately 67.9 per cent)</td>
<td>Mobile (CDMA) and Broadband</td>
</tr>
<tr>
<td>Bharti Airtel</td>
<td>Bharti Group (45.7), Pastel Ltd (15.57 per cent), LIC India (4.3 per cent)</td>
<td>Broadband and mobile (GSM) in 22 circles</td>
</tr>
<tr>
<td>Vodafone Essar</td>
<td>Vodafone (74 per cent), Telecom Investment India (19.5 per cent)</td>
<td>Broadband and mobile (GSM) in 22 circles</td>
</tr>
</tbody>
</table>

Source: Companies’ websites, Aranca Research
**Green telecom**
- The green telecom concept aims at reducing the carbon footprint of the telecom industry through reduced energy consumption.
- TRAI initiated a consultation process in May 2010, requesting inputs from firms across the telecom value chain to provide recommendations on green telecom’s framework and implementation.

**Expansion to rural markets**
- There are over 62,443 uncovered villages in India; these would be provided with village telephone facility with subsidy support from the government’s Universal Service Obligation Fund (thereby increasing rural teledensity).
- In February 2013, the rural subscriber base accounted for 38.9 per cent of the total subscriber base, thereby fuelling the sector’s growth.

**Emergence of BWA technologies**
- BWA technologies such as WiMAX have been among the most significant recent developments in wireless communication.
- WiMAX is expected to have attracted around 8 to 10 million subscribers and account for around USD1–1.5 billion in 2012.

Source: Aranca Research

Note: BWA - Broadband Wireless Access, TRAI - Telecom Regulatory Authority of India
The Telecom Commission (TC) is likely to set up a Telecom Finance Corporation (TFC) for channelling funding for telecom projects at competitive rates in order to facilitate investment in the sector.

To boost local research and manufacturing of telecom products, the government has proposed an investment of USD32.2 billion in three phases: i) USD9.2 billion to the Telecom Research and Development Fund, ii) USD4.6 billion for the Telecom Entrepreneurship Promotion Fund, and iii) USD18.4 billion to the Telecom Manufacturing Promotion Fund during the 12th Five Year Plan.

As part of the recent outsourcing trend, operators have outsourced functions such as network maintenance, IT operations, and customer service.

During November 2012, 4.7 million mobile banking transactions were reported, up 6.4 per cent from a year ago. Availability of affordable smartphones is expected to boost the growth of various transactions conducted via phones.

Source: Aranca Research
Note: BWA - Broadband Wireless Access, TRAI - Telecom Regulatory Authority of India
The surge in the subscriber base has necessitated a network expansion covering a wider area, thereby creating a need for significant investment in telecom infrastructure.

To curb costs and focus on core operations, telecom companies have been segregating their tower assets into separate companies.

Creating separate tower companies has helped telecom companies lower operating cost and improve capital structure, and also provided an additional revenue stream.

Emergence of Tower Industry

Rising Competition

Higher operating cost and debt burden

Focus on tower sharing to reduce costs

Segregation of towers into separate companies

Source: Aranca Research

Note: BWA - Broadband Wireless Access, TRAI - Telecom Regulatory Authority of India
The growing need for towers and rise in tower sharing have led to emergence of independent telecom tower companies (ITTCs) along with the Telecos-owned Tower companies.

### Ownership of towers (2010)

- **ITTCs**: 28%
- **Telcos owned**: 72%

### Market share of tower companies in 2010 (based on towers owned)

- **Indus Tower Limited**: 32.2%
- **Bharat Sanchar Nigam Limited**: 15.2%
- **Reliance Infratel Limited**: 15.2%
- **Viom Networks Limited**: 11.2%
- **Bharti Infratel Limited**: 9.7%
- **GTL Infrastructure Limited**: 9.5%
- **Others**: 7.0%

Source: Aranca Research

Note: BWA - Broadband Wireless Access, TRAI - Telecom Regulatory Authority of India
Growing demand

- Higher real income and changing lifestyles
- Growing young population
- Increasing MOU and data usage

Inviting

Policy support

- Reduction in the license fee
- Relaxed FDI Norms
- Encourages firms to expand to rural areas

Resulting in

Increasing investments

- Higher FDI inflows
- Increasing M&A activity

Notes: FDI - Foreign Direct Investment; MOU - Minutes of Use per month and per subscriber; M&A - Mergers and Acquisitions
Rising incomes has been a key determinant of demand growth in the telecommunication sector in India.

Nominal per capita income is estimated (IMF) to have recorded a CAGR of 11.2 per cent over 2000–12 (USD1491.9).

Strong income growth is set to continue; IMF forecasts indicate a CAGR of 7.0 per cent during 2012-17 (to USD2,095.1).

Source: IMF, Aranca Research
Notes: CAGR - Compound Annual Growth Rate
The emergence of an affluent middle class is triggering demand for the mobile and internet segments.

A young and growing population is aiding this trend (especially demand for smart phones).

<table>
<thead>
<tr>
<th>Year</th>
<th>Globals (&gt;18412.8)</th>
<th>Strivers (9206.4-18412.8)</th>
<th>Seekers (3682.5 - 9206.4)</th>
<th>Aspirers (1657-3682.5)</th>
<th>Deprived (&lt;1657)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>222</td>
<td></td>
<td></td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>2020</td>
<td>273</td>
<td>26</td>
<td>40</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>2030</td>
<td>322</td>
<td>15</td>
<td>32</td>
<td>29</td>
<td>17</td>
</tr>
</tbody>
</table>

The MVAS industry is expected to expand to USD 5.4 billion by 2013 from USD 2.0 billion in 2011, representing a CAGR* of 27.2 per cent.

The share of non-voice revenues, which currently stand at around 10 per cent of telecom operators’ revenues, is estimated to rise to over 30 per cent in the next five to seven years.

A decline in smartphone prices and data subscription rates is likely to drive the demand for MVAS.

Source: Deloitte, Aranca Research
Notes: CAGR - Compound Annual Growth Rate;
CAGR has been calculated in Indian Rupee terms
MVAS - Mobile Value-Added Services, *CAGR in terms of Indian Rupee
Minutes of usage of dial-up internet access increased to 411 in 2010 from 205 in 2006, a CAGR of 19 per cent.
**TELECOMMUNICATION**

**INDIA HAS A DISTINCT COMPETITIVE ADVANTAGE OVER PEERS**

- In terms of telecom ratings, India competes primarily with China, Indonesia and Philippines
- In terms of country risk, India has an edge over Philippines, Pakistan, Bangladesh, Laos, Cambodia, Thailand, Vietnam and Sri Lanka

<table>
<thead>
<tr>
<th></th>
<th>Telecom Industry Rewards</th>
<th>Country rewards</th>
<th>Telecom industry risks</th>
<th>Country risk</th>
<th>Telecom Rating</th>
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</thead>
<tbody>
<tr>
<td>India</td>
<td>60.0</td>
<td>32.1</td>
<td>60.0</td>
<td>56.4</td>
<td>52.6</td>
</tr>
<tr>
<td>China</td>
<td>63.3</td>
<td>31.7</td>
<td>70.0</td>
<td>67.9</td>
<td>57.2</td>
</tr>
<tr>
<td>Indonesia</td>
<td>62.5</td>
<td>45.0</td>
<td>60.0</td>
<td>57.7</td>
<td>57.1</td>
</tr>
<tr>
<td>Philippines</td>
<td>45.0</td>
<td>46.7</td>
<td>60.0</td>
<td>51.0</td>
<td>48.6</td>
</tr>
<tr>
<td>Pakistan</td>
<td>55.0</td>
<td>42.0</td>
<td>60.0</td>
<td>37.6</td>
<td>50.0</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>52.5</td>
<td>36.7</td>
<td>60.0</td>
<td>46.8</td>
<td>48.9</td>
</tr>
<tr>
<td>Laos</td>
<td>40.5</td>
<td>39.0</td>
<td>50.0</td>
<td>39.7</td>
<td>41.4</td>
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<tr>
<td>Cambodia</td>
<td>44.0</td>
<td>38.3</td>
<td>50.0</td>
<td>36.8</td>
<td>42.4</td>
</tr>
<tr>
<td>Thailand</td>
<td>47.5</td>
<td>32.7</td>
<td>60.0</td>
<td>56.8</td>
<td>47.1</td>
</tr>
<tr>
<td>Vietnam</td>
<td>40.0</td>
<td>33.3</td>
<td>60.0</td>
<td>46.9</td>
<td>42.4</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>33.8</td>
<td>26.7</td>
<td>50.0</td>
<td>48.0</td>
<td>36.6</td>
</tr>
</tbody>
</table>

Source: BMI, Aranca Research, Note: explanation of the indicators given under appendix
Reduction in license fees

• The Government of India plans to cut license fees up to 33 per cent for operators that cover services for over 95 per cent of the residential areas in a calling circle
• The issuance of several international and national long-distance licenses has created opportunities and attracted new companies into the market

Abolishment of roaming charges

• During May 2012, the Union Cabinet declared to abolish roaming charges and allow mobile number portability even outside designated circles (without having to pay extra charges)
• This policy is expected to become effective from October 2013

Relaxed FDI norms

• FDI of up to 74 per cent is allowed in basic and cellular, unified access, national/international long distance, and V-Sat services as well as public mobile radio trucked services
• FDI of up to 100 per cent is permitted for infrastructure providers offering dark fibre, electronic mail and voice mail

Notes: FDI - Foreign Direct Investment; TRAI - Telecom Regulatory Authority of India; DoT - Department of Telecommunication; WiMAX - Worldwide interoperability for Microwave Access Telecommunications; VoIP - Voice over Internet Protocol
Allowed the use of WiMAX

- In August 2008, the Department of Telecommunication (DoT) allowed operators to use WiMAX networks as an alternative to cable and DSL to offer voice services
- This would enable faster delivery of wireless broadband services

Set up internet connections

- The Department of Information Technology intends to set up over 1 million internet-enabled common service centres across India as per the National e-Governance Plan

Expansion to rural areas

- The USOF identified 5,000 villages, and is in the process of developing a scheme to connect through wireless broadband
- It also intends to provide 888,832 broadband connections in rural areas by 2014
- The USOF also has plans to strengthen the OFC network in rural and remote areas

Notes: USOF - Universal Service Obligation Fund; OFC - Optical Fibre Cable
Financial support

- The USOF is expected to extend financial support to operators providing service in rural areas and encourage active infrastructure sharing among the operators.

Enhanced spectrum limit

- An increase in the prescribed limit on spectrum from 6.2MHz to 2x8 MHz (paired spectrum) for GSM technology in all areas other than Delhi and Mumbai where it will be 2x10MHz (paired spectrum).
- Telecom players can however obtain additional frequency; there will be an auction of spectrum subject to the limits prescribed for merger of licenses.

Relaxing M&A norms

- The government has recommend a liberal norm of up to 35 per cent market share for the resultant entity as "safe harbour" for the mergers and acquisition in the Indian telecom sector subject to the presence of 12 or more service providers in that circle.
- If the spectrum held by the combined entity exceeds the prescribed limit after the merger, the excess spectrum must be surrendered within a year of the merger being permitted.

Notes: USOF - Universal Service Obligation Fund; OFC - Optical Fibre Cable
'Broadband for all' with a minimum download speed of 2Mbps

Increase rural teledensity from 39 to 70 per cent by 2017, and 100 per cent by 2020

Aims at a 'One Nation-One license' regime with no roaming charges and nationwide number portability

Liberalisation of spectrum, and convergence of network, services and devices

Unified licensing, delinking of spectrum from license, online real-time submission and processing

National Telecom Policy - 2012

Source: Digital Dawn, KPMG report 2013, Aranca Research
Cumulative FDI inflows into the telecom sector over FY01-FY13 amounted to USD287 billion.

During this period, FDI into the sector accounted for an 6.6 per cent share of total FDI inflows into the country.

FDI inflow stood at USD93 million for April 2012-February 2013 and is expected to touch USD100 million by FY13.

**Source:** Department of Industrial Policy & Promotion, Aranca Research

**Note:** FY13* - Data mentioned is from April 2012 - January 2013.
Merger and Acquisition deals (2010 to 2013)

<table>
<thead>
<tr>
<th>Target</th>
<th>Acquirer</th>
<th>Acquisition price (USD million)</th>
<th>Division acquired</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bharti Airtel</td>
<td>Qatar Foundation (2013)</td>
<td>1,300</td>
<td>Stake</td>
</tr>
<tr>
<td>Qualcomm India Pvt Ltd</td>
<td>Bharti Airtel Ltd (2012)</td>
<td>165</td>
<td>Broadband wireless access</td>
</tr>
<tr>
<td>Zain’s African operations</td>
<td>Bharti Airtel Ltd (2010)</td>
<td>11</td>
<td>Entire business</td>
</tr>
<tr>
<td>Radiacion</td>
<td>Kavveri Telecom Products Ltd (2011)</td>
<td>27.5</td>
<td>Telecom unit</td>
</tr>
<tr>
<td>Kavveri Telecom Products Ltd</td>
<td>Investor Group (2010)</td>
<td>9.9</td>
<td>-</td>
</tr>
<tr>
<td>Tata AutoComp Mobility</td>
<td>Trimble Navigation Ltd (2010)</td>
<td>5.1</td>
<td>-</td>
</tr>
<tr>
<td>Eduexel Infotainment Ltd</td>
<td>Discovery Infoways Ltd (2010)</td>
<td>0.9</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Thomson Banker, Deal Tracker, Aranca Research
Notes: M&A - Merger and Acquisition
ZTE enters into agreement with Calyx

- ZTE Telecom India, the wholly owned subsidiary of China’s ZTE Corp, entered into an exclusive agreement with Pune-based Calyx Group to market and distribute its products across India
- ZTE plans to enter the Indian smartphone market with five models priced at USD107–275
- It also plans to introduce tablet PCs in the Indian market after the smartphone launch

Reliance Jio Infocomm and Vodafone

- To tap the growth in broadband technologies and infrastructure expansion, Reliance Jio Infocomm and Vodafone entered into an agreement to build and maintain an 8,000 km submarine telecom and data cable system
- The system is expected to be operational by 2014 and would connect six countries through landing points in Oman, UAE, India (Mumbai and Chennai), Sri Lanka, Malaysia and Singapore

Mobile wallet by Vodafone

- Vodafone India and ICICI Bank launched M-Pesa, a service for mobile money transfer and payment
- The service would allow customers to transfer money to any mobile phone in India, debit and deposit funds, withdraw cash from designated outlets, pay bills, and shop at select merchant establishments. M-Pesa would be available across India in the next 12–18 months

Source: Thomson Banker, Deal Tracker, Aranca Research
Notes: M&A - Merger and Acquisition
Set up in 1995, Bharti Airtel is India’s largest mobile operator with presence in all of India’s 22 circles.

It is the country’s leading mobile operator, with a customer base of more than 271 million as of March 2013. It is the world’s fourth-largest telecom operator.

Revenues increased from USD4 billion in FY07 to USD14.8 billion in FY13, a CAGR* of 24.2 per cent.

Major segments (FY13)

- Mobile: 66.8%
- Tower Infrastructure: 15.7%
- Airtel Business: 8.1%
- Telemedia: 5.8%
- Digital TV: 0.7%
- Consolidated Africa: 0.5%
- Others: 2.5%

Revenues (in USD billion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenues (USD billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY07</td>
<td>4.0</td>
</tr>
<tr>
<td>FY08</td>
<td>6.7</td>
</tr>
<tr>
<td>FY09</td>
<td>8.2</td>
</tr>
<tr>
<td>FY10</td>
<td>8.8</td>
</tr>
<tr>
<td>FY11</td>
<td>13.1</td>
</tr>
<tr>
<td>FY12</td>
<td>14.9</td>
</tr>
<tr>
<td>FY13</td>
<td>14.8</td>
</tr>
</tbody>
</table>

CAGR*: 24.2%

Source: Company website, Aranca Research

Note: *CAGR - Compound Annual Growth Rate, CAGR is calculated in INR terms.
**BHARTI AIRTEL: AN INSPIRING SUCCESS STORY ... (2/2)**

- Bharti Airtel has over 271.2 million subscribers, out of which mobile service subscription accounts for 72.3 per cent as of FY13

- The total subscriber base expanded at a CAGR* of 39.3 per cent to 271.2 million from 37.1 million over FY07-13

- Bharti Airtel has a mobile subscriber base of 196 million, of which 188 million is in India

- Bharti Airtel plans to buy optical network gear from Ciena Communications Inc in order to expand capacity of its i2i undersea cable network that connects India to Singapore

- The company has plans expansion plans in Africa to tap the huge growth potential

*Source: Company website, Aranca Research*  
*CAGR - Compounded Annual Growth Rate,  
*CAGR is calculated in Indian Rupee term
Established in 1994, Vodafone is one of India’s leading mobile operators, with more than 141.5 million customers as of January 2013.

In February 2007, Vodafone unveiled a high-growth five-year strategy for India; the company planned to offer low-cost handsets and wireless connectivity to the country’s rural areas. This move resulted in the company becoming the leading mobile phone service provider in rural India.

In August 2008, Vodafone introduced Apple’s iPhone to the Indian market.

Vodafone’s revenues from India increased at a CAGR* of 23.2 per cent over FY07-13; revenues stood at USD7.4 billion in FY13.

Source: Company website, Aranca Research
CAGR - Compounded Annual Growth Rate,
*CAGR is calculated in Indian Rupee term
Vodafone’s customer subscription increased at a CAGR** of 29.9 per cent to 147.5 million during 2007-12.

In March 2013, Vodafone’s subscriber base stood at 153.0 million.

Gujarat, Uttar Pradesh, Maharashtra, and West Bengal together account for over 45 per cent of total customer base.

Vodafone Group plans to invest heavily in the establishment of a fiber-optic network in India.

Vodafone plans to invest USD400-500 million by 2015 to purchase 3G equipment.

Source: Company website, Aranca Research
Note: 2013* represents data till March 2013
**CAGR - Compounded Annual Growth Rate
Mobile Number Portability (MNP) in India was introduced in November 2010.

- MNP allows subscribers to change their mobile service provider while retaining their old mobile number.
- The portability service was made available for both postpaid and prepaid customers as well as on both GSM and CDMA platforms.
- The implementation of MNP has brought a slew of benefits for customers in terms of better plans and offers.
- MNP would be implemented nationwide by mid-2013. This would help users to retain their numbers even if they move from one state to another, essentially shifting across telecom circles.

Number of MNP requests (in millions)

Source: Trai Report, Aranca Research
• The number of wireless subscribers is expected to reach approximately 1.2 billion by 2016
• Of the total subscribers, around 55 per cent are likely to be from urban areas and the rest would be rural subscribers (45 per cent)

• The rural teledensity is expected to reach 70 per cent by 2017 from the 41 per cent as of March 2013
• Rural telecom users are set to account for over 60 per cent of the handsets market (by volume) by 2012

• The Internet penetration is expected to grow steadily and is expected to be bolstered by government policy
• The current broadband penetration rate is 1.5 per cent and is likely to be 9.4 per cent by 2015
• The country is expected to feature among the top 10 broadband markets by 2013

Source: KPMG report 2013, Aranca Research
### Development of telecom infrastructure

- Telecom infrastructure is expected to increase at a CAGR of 20 per cent during 2008–15 to reach 571,000 towers in 2015
- TRAI has made several recommendations for the development of telecom infrastructure including tax benefits and recognising telecom infrastructure as essential infrastructure

### Growth in MVAS and Cloud computing

- The Indian Mobile Value-Added Services (MVAS) industry is expected to reach USD5.8 billion by 2013, from USD2.0 billion in 2009
- The Indian cloud computing market is expected to grow at a CAGR of 76 per cent over the period till 2012 (to USD15-18 billion)

### Telecom equipment market

- The production of electronic and related equipment touched USD19.8 billion in FY12
- It is anticipated to reach USD52.0 billion by 2020
- NTP 2012 is likely to fuel further growth with its ‘Broad for all’ schemes and policies to increase rural penetration

*Source: Press information bureau, Government of India, Aranca Research*

*Notes: VAS - Value-Added Services, NTP - National Telecom Policy*
The mobile application (app) market is expected to expand at a CAGR* of 70.4 per cent during 2012 to 2015 and reach USD100 billion.

The mobile app market is estimated to increase 9.4 per cent to USD22.1 billion in 2013 from USD20.2 billion in 2012.

The segment’s growth is expected to be driven by rising mobile connections and availability of low-range smartphones.

Over 100 million apps are downloaded every month across different platforms such as iOS, Blackberry, Nokia, and Android.

Source: Gartner, Aranca Research
Notes: CAGR - Compounded Annual Growth Rate,
*CAGR is calculated in INR terms, F - Forecast
Association Of Unified Telecom Service Providers Of India (AUSPI)
B-601, Gauri Sadan 5, Hailey Road, New Delhi – 110 001, India
Tel: 91 11 23358585
Fax: 91 11 23327397
Website: http://www.auspi.in/

Association Of Competitive Telecom Operators (ACTO)
601, Nirmal Tower, 26, Barakhamba Road, Connaught Place, New Delhi – 110 001, India
Tel.: 91 11 43565353 / 43575353
Fax: 91 11 43515353
E-mail: info@acto.in
Website: www.acto.in

Internet & Mobile Association Of India (IAMAI)
F-36, Basement, East of Kailash, New Delhi – 110 065, India
Tel: 91 11 46570328
E-mail: kalyan@iamai.in
Website: www.iamai.in
BMI telecoms business environment ratings

- Industry rewards: it considers Average revenue per users, number of subscribers, subscriber growth, and number of operators
- Country rewards: it considers urban/rural split, age range, GDP per capita, USD
- Industry risks: it considers regulatory independence
- Country risk: it rates the country on short-term external risk, policy continuity, legal framework corruption
- Telecom ratings: overall rating of the above indicators
BWA: Broadband wireless access
CAGR: Compound annual growth rate
DoT: Department of Telecommunication
FDI: Foreign direct investment
FTTH: Fibre to the home
FY: Indian financial year (April to March)
IMF: International Monetary Fund
INR: Indian Rupee
IPTV: Internet protocol television
M&A: Mergers and acquisitions
MoU: Minutes of use per month and per subscriber
MPEG: Moving Picture Experts Group
Glossary ... (2/2)

- **OFC**: Optical fibre cable
- **TRAI**: Telecom Regulatory Authority of India
- **USOF**: Universal Service Obligation Fund
- **USD**: US Dollar
- **VAS**: Value-added services
- **WiMAX**: Worldwide Interoperability for microwave access telecommunications
- Wherever applicable, numbers have been rounded off to the nearest whole number
### Exchange Rates (Fiscal Year)

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<th>Year</th>
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### Exchange Rates (Calendar Year)

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<td>2013</td>
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</table>

Average for the year
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