Twelfth

Pravasi Bharatiya Divas

7 - 9 January, 2014, New Delhi, India

'Engaging Diaspora:
Connecting Across Generations'



SECTORAL INVESTMENT LANDSCAPE ACROSS INDIA

AN OVERVIEW

FICCI

KNOWLEDGE PAPER

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Indian Economy - An Overview

Looking forward towards maintaining sustainable growth amidst challenges

India has already marked its presence as one of the fastest growing economies of the world. The country has been able to place itself at a strategic position playing a pivotal role in global economic affairs. Over the past two decades, the economy has grown at an impressive pace aided by a wide range of structural reforms thereby making the economy more competitive. This encouraged higher savings and investment, and facilitated in increasing India's share in global output and trade volumes.

In the last decade, average growth rate accelerated to 8%, up from around 5.5% growth witnessed during the 1990s. Also, during the financial crisis of 2008, the economy was largely resilient owing to its strong macroeconomic fundamentals and financial base. However, with the precipitation of sovereign debt crisis in 2012, the country did witness a slowdown. Sensing the challenging road ahead, the government adopted a series of reform measures to achieve the targeted growth rate of 8% during the 12th Five Year Plan (FYP) with an overarching objective of ensuring inclusiveness and sustainability.

Reform process continues to support economic activities

In September 2012, the government embarked upon the next phase of reform process, taking measures to support economic activity, which did yield good results. The announcement of relaxing the Foreign Direct Investment (FDI) framework for various sectors (like multi brand retail, civil aviation, broadcasting industry etc.) improved the investment sentiment in the country. Steps were also taken to improve the state of public finances of the central government. The measures undertaken included capping the number of subsidized LPG cylinders, phased deregulation of diesel prices and rolling out the direct cash transfer scheme for delivering subsidies.

In January 2013, the government set up a Cabinet Committee on Investment to fast track stalled projects. Several projects have been cleared including projects in the power sector and infrastructure projects related to railways, roads, petroleum and natural gas. Going forward, these moves are expected to trigger more investments and support growth of the industrial sector.

The sudden fall in Rupee value in June 2013 was unprecedented and posed significant risk to the external sector. Both the RBI and the Government were prompt in initiating steps to bring the situation under control. Amongst measures undertaken to curb liquidity, import duty on gold and silver was raised, and banks were prohibited from trading in the currency future and option markets. This helped the Rupee to recover and fend off some of the pressure. With the global economy looking up, our exports have started improving and as the measures taken to restrict certain imports have worked themselves out, imports too have softened. Given these developments, the government hopes to contain the current account deficit at a more sustainable level, which is indeed encouraging.

Even as the government remained focused on bringing confidence back in the economy and turning the growth trajectory around, there was equal emphasis laid on making growth more inclusive. The government has also encouraged financial institutions and banks to adopt a planned approach towards financial inclusion with the aim to reach out to the unbanked masses.

Over the years, the financial sector in India has remained fairly stable and is growing at a respectable rate owing to the timely implementation of various prudent policies by the Reserve Bank of India (RBI). This was mainly evident from the resilience that the sector demonstrated in the face of global financial turmoil witnessed in 2008-09.

With a view to further strengthen the Indian financial sector, Dr. Raghuram Rajan, announced a comprehensive plan of reform measures in September 2013, soon after assuming office as the Governor of RBI. These measures are likely to give further boost to growth of the financial sector and bring in more people within the ambit of the formal banking sector and thus facilitate moving ahead on the path of inclusive growth.

Several important legislations have also been passed in the last year, which are expected to have a positive impact on the long term growth of our economy. These include the Pension Bill (PFRDA) that will provide opportunity to channelize funds into building long-term assets for the country particularly infrastructure projects, new Company Law that will bring in greater clarity and transparency in management of business, and the Banking Laws Amendment Bill that raises the cap on voting rights.

Future growth drivers

India has some inherent advantages and the nation is making all efforts to leverage these to secure its position as an attractive investment destination. The country's forte lies in its young population and a dynamic & rapidly growing consumer base. India's demographic dividend can be realised fully by imparting our youth with appropriate skills. In fact, to improve the effectiveness and contribution of labour, a National Skill Development Mission has been constituted which envisions creating 500 million skilled people by 2022. A National Skill Development Agency has been set up to coordinate skill development efforts across various Ministries and State Governments. A National Skills Qualification Framework is also on the anvil.

Further, the income levels of people in India are rising and this is going to drive the consumption boom that is expected in the next few decades. (According to a McKinsey study, 41 percent of India's population would be in the middle class bracket by the year 2025). While the absolute size of the market is large, penetration rates for several products are still low and thus there is a huge untapped potential.

Promoting investments in infrastructure remains a priority in the country. In the 12th Five Year Plan, the government proposes to invest US$ 1 trillion in infrastructure, half of which is expected to come from the private sector. Also, with infrastructure development being a pre-requisite for growth of industries - the government has set ambitious targets of developing large industrial infrastructure projects. Delhi Mumbai Industrial Corridor, Bangalore Mumbai Economic Corridor and Chennai Bangalore Industrial Corridor are some of the big projects that are presently underway. These will provide good support to industries, spur economic activity and create jobs leading to better economic prospects.

In addition, two new major ports have been approved in principle (Durgarajapatnam & Sagar). Also, eight new PPP airports are in the pipeline including those at Pune and Navi Mumbai. Fifty new low cost airports are also being taken up for development. An independent regulatory authority has been announced for the road sector and for tariff setting in the Indian Railways. Inland Waterways are being improved to become a major transportation alternative - NW1 and NW2 (Ganga and Brahmaputra) projects have already taken off.

The New Manufacturing Policy of the country that was introduced in 2011 visualizes stepping up manufacturing growth rate to 12-14% per annum in the medium term and enhancing its contribution to GDP from 16% at present to 25% by 2022. The creation of National Investment and Manufacturing Zones (NIMZs) across the country is one of the important tools to enable us to meet these targets.

A recently conducted survey by Deloitte puts India at the fourth position in terms of global manufacturing competitiveness index in 2013. According to the survey, India is expected to rise from fourth to second position in the next five years. The expectation is based on the nation's comprehensive manufacturing strategy, democratic governance and infrastructure development plans.

Ensuring ease of doing business however remains one of the biggest tasks on the agenda and the government is constantly striving to provide a business friendly environment to the investors. For instance, the Tax Administration Reform Commission has been set up to bring tax practices in line with the best in the world. The Central Board of Direct Taxes (CBDT) has notified rules for General Anti Avoidance Rule (GAAR), which now provides greater clarity on its application. These rules shall be applicable from 1st April 2015. The government has also notified safe harbour rules, which would reduce the transfer pricing disputes and also ensure desired level of tax collection. The transaction limit for availing safe harbour regulations has been relaxed for sectors like IT and ITeS.

A recent global survey by Ernst & Young ranks India as the most attractive investment destination, followed by Brazil and China. In terms of investments, USA, France and Japan are the top three investors most likely to invest in India. The sectors which are likely to attract most deals include infrastructure, retail, consumer products and telecom.

Way forward

As a nation, India is committed to move ahead on the path of reforms and the government is set to embrace the more difficult set of reforms now. Going ahead, it is expected that with policy decisions in important areas like Goods & Services Tax (GST) and Direct Taxes Code (DTC) taking place, India's growth will be further propelled. There is huge untapped potential in the country and one cannot afford to miss the opportunity that India provides. States are the building blocks of India's growth story and most of the states are now engaged in a healthy competition to invite investments from both domestic and foreign investors. Each state of the country offers unique opportunities and investors should evaluate these for fruitful engagement.

In the following pages, we provide details on some of the most important sectors of the Indian economy including information on the key drivers for growth and investment options on offer.

The Healthcare Industry

Sector Overview

The Indian healthcare industry comprises hospitals, medical infrastructure, medical devices, clinical trials, outsourcing, telemedicine, health insurance and medical equipment. The industry has witnessed a steady increase in demand for all types of healthcare services over the last decade. Rising income levels, easier access to high-quality healthcare facilities, greater awareness of personal health and hygiene and strong government support to strengthen the healthcare infrastructure in the country have been the major factors driving the growth in the industry. As a result, the country's per capita healthcare expenditure has increased at a CAGR of 10.3% from US$ 43.1 in 2008 to US$ 57.9 in 2011. Going forward, this is expected to further increase and touch US$ 88.7 by 2015.

Healthcare Sector at a Glance

- **India's Healthcare expected to contribute 6.1% of GDP and employ 9 million people**
- **The industry is expected to reach US$ 158 billion by 2017**
- **Private sector's share in healthcare delivery is 80%**
- **India has the largest numbers of medical colleges in the world (355)**
- **It produces the largest numbers of doctors among developing countries (44,250)**
- **India is fourth largest producer of drugs by volume in the world**

With the increase in overall income of the Indian population and with a corresponding increase in personal disposable income, the demand for better quality healthcare is bound to exponentially rise in the future. The sector is also gearing up to provide better healthcare services to meet the growing demand. The Central Government Health Scheme (CGHS) has made it compulsory for hospitals to be National Accreditation Board for Hospitals & Healthcare Providers (NABH) accredited if they are empanelled under the CHS scheme (Central Government Health Scheme). This has propelled hundreds of hospitals to get the coveted International Society for Quality in Health Care (ISQua) approved NABH mark. The approval of ISQua authenticates that NABH standards are in consonance with the global benchmarks set by ISQua which is an international body that grants approval to Accreditation Bodies in the area of healthcare as mark of equivalence of accreditation program of member countries.

Growth Story

The healthcare sector as a whole is expected to reach US$ 158 billion by 2017. The hospital services segment is expected to be worth US$ 81.2 billion by 2015, which generated revenue of over US$ 45 billion in 2012. As per the report published by RNCOS, the revenue in this segment is expected to increase at a CAGR of 20% during 2012-17. During the same period, the genetic testing market is expected to grow at a CAGR of around 9%.The diagnostic services market is expected to grow at a CAGR of around 26% during 2012-15.

While the demand for healthcare services in India is rising at a fast pace, delivering affordable healthcare to India's billion-plus population turns out to be an enormous challenge for the service providers. However, the huge growth potential that the industry possesses also offers enormous opportunities for the medical community and other service providers.

To reap the benefit of this emerging opportunity, the private sector has emerged as a vibrant force in India's healthcare industry, lending it both national and international repute. The share of the private sector in healthcare delivery which was around 66% in 2005 is expected to increase to 81% by 2015. The private sector's share in hospitals and hospital beds is estimated at 74% and 40%, respectively.

Medical Value Travel

The Indian medical value travel segment which is presently at a nascent stage has emerged as the fastest growing segment of tourism industry despite the global economic downturn.

High cost of treatments and lack of insurance cover in most of the countries has been forcing patients to look for alternative and cost-effective destinations to get their treatments done. Indian healthcare offers an excellent value for money besides providing one of the world's best medical facilities, as can be seen from the table below.

Amounts in US$

PROCEDURE	USA	INDIA	THAILAND	SINGAPORE
Heart Bypass	1,00,000	7,200	11,000	16,500
Angioplasty	1,60,000	7,000	10,000	15,000
Hip Replacement	43,000	7,100	12,000	9,200
Knee Replacement	40,000	8,500	10,000	11,000
Spine Fusion	62,000	7,500	8,500	10,000
Lap Gastric Bypass	35,000	9,200	10,200	11,500
Tummy Tuck	10,000	4,500	5,500	6,550
Dental Implant	10,000	1,500	2,000	2,400

Source: FICCI-Yes Bank Study on Health & Wellness Tourism, 2011

Further, the scale and range of treatments provided by India differentiates it from other health tourism destinations in South Asia like Thailand, Malaysia and Singapore. Some of our more well-known fields of expertise are cardiac care, orthopedics, cancer treatment, infertility treatment, dental care and cosmetic surgery. In addition to the existence of modern medicine, availability of indigenous or traditional health practitioners across the country is a major advantage.

Statistics suggest that the medical value travel industry in India is worth US$ 333 million and is expected to experience an annual growth rate of 30%, making it an over US$2 billion industry by 2015.

Medical Value Travel has also created excellent investments opportunities for the non-resident Indians (NRIs) to provide much needed managerial and financial support.

Government Initiatives

The economic advancement in India has enabled the government to articulate its intent to increase the public financing of health to 2.5% of GDP in the 12th Plan to move towards universal coverage and quality healthcare for all. The intent of the government is to strengthen the public health system and involve the private sector for critical gap filling.

The central government has launched the National Rural Health Mission (NRHM) in 2005 to carry out necessary architectural correction in the basic health care delivery system so that the quality of life is improved. This initiative is intended to provide healthcare services to the rural population of the country with a special focus on 18 states. This mission is believed to be a reflection of the government's commitment to raise public spending on healthcare.

In order to meet the health challenges of the urban population with a special focus on the urban poor living in listed and unlisted slums, the Ministry of Health and Family Welfare has also launched the National Urban Health Mission (NUHM). The scheme covers all the state capitals and 430 identified cities with a population of more than one lakh. The NUHM is aimed at strengthening the primary public health systems, filling the gaps in service delivery through private partnerships using a regulatory framework and also a community based risk pooling insurance mechanism, and making special provision for inclusion of the most vulnerable among the poor. In addition, health being a state subject in India, there are various state level initiatives undertaken across the country.

Under the health insurance initiatives, Rastriya Swastha Bima Yojana (RSBY) was launched by Ministry of Labour and Employment in 2008 to provide health insurance coverage for Below Poverty Line (BPL) families. With a current enrolment of over 33 million poor families, more than 12,500 empanelled hospitals, and a final target enrolment of 300 million people, RSBY is among the world's largest health insurance schemes.

Further, some state governments have enforced effective health insurance and reimbursement schemes such as 'Rajiv Aarogyasri Health Insurance Scheme' in Andhra Pradesh and 'Chief Minister Kalaignar Insurance Scheme' in Tamil Nadu for life saving treatments in partnership with private service providers and insurance players. A recent World Bank report on Government-Sponsored Health Insurance Schemes (GSHIS) in India stated that, more than 630 million persons or half the country's population are likely to be covered by health insurance by 2015.

Sector Dynamics

Some of the prominent players operating in various segments of the Biotech industry include:

- Hospitals: Apollo Hospitals, Manipal Health Enterprise, Fortis Healthcare, Max Healthcare, Columbia Asia Hospitals, Medanta Medicity, Narayana Hrudyalaya
- Diagnostics: Dr Lal PathLabs, Metropolis Healthcare, SRL Laboratories, Onquest Laboratories, Thyrocare, Roche Diagnostics
- Health Insurance: ICICI Lombard, Max Bupa, Apollo Munich, Religare, Vidal Healthcare, Star Health Insurance
- Medical Devices & Medical Electronics: Johnson & Johnson Medical, GE Healthcare, Siemens Healthcare, Philips Healthcare, Medtronic, Trivitron, 3M India, Zimmer India, Varian Medical Systems, Abbott, Boston Scientific

Key Trends & Developments

Driven by increased domestic demand as well as medical tourism, the healthcare sector has attracted huge investment in recent times.

FICCI-EY Report 2011 on Universal Health Coverage has estimated that India needs 1.7 beds per 1,000

population at the current level of efficiencies. This means capital expenditure to the tune of US$ 40 billion (INR 2,49,300 crore) for 11.5 lakhs additional beds.

The healthcare sector in India has seen an increased investment from US$ 34.2 billion in 2006 to US$ 78 billion in 2012 approx (CAGR of 15%), with 80% of investments from private players. The sector further needs an investment of US$ 160 billion, which represents a huge investment opportunity for investors to tap into.

Further, large scale investments in infrastructure are required to improve the healthcare facilities available in the country. The Indian healthcare providers planned to spend Rs 5,700 crore (US$ 897.64 million) on IT products and services in 2013, a 7% rise over 2012 revenues of Rs 5,300 cr (US$ 834.65 million), as per a report by Gartner.

Some of the planned investments in the sector are highlighted below:

- Apollo Hospitals has 1,500 bed capacity in the East and North East region and plans to add another 1,500 beds. The firm plans to open four new hospitals - one each in Kolkata, Patna, Raipur and Guwahati.
- Fortis Healthcare recently announced that they would like to focus on its core hospital and diagnostic business in India. They plan to add more than 1000 beds from greenfield projects.
- Super Religare Laboratories (SRL), the diagnostic subsidiary of Fortis Healthcare has signed definitive agreements with two investment partners, NYLIM Jacob Ballas India and International Finance Corporation (IFC), for an equity infusion of INR 370cr, in 2012.
- As a part of its strategy to launch a chain of multi-specialty hospitals in India, Kirloskar group, along with Toyota Tsusho Corporation (TTC) and Secom Hospitals, are launching a 310-bed multi-specialty hospital in Bangalore with an investment of INR 200cr.
- Piramal's healthcare vertical plans to invest US$ 2.5million at its FDA-approved Grangemouth (UK) site to upgrade their antibody drug conjugate (ADC) manufacturing suites.
- Trivitron Healthcare, the Chennai-based medical devices manufacturer, is looking to raise anywhere between US$ 30-50 million through private equity route. Earlier, they received commitments of US$ 75 million anchored by Fidelity Growth Partners India.
- GE Healthcare has been working on innovative products for the Indian markets to include not just tier II & III cities but also the villages. They also plan to invest US$ 2 billion over the next five years to accelerate the development of innovative software for healthcare systems.
- Zydus Cadila plans to set up an injectible facility at Vadodara, Gujarat, at an investment of INR 100 crore (US$ 15.75 million) by 2015. The company also plans to expand its hospital business across Gujarat in the next three years.
- Dr Devi Shetty and Rudrabhishek Infrastructure Trust have entered into a JV to set up a 300 bed multi speciality hospital worth INR 100 crore (US$ 15.75 million) in Lucknow, Uttar Pradesh.

Foreign Direct Investment

The growing Indian health care market and lucrative opportunities in the sector are attracting foreign investors as well. The foreign players are seeking to enter the Indian healthcare delivery market through various channels including capital investment, technology tie ups or some form of collaborative ventures with Indian counterparts in the area of medical technology, diagnostics, health care education and training.

FDI inflows in healthcare sector (April 2000 to September 2013)

Sector	Amount (crore INR)	Amount (million US$)	%age of Total FDI (+)
Hospital and diagnostic centers	10,042.65	2,057.29	1.01
Medical and surgical appliances	3,591.62	720.41	0.35
Drugs and pharmaceuticals	54,781.0	11,958.0	6.0

Source: FDI Statistics September 2013, DIPP, Ministry of Commerce & Industry, GOI

Private Equity

Private Equity (PE) is now emerging as one of the most preferred form of funding. PE investments in the Indian healthcare space crossed US$ 520.36 million in 2012. PE funds primarily invest in the companies with a proven track record of profitability and sustainable growth. The fund brings in not only the capital but also the adequate strategic planning and management skill sets for growth. Most PE funds are keen on investing in the health care sector given the high growth and recession proof nature of the industry. However, the soaring real estate costs, issues relating to scalability, management bandwidth, workforce, lack of entrepreneurship etc. are the major deterrents. According to Venture Intelligence, a research firm that tracks PE and venture capital (VC) activity, over 42% of the PE and VC investors recently surveyed sensed strong opportunity to tap the market for healthcare services in semi-urban and rural areas. Its report also stated that around 20% of new PE or VC fund corpuses are expected to be invested into the healthcare services.

Future Prospects and Investment opportunities

India's thriving economy is driving urbanisation and creating an expanding middle class, with more disposable incomes to spend on healthcare. The Government of India has developed an all-inclusive policy on healthcare, which aims at promoting holistic healthcare in order to reduce the disease burden of the country.

Growth opportunities exist throughout the spectrum of health services whether it is low-cost, high-efficiency multi speciality hospitals or high end laboratories to further include emerging services like preventive health care, geriatric care, care at home, spas and wellness centres etc. Government's move of integration of AYUSH in the mainstream healthcare will further provide huge opportunities in the sector.

The coming years will see a great out-of-the-box thinking by the strategists as well as innovations in the field of healthcare. To begin with, a rise in retail clinics, single speciality, secondary and tertiary care centres as well as preventive healthcare set ups are seen coming to the fore, for example NOVA day care, BEAMS, Apollo clinics. Dabur's Healthcare at Home and preventive check-ups by Indus Healthplus have also been successful ventures.

The tier 2/3 cities have become attractive to the healthcare players, especially because of the tax sops and increasing disposable incomes among Indian families across the country and dearth of quality healthcare infrastructure in these locations.

Specially focused on medical value travel, 'health cities' are being designed and executed and hospitals with bed strengths of 1500-2000 are now coming to light.

The shift is also seen towards Brownfield's and Joint Ventures for a quick entry in the target area, and the healthcare sector has been abuzz with M&A activities like that of Fortis-Wockhardt.

The favourable demographic virtues offer an attractive market for healthcare providers and investors in India. With the country's healthcare industry poised to grow to US$ 160 billion in the next five years, and with very few major listed companies in the market, there is huge potential for many other players to come in to the fray.

Emerging Investment Opportunities

- As mentioned earlier, India needs an additional 17.5 lakh beds by 2025 for which an estimated investment of INR 3,70,000 crore (US$ 86 billion) would be required. Currently, the market is still dominated by unorganized investors. Huge private sector investments will significantly contribute to the development of hospital industry.
- Most Indian metros have hospitals with world-class infrastructure, processes and outcomes. However, 70% of the healthcare infrastructure is confined to the top 20 cities of India. In order to reach the remaining population, innovations both in healthcare products and delivery are required.
- Less than 30% of the Indian population has some form of health insurance coverage, either private voluntary or as part of the Government Sponsored Health Insurance schemes. This presents a window of opportunity to global health insurers with a big potential market.
- India's share in the global medical value travel industry is supposed to reach around 3% by the end of 2013. The number of medical tourists is anticipated to grow at a CAGR of over 19% during the forecast period to cross 1.5 million by 2015.
- The proportion of imports is high in the Indian medical equipment and medical implants segments, contributing approximately 85% of the market. Investment opportunity exists in areas such as in-vitro diagnostics, X-ray and ECG machines, patient monitoring equipment etc.
- Advances in telecommunication and information technology are offering wide opportunities for telemedicine services especially to the rural and remote areas of the country.
- Hospital trade is also a growing business opportunity for other sectors such as food retail. Large hospitals get more than 1,000-1,500 outpatients per day and visitors for inpatients who are also potential customers. Food retail has about 15% of its business coming from hospitals.

The Pharmaceutical Industry

Sector Overview

India is among the top five pharmaceutical markets globally and is a front runner in a wide range of specialties involving complex drugs' manufacture, development, and technology. The Indian pharmaceutical industry is highly knowledge based. The sector is growing steadily and is expected to touch US$ 35.9 billion by 2016.

The Department of Pharmaceuticals has prepared 'Pharma Vision 2020', a document which highlights the roadmap for making India one of the leading destinations for end-to-end drug discovery and innovation. The department provides requisite support by way of world class infrastructure, internationally competitive scientific manpower for pharma R&D, venture fund for research in the public and private domain and such other measures.

The cumulative drugs and pharmaceuticals sector has attracted FDI worth US$ 11,958.0 million during April 2000 to September 2013, according to the latest data published by the Department of Industrial Policy and Promotion (DIPP).

The clinical trial market in India is rapidly growing with participation from multinationals as well as Indian clinical research organizations (CROs) and pharmaceutical companies. Indian companies are investing in R&D and clinical research studies, thereby spurring the CRO market for Phase I-IV trials in India. Growing at a rate of 12.1%, the CRO market in the country earned revenue of US$ 485 million in 2010-11 and this is expected to cross a billion dollars in 2016.

Due to a genetically-diverse population and availability of skilled doctors, India has the potential to attract huge investments to its clinical trial market. Big pharma and international CROs have offshored their allied service operations to India. Service providers operating from India have entered into multi-year contracts with Big Pharma. Indian service providers are looking at acquisitions/ tie-ups to strengthen their capability. Investment in clinical research sector is under the automatic route.

Growth Story

The domestic pharma market has reported total sales of Rs 6,370 crore (US$ 1.03 billion) in the month of May 2013, registering a growth of 6.8%, as per IMS Health, a leading provider of information, services and technology for the global healthcare industry. The major factors responsible for propelling this growth are increasing sales of generic medicines, continued growth in chronic therapies and a greater penetration in rural markets.

The Indian pharmaceutical industry is expected to continue experiencing strong growth in the future as structural growth drivers would continue to remain impervious. The industry is estimated to register a growth of 10-12% in 2013-14, according to a study conducted by ICRA, a leading Indian credit rating agency. It is also expected that inorganic investments will gain momentum in the medium-term as companies plan to create stronger presence in emerging markets and build expertise in select therapy areas.

Exports

Pharmaceutical exports from the country during 2012-13 stood at US$ 14.6 billion, up from US$ 13.2 billion the previous year. As per the targets set by the Ministry of Commerce, exports from the pharma sector are expected to touch US$ 25 billion by 2016. The government has also planned a 'Pharma India' brand promotion action plan spanning over a three-year period to give an impetus to generic exports.

In order to boost the export capability, Export-Import Bank of India (Exim Bank), has decided to expand the scope of its finance to pharmaceutical companies for extended repayment periods. Eligible export oriented companies can avail finance from Exim Bank for a maximum repayment period of 10 years with a moratorium of up to 36 months.

The Indian pharmaceutical companies are expected to focus on the US market in future as it presents significant opportunities for the next two years for generics, due to patent cliffs and recent changes in healthcare policies.

Generics

Generics will continue to dominate the market while patent-protected products are likely to constitute 10% of the pie till 2015, according to the McKinsey report titled 'India Pharma 2015- Unlocking the potential of Indian Pharmaceuticals market'.

Global demand for generic drugs from Indian companies is booming as developed nations battle rising healthcare costs. As a result, generics companies are increasingly focusing on expanding presence in relatively under-penetrated markets (i.e. France, Spain & Italy), branded generic markets of East Europe and niche areas like complex generics, over the counter (OTC) etc.

The OTC medicines have a considerable market value in India. Currently, the Indian OTC market (including frank OTC medicines which are advertised and deemed OTC brands, and ones that are non-advertised or Rx marketed but with large OTC sales component) was estimated to represent approximately US$ 2354 million with an annual growth rate of 12.2% at the end of calendar year 2012.

However, the OTC drugs have no legal recognition under the Drugs and Cosmetics Act. The Act presents no list for OTC drugs, and the interpretation of the Law entirely depends on individual judgment. In majority of the developed countries, there are clear-cut definition and the processes to OTC drugs approval, marketing, sales & distribution. Therefore, in order to remove ambiguity and empower the pharmacist as well as consumers, there is an urgent and strong need to give OTC drugs a legal status under the Drugs & Cosmetic Acts & Rules.

Government Initiatives

The Foreign Investment Promotion Board (FIPB) has cleared seven FDI proposals for investment in the Indian pharmaceutical companies. Currently, 100% FDI in pharma sector is permitted through automatic approval route in the new projects but the foreign investment in the existing pharma companies requires FIPB approval.

In order to provide relief to the common man in the area of healthcare, a countrywide campaign in the name of 'Jan Aushadhi Campaign' has been initiated by the Department of Pharmaceuticals, Government of India, in collaboration with the State Governments. Under this campaign, Jan Aushadhi Generic Stores are to be opened in Government Hospitals for supply of generic medicines through Central Pharma Public Sector Undertakings. The aim behind this initiative is to make available quality generic medicines at affordable prices to all.

Sector Dynamics

The industry is highly organised, with the players further strengthening their hold on the domestic market. The five leading pharma companies in India and the product segments in which they are present are given in the table below:

Table: Leading Pharmaceuticals Companies in India

Companies	Location	Key Product Segments
CIPLA '	Mumbai	Arthritis, Cardiovascular diseases, Diabetes, Weight control
Dr Reddy's labs	Hyderabad	Gastro-intestinal, Oncology, Pain management, Cardiovascular, Dermatology, Diabetes
Ranbaxy Laboratories Limited	Gurgaon	Anti-infectives, Cardiovascular, Pain management, Central Nervous System (CNS), Gastrointestinal, Respiratory, Dermatology, Orthopaedics, Nutritionals and Urology
Lupin Laboratories	Mumbai	Anti-TB, Cephalosporins (anti-infectives) and Cardiovascular drugs (ACE-inhibitors and cholesterol reducing agents) Diabetes, Anti-inflammatory and respiratory therapy
Aurobindo Pharma	Hyderabad	Neurosciences, Cardiovascular, Anti-retrovirals, Anti-diabetics, Gastroenterology and Cephalosporins

Key Trends & Developments

The pharmaceutical companies are taking range of initiatives to expand their market presence, both nationally as well as internationally. The companies are not only making investments towards increasing their manufacturing capacity, but are also entering into marketing tie-ups with foreign players and acquiring global pharmaceutical companies. Some of the recent announcements made by the Indian pharma companies are highlighted below:

- Piramal Healthcare plans to invest US$ 2.5 million to upgrade their antibody drug conjugate (ADC) manufacturing suites. The upgrade will give Piramal two commercial grade ADC suites at the Grangemouth (UK) facility, while retaining clinical phase manufacturing capacity in other suites on-site
- Aurobindo Pharma, Natco Pharma and Glenmark have received approvals from the US Food and Drug Administration (USFDA) to launch their migraine drugs in the US market
- Zydus Group has launched LipaglynTM (Saroglitazar), a novel drug targeted for treating diabetic dyslipidemia or hypertriglyceridemia in Type II diabetes. The drug has been approved for launch in India by the Drug Controller General of India (DCGI)
- Mumbai based pharma company Lupin has entered into a marketing agreement with the US-based drug maker MSD to market MSD's 23-valent Pneumococcal Polysaccharide Vaccine in India. Lupin would have a non-exclusive licence to market, promote and distribute the vaccine under a different brand name
- Elder Pharmaceuticals has acquired UK-based Max Healthcare. The acquisition is through Elder's fully-owned UK subsidiary, NutraHealth, and will mark the re-entry of Elder Pharma into the over-the-counter (OTC) pharmaceutical category

Future Prospects and Investment Opportunities

In spite of some recent adverse developments, with the support of Pharmexcil and the Government in the form of Brand India Pharma project iPHEX, the sector would continue to grow and meet the healthcare requirements of the developing world.

The country will see the largest number of merger and acquisitions (M&A) in the pharmaceutical and healthcare sector, according to consulting firm Grant Thornton. A survey conducted across 100 companies has revealed that one-fourth of the respondents are optimistic about acquisitions in the pharmaceutical sector.

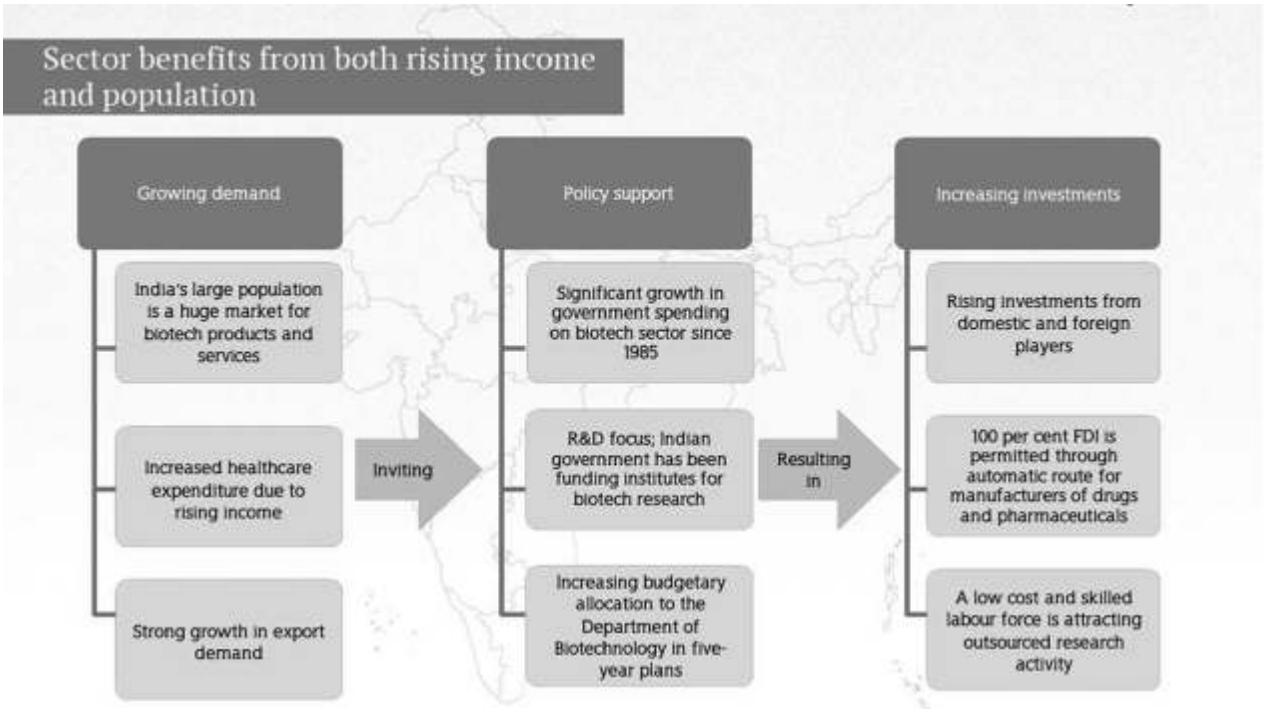
The pharma companies such as Cipla, Ranbaxy, Dr Reddy's Labs and Lupin might soon be part of the government's ambitious 'Jan Aushadhi' project. In an attempt to commercialise the project, the Government is likely to rope in the private sector to bulk-procure generic drugs from them.

The Biotechnology Industry

Sector Overview

The Biotechnology sector is one of the emerging sectors in India. It has evolved rapidly over the last three decades and is presently growing at a CAGR of 20%. India's billion plus population base offers a huge market for biotech products and services. Increasing economic prosperity and rising demand for healthcare services have also helped in boosting the demand in the sector.

The domestic industry is now moving into the phase of innovation, with the large and smaller niche players, focusing on strengthening their research and drug development capabilities. As per the 11th Annual Indian Biotech Industry survey conducted by Biospectrum; the Indian Biotech Industry has grown by 15.1% in 2012-13, increasing the market's revenues to US$ 3.81 billion. Further, the market size of the sector is expected to rise up to US$ 11.6 billion by 2017; due to a range of factors like growing demand for healthcare services, intensive research and development (R&D) activities and strong government initiatives.



Source: Aranca Research

Along with the domestic demand, exports demand has also increased over the years. The export revenues have grown considerably from US$ 0.4 billion in FY05 to US$ 2.1 billion in FY12 at a CAGR of 25.6%. In addition, the domestic bio-pharma sector which accounts for more than 62% of the biotech Industry, registered a 12.2% growth in FY12 to touch US$ 1.3 billion.

To realize the full export potential, it is therefore important that the export incentives under the Biotechnology Parks (BTP) schemes are revived. Since R&D in the biotech, especially the Biopharma sector is highly capital intensive; export tax benefits will help the major industry players in de-risking and funding their original research, thus increasing manufacturing in the sector.

Another aspect which needs attention is the retention of export earnings by biotech companies towards import of capital goods, which presently stands at 50%. This leads to loss of dollars at the time of actual imports.

Growth Story

Over the last 5 years, the sector has witnessed a modest growth in terms of revenue. Some of the key features of the growth are:

- In India, the growth in the biotech industry has gained pace since 2010, primarily due to high growth in exports. On the other hand, the domestic sales of Indian biopharmaceutical products have increased only 4-5% per annum in the past two years.
- Industry growth is concentrated in a relatively small number of companies, manufacturing a wide range of biopharmaceutical products.
- Vaccines are the fastest growing segment in the Biopharmaceuticals Industry

With numerous comparative advantages in terms of R&D facilities, knowledge, skills, and cost effectiveness, the sector in India has immense potential to emerge as a global key player in the coming years. A few years ago, India had only 30 biotech companies worth mentioning. Today, about 380 companies are active in this segment of which 198 are in Karnataka with 191 located in Bangalore alone. India is ranked among the top-12 biotech destinations in the world and is the third biggest in the Asia-Pacific region in terms of the number of biotech companies.

Clinical data management, drug discovery and low-cost production manufacturing are some advantages that Indian companies enjoy against their global counterparts. Being a young industry, the most likely sources of funds for the biotech sector are government grants and venture capital.

The growth in the sector has mainly been driven by factors like increasing investments, outsourcing activities and exports. With the government's focus on the sector and India's growing capabilities, this sector is poised to become a world leader.

Some of the major strengths of the Indian Biotech sector are:

- Presence of large reservoir of scientific human resource, that is, a strong pool of scientists and engineers
- Cost effective manufacturing capabilities
- Number of national research laboratories employing thousands of scientists; centres of academic excellence in biosciences; several medical colleges, educational and training institutes offering degrees and diplomas in biotechnology, bio-informatics and biological sciences
- Presence of a well-defined and vibrant drugs and pharmaceutical industry; rich biodiversity: India's human gene pools offer an exciting opportunity for genomics
- Fast developing clinical capabilities with the country becoming a popular destination for clinical trials, contract research and manufacturing activities

However, in order to be more competitive globally and enhance visibility in the international markets, India needs to recognize the importance of innovation and realize that this is the best time to take steps towards discovery in the life sciences and biotechnology sector.

Government Initiatives

The Indian government has been proactive and supportive in driving the growth of the biotechnology sector by offering grants and tax incentives, and implementing investment friendly regulations. The setting up of a separate Department of Biotechnology (DBT), under the Ministry of Science and Technology has promoted and accelerated the pace of development of biotechnology in the country.

The department has launched several schemes to promote investments, business and innovations in biotechnology in India like Small Business Innovation Research Initiative (SBIRI), Biotechnology Industry Research Assistance Council (BIRAC) and Biotechnology Industry Research Assistance Programme (BIRAP).

BIRAC has a financial assistance scheme called Biotechnology Industry Partnership Programme (BIPP) which is a unique initiative with industry for support on a cost sharing basis for development of novel and high-risk futuristic technologies in key areas of national importance and public good. The DBT is operating this scheme to promote and nurture innovation in research in biotech enterprises, specially start-ups and SMEs.

The DBT has also taken efforts in the direction to establish the Drug Regulatory Authority to ensure standards in the Industry. The Biotechnology Regulatory Authority of India Bill, 2013 was introduced in the Lok Sabha on April 23, 2013 by the Minister for Science and Technology, Mr. S. Jaipal Reddy. The Bill aims to promote the safe use of modern biotechnology by enhancing the effectiveness and efficiency of regulatory procedures.

The Indian government has set up a US$ 2.2 billion venture fund for supporting drug discovery and research infrastructure development projects. This is a crucial step as it increases the funding required for innovative work by the Indian biotech sector. Furthermore, the government has brought out a few avenues to encourage investment in the Indian Biotech Sector and also promote R&D and innovation in the sector.

In recognition of the need of training and education for generating interdisciplinary human resource relevant to biotechnology, the Government of India and UNESCO, have taken a joint decision to establish the Regional Centre for research, training and education in biotechnology under the auspices of UNESCO. The UNESCO Regional Centre for Biotechnology was established in Faridabad, Haryana in 2010.

The government has also allowed FDI up to 100% through the automatic route for the manufacture of drugs and biopharmaceuticals. The DBT is the nodal agency for the sector's policy promotions regarding R&D, global cooperation and manufacturing activity. Towards this end, DBT set up 35 facilities between 2002 and 2007 to produce and supply biologicals, reagents, culture collections and laboratory animals to scientists, industries and students at nominal costs.

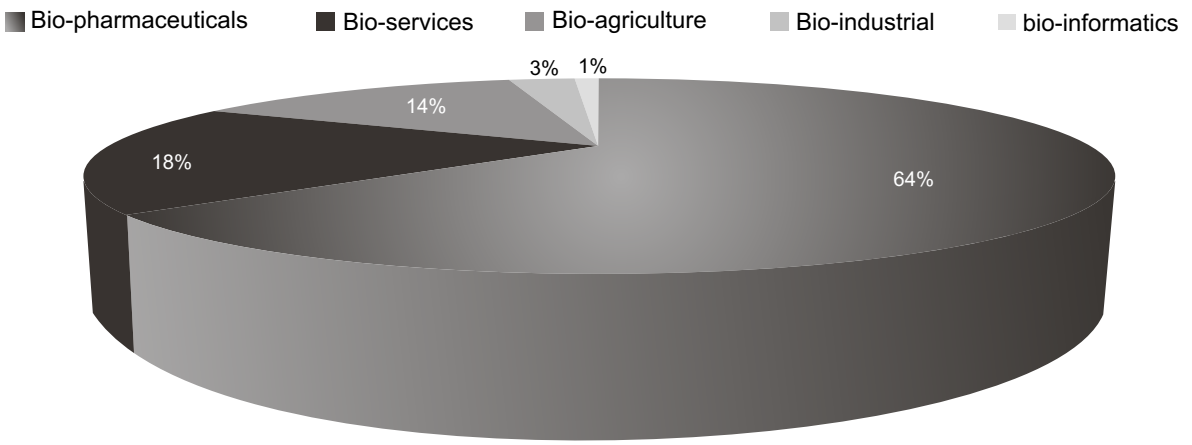
Sector Dynamics

The Indian Biotechnology sector mainly comprises the following segments:

- BioPharma- Therapeutic or preventative medicines that are derived from materials naturally present in living organisms, using recombinant DNA (rdna) technology
- BioServices- Include clinical research and CRO along with custom manufacturing
- BioAgriculture-Segmented into hybrid seeds, transgenic crops, bio-pesticides and bio-fertilizers

- BioIndustrial-Predominantly comprises enzyme manufacturing and marketing companies
- BioInformatics- Deals with the creation and maintenance of extensive electronic databases on various biological systems; it is the smallest part of the current domestic biotechnology industry

Figure 1: Market Share of Biotechnology Segments



About 380 biotech companies are operating in India presently. The top Biotech companies in India based on their revenues are:

1. Serum Institute of India
2. Biocon
3. Panacea Biotec Ltd
4. Novo Nordisk
5. Novozymes South Asia
6. Indian Immunologicals
7. Syngene International Ltd.
8. Jubilant LifeSciences
9. Lupin Limited
10. Reliance Life Sciences
11. Shantha Biotechnics Ltd.
12. Bharat Serums Ltd.
13. Eli Lilly
14. Bharat Biotech
15. Themis Medicare
16. Aventis

Key Trends & Developments

Investments in the Sector

The early stage life science companies are an important engine for medical innovation and economic growth across the country. For the Life Science industry, especially for segments like Biotech and Medical Devices, early stage equity funding is crucial due to the nature of the business. This sector requires a lot of angel investments and venture capital, but this early-stage funding is especially challenged due to the perceived high risk and long gestation period prevailing in this sector.

Some of the large scale investments made in the sector are as follows:

- The UNICEF awarded a three year contract of Rs 1,223 crore (US$ 230.6 million) to Panacea Biotech Ltd during 2010-12, to provide the UNICEF with the EasyFive vaccine. The vaccine offers immunity against a set of paediatric diseases.
- Defence Research and Development Organisation (DRDO) planned to invest Rs 349.2 crore (US$ 65.8 million) to customise its biotechnology products for common use, in 2010.
- An agreement for research cooperation was formed between Bayer Cropscience AG, Germany, and GVK Biosciences Pvt Ltd in November 2009.
- Biocon has entered into an agreement with Mylan for the global development and commercialisation of Biocon's generic insulin analog products (long lasting insulins), which has a global addressable market of US$ 11.5 billion

To become a major global player, Indian biotech companies require more venture funding to nurture and catalyze their globally competitive products and services across the globe. The lack of financial resources required for the growth of the sector acts as one of the major entry barriers for many companies in the sector.

The Indian industry gives the impression of being conservative to risk. This to an extent stems from the reluctance that banks and private investors demonstrate while investing in biotech ventures. The government is progressively working towards achieving these objectives through initiatives introduced in the past and current five year plans, and the union budgets.

Future Prospects and Investment opportunities

India's biotechnology industry is continuing to grow amidst a weak economic backdrop, as companies seek to exploit the country's expertise and competitive costs. The multinational pharmaceutical and biotechnology companies from Western Europe and the US are using India and China for their phased studies on emerging markets. Besides, cheaper clinical trials and extra benefits such as availability of good technical abilities, are boosting foreign investments. The pharmaceutical manufacturing hubs such as Delhi, Mumbai, Chennai, Ahmedabad, Hyderabad and Bangalore are fast improving their abilities to provide enhanced collaborative and outsourced R&D services.

India has a number of biotech clusters, and these are located mainly in Bangalore (Karnataka), Pune-Mumbai (Maharashtra), Hyderabad (Andhra Pradesh), NCR Delhi, and Ahmedabad-Vadodara (Gujarat). The other major locations for this industry include Kolkata and Lucknow. As the government has adopted a proactive

policy on setting up of industry specific special economic zones, many public and private enterprises are in the process to set up new biotech zones/parks in the country.

Many key factors which drive and will harness the growth of the sector in India in the coming years are:

- The Global Big Pharma companies, which are facing high patent expirations, with drugs worth US$ 150 billion going off patent in the 2010-2015 period, are increasingly looking at the generics segment.
- India constitutes around 8% of the total global generic market, by volume, indicating a huge untapped opportunity in the sector in the coming years.
- For global companies looking to economize, outsourcing to lower cost economies results in a cost-arbitrage of more than 50%.
- India adopted the product patent regime in 2005.
- India has the second highest number of US FDA approved plants, after only the US.
- Outsourcing to India is projected to spike up for discovery and manufacturing of formulations.

The Mining Industry

Sector Overview

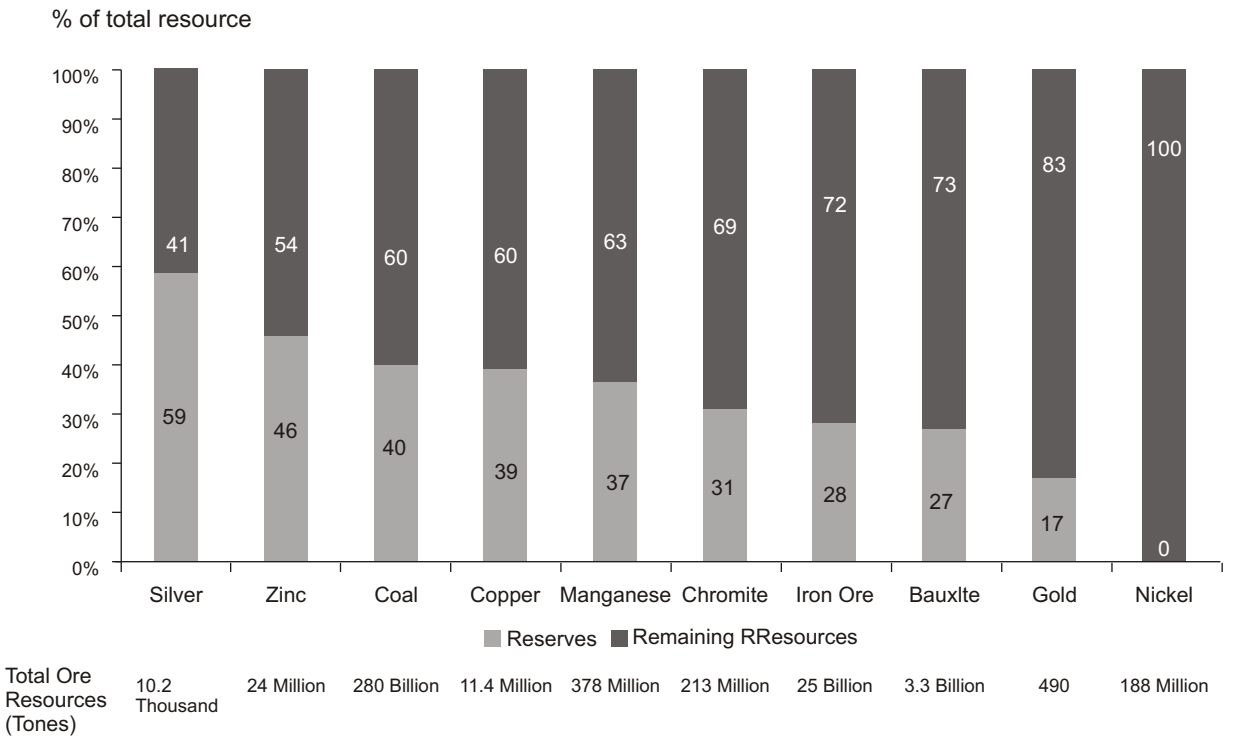
Mining is one of the core sectors that drive growth in an economy. Not only does it contribute to GDP, it also acts as a catalyst for the growth of other core industries like power, steel, cement, etc., which, in turn, are critical for the overall development of the economy. Every 1% increment in the growth rate of mining and quarrying results in 1.2 - 1.4% increment in the growth rate of industrial production and correspondingly, an approximate increment of 0.3 % in the growth rate of India's GDP.

India produces about 87 minerals that include 4 fuel minerals, 3 atomic minerals, 10 metallic minerals, 47 non-metallic minerals and 23 minor minerals (including building & other materials). The table below provides details of various mining geographical belts in India:

Belt	Location	Minerals
North Eastern Peninsular	Chota Nagpur plateau and the Orissa plateau covering the states of Jharkhand, West Bengal and Orissa	Coal, iron ore, manganese, mica, bauxite, copper, kyanite, chromite, beryl, apatite etc.
Central	Chhattisgarh, Andhra Pradesh, Madhya Pradesh and Maharashtra	Manganese, bauxite, uranium, limestone, marble, coal, gems, mica, graphite etc.
Southern	Karnataka Plateau and Tamil Nadu	Ferrous minerals and bauxite
South Western	Karnataka and Goa	Iron ore, garnet and clay
North Western	Rajasthan and Gujarat along with Aravali Range	Non-ferrous minerals, uranium, mica, beryllium, aquamarine, petroleum, gypsum and emerald

While India ranks 3rd in production of coal & lignite, 2nd in barites, 4th in iron ore, 5th in bauxite, 7th in manganese ore and 8th in aluminium, there is significant mineral potential that lies untapped in India. Historically, mining sector has struggled to exploit the potential mainly due to three factors i.e. regulatory and administrative procedures, inadequate infrastructure facilities and sustainability. These challenges have limited the overall investment in mining and exploration activities in India.

The figure below highlights that, in India, the unproven resources are more than twice the proven reserves, offering huge untapped potential:



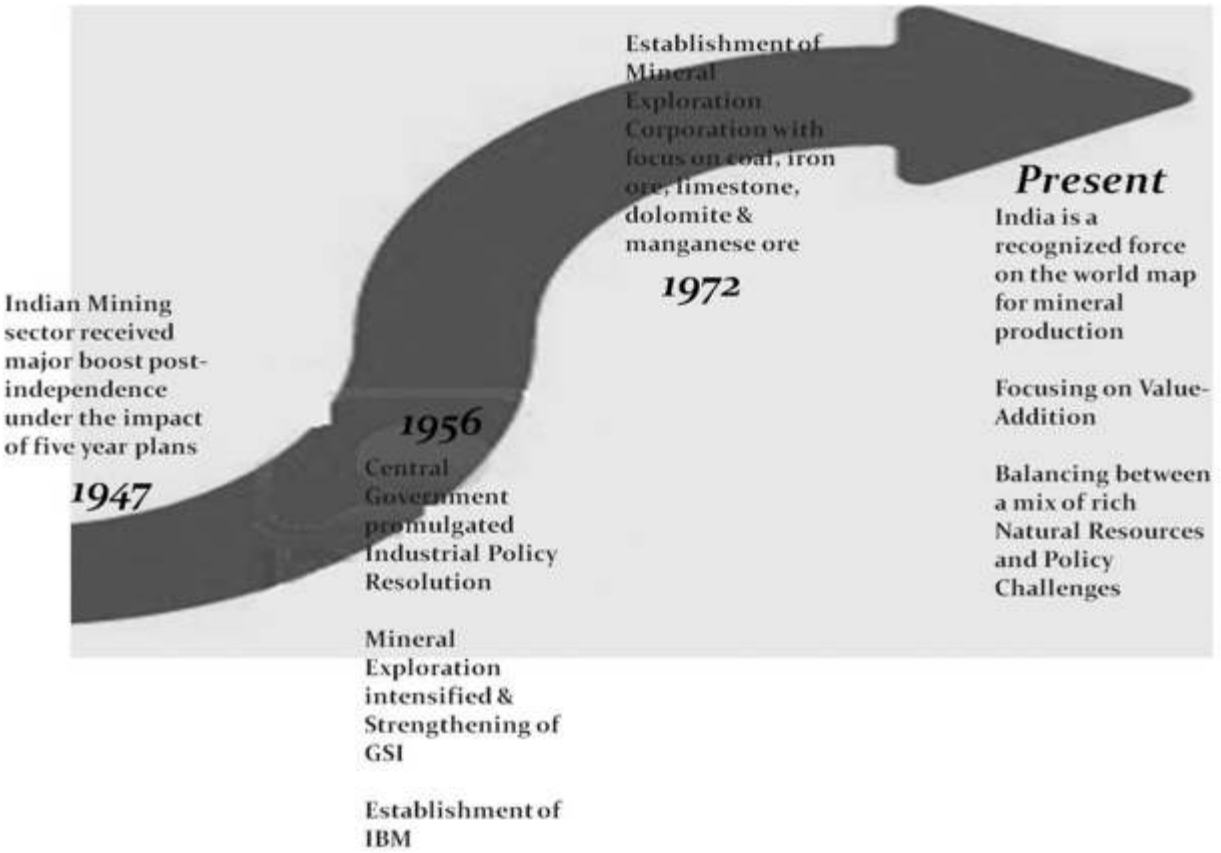
At present, nearly half of India's total mineral production in value terms is contributed by seven key mining states, namely Odisha (11.6%), Andhra Pradesh (7.9%), Rajasthan (9.6%), Chhattisgarh (6.9%), Jharkhand (8.9%), Madhya Pradesh (5.3%) and Karnataka (3.6%).

The National Mineral policy, 2008, envisages a larger role for the private sector in the mineral production front. However, the scenario has not changed significantly so far as the public sector continues to play a dominant role accounting for 68% of total mineral production in the country during 2011-12. The government is considering making the policies and incentives conducive for the private sector players to participate more actively.

Growth Story

Traditionally, the iron and coal received the highest focus among minerals, as they have for long represented the primary basic material used in most industries. However, over the past few years, the focus has been increasingly shifting towards other minerals such as lignite, copper, lead, zinc and phosphate. Also, the Indian mining sector is highly fragmented comprising of several small scale mines.

The evolution of the Indian mining sector can be traced in the figure next:



The mining sector has grown at an average growth rate of 4.8% over the 5 years between 2006-07 and 2010-11. The mining sector too faced the heat of the economic slowdown and witnessed negative growth of 0.6% for two consecutive years 2011-12 and 2012-13.

The total value of mineral production (excluding atomic minerals) during 2012-13 has been estimated at Rs 234,612 crore, which shows a decrease of about 0.12% over that of the previous year. During 2012-13, estimated value for fuel minerals accounts for Rs 156,834 crore or 66.85%, metallic minerals Rs 43,381 crore or 18.49% and non-metallic minerals including minor minerals Rs 34,396 crore or 14.66% of the total value. The export-import (2011-12) perspective for key minerals is provided in the table next:

Minerals	Exports		Imports	
	Quantity (Tonne)	Value (Rs Crore)	Quantity (Ton)	Value (Rs Crore)
Bauxite	401,027	92	78,980	160
Coal (000 t)	2,025	587	102,841	78,827
Iron Ore4	7,153	22,184	978	689
Manganese Ore	75,183	44	1,961,396	2,063
Mica 1	31,777	289	2,458	60
Zinc Ore	5,591	1	63,194	240

Government Initiatives

Given the availability of mineral wealth in India, the Ministry of Mines, Government of India, has targeted significantly higher share of GDP from mining. It aims to increase share of mining and quarrying in GDP from current 2% to 5% over the next 20 years. This requires mining to grow at 10-12% per annum. The future should therefore usher in an era of mineral development with socio-economic development as the focus.

Some of the noteworthy government measures undertaken for the development of Indian mining sector are as follows:

- The National Mineral Policy envisaged in 2008 enunciates measures like assured right to next stage mineral concession, transferability of mineral concessions and transparency in allotment of concessions, in order to reduce delays which are seen as impediments to investment and technology flows in the mining sector in India. The Mineral Policy also seeks to develop a Sustainable Development Framework for optimum utilisation of the country's natural mineral resources for industrial growth and improving the life of people living in the mining areas.
- Also, the Ministry of Mines has prepared a new draft Mines and Minerals (Development and Regulation) Bill, 2011 in line with the Mineral Policy. The aim of the revised bill is to accelerate the procedures for regulatory clearances for furthering the development of the sector.
- Indian Government allows 100% FDI with automatic approval for Mining and Exploration of metal and non-metal ores including diamond, gold, silver and precious ores but excluding titanium bearing minerals and its ores; subject to the Mines and Minerals (Development & Regulation) Act, 1957. It also permits 100% automatic FDI approval for Coal & Lignite mining only for captive consumption by power projects, iron & steel and cement units and other eligible activities permitted under and subject to the provisions of Coal Mines (Nationalization) Act, 1973.
- India has several governmental agencies to assist in the development of the country's mineral resources. The Geological Survey of India (GSI) is the principal agency responsible for assessment of geological and regional mineral resources of the country. Its areas of operation encompass scientific surveys and research, for locating mineral resources. The Indian Bureau of Mines (IBM) is the principal government agency responsible for compiling exploration data & mineral maps and for providing access to the latest information in respect of mineral resources in the country.

Sector Dynamics

The Indian mining sector is highly fragmented comprising of several small scale mines. There are close to 3,000 mines in India. Number of reporting mines during the last decade has been around 3,000 to 3,200. However, during 2010-11, it was 2928, out of which, 573 were fuel mines, 687 were mines for metals, and 1668 mines for extraction of non-metallic minerals. Of the total number of about 90 minerals, the three key minerals are coal, limestone and iron ore. There are 560 Coal mines (19% of total number), 553 limestone mines (19% of total number) and 316 iron ore mines (11 % of total number). They comprise about half of the total number of reporting mines. The number of mines engaged in extraction was also significant in cases of bauxite (189), manganese (141), dolomite (116) and Steatite (113).

During 2011-12, the public sector continued to play a dominant role in mineral production accounting for 67.7% or Rs 140,049 crore in the total value. The players' landscape for various minerals produced in India is given in the table next:

Minerals	Players
Iron Ore	Public Sector: 33%; largely with NMDC Private Sector: 67%
Chromite	Tata Steel, Indian Metals & Ferro Alloys Ltd, Balasore Alloys Ltd, Jindal Strips Pvt Ltd and FACOR accounted for 84% of the total production; with Odisha Mining Corporation, Mysore Mineral Ltd and Industrial Development Corporation of Odisha Ltd accounting for the remaining 16%
Manganese Ore	Manganese Ore India Ltd: 46% Tata Steel: 12% RBSSDP: 7% ML Rungta: 5% Sandur Manganese and Iron Ores Ltd: 3%
Bauxite	NALCO, Hindalco & BALCO
Limestone	Ultra Tech Cement Ltd: 16% Ambuja Cement: 8% ACC Ltd: 7% Jaiprakash Associates Ltd: 5% Shri Cement Ltd: 5% The India Cement: 4% Dalmia Cement (Bharat) Ltd, Binani Cement Ltd & Madras Cements Ltd: 3% each
Phosphorite / Rock Phosphate	Rajasthan State Mines & Minerals Ltd: 82%
Dolomite	Steel Authority of India Ltd: 17% Bisra Stone & Lime Co. Ltd: 11% Rashtriya Ispat Nigam Ltd: 10% Tata Steel: 9% South West Mining: 4%
Gypsum	Rajasthan State Mines & Minerals Ltd & Fertilizer Corporation of India Ltd: 99%

Key Trends and Developments

There are notable developments happening in the Indian mining landscape which are both turning favourable as well as unfavourable for furthering the development of the sector:

- The mineral production in India has decreased in the past couple of years. This has adversely affected the exports as well. While the iron ore exports two years ago were around 61 MT (2011-12), the same has come down to 18 MT in 2012-13. India is expected to be a net importer of iron ore in 2013.
- There is huge untapped rural consumption market; largely to be explored by mineral consuming sectors like steel and power. For example, rural per capita steel consumption is forecasted to reach 20 kg from the current levels of 13 kg. With the strong focus and spending by the Indian Government on infrastructure development, a major boost is being provided to the Indian mining sector
- Slowdown in user sectors like automotive and infrastructure have slowed the demand for minerals and mineral based products (like steel)
- The domestic producers, in accordance to the changing market dynamics, are shifting their production and operational focus towards value-addition and beneficiation

Future Potential and Investment Opportunities

The Indian mining sector is passing through a critical phase, especially in the last two years witnessing even negative growth rate. However, the mining and quarrying sector needs to grow at rate of 10 to 12% per annum in order to cater to the requirement of raw materials by the end-use industries. As mining is interlinked with industrial development, the security of raw material is of prime importance. Rapid economic growth and technological advancements in India in the recent years have created demand for a wide range of minerals to perform essential functions in sectors like automobiles, aerospace, telecommunications and renewable energy.

With its naturally rich resources, India has significant potential to further grow its mining sector. This potential is apparent from both - the demand for minerals and the availability of natural resources in India.

Demand Side Potential and Assessment

- Countries typically go through a mineral consumption curve where per capita consumption of minerals accelerates during the industrialization period (developing phase) and gradually stabilizes or declines later (developed phase). A relative comparison of India, with various countries suggests that India is still at an early stage on the mineral consumption curve. Even amongst the BRIC (Brazil, Russia, India and China) nations, India is the least developed in terms of per capita mineral consumption. As India's per capita GDP increases, its mineral consumption will grow at a rapid pace in line with the growth witnessed in other emerging markets like China and Brazil.

- Further, to assess the domestic growth potential for mining sector in India, one can also look at the future growth potential of its key consumer industries, for example, steel, cement, etc. Significant activity is expected in sectors like construction and power generation in the 12th Plan period, which in turn will lead to substantial capacity addition in the steel, cement and thermal power sectors. These industries being key consumers of minerals like iron ore, limestone and copper, will drive significant growth in consumption demand of minerals in India.

- In addition to domestic demand growth, the Indian mining sector is also likely to see accelerated growth in exports demand. The key minerals exported from India are iron ore (although this has dipped significantly at present), alumina, and chromite. According to sector forecasts, the global demand for these minerals is expected to accelerate in the future. For example, the global demand for both seaborne iron ore and aluminium is expected to grow at the rate of 10% per annum while the global demand for ferrochrome, an alloy containing chromites, is expected to grow at the rate of 7% per annum in the coming years.

Supply Side Potential and Assessment

- In global rankings of mineral reserves, India occupies a dominant position for key minerals, for example, coal and iron ore. India has the world's 4th largest coal reserves, which is equivalent to 12% of global reserves. India also possesses the 7th largest reserves of iron ore, 3rd largest reserves of chromite and 5th largest reserves of manganese ore in the world. In other words, at the current consumption rank, India has proven reserves for 175-200 years for coal, and 40-50 years for iron ore and limestone.

The future, therefore, warrants focus to an era of mineral exploration and development to ensure growth of the mining sector.

The Power Industry

Sector Overview

India is the fourth largest producer of electricity in the world with an installed capacity of 229.25 GW (October 2013). The bulk of this comes from the thermal power generation, constituting 68 % (156.46 GW) of the total installed capacity. This is followed by hydro generation at 17% (39.8 GW), renewable energy sources at 12% (28.2 GW) and nuclear power generation at 2% (4.8 GW).

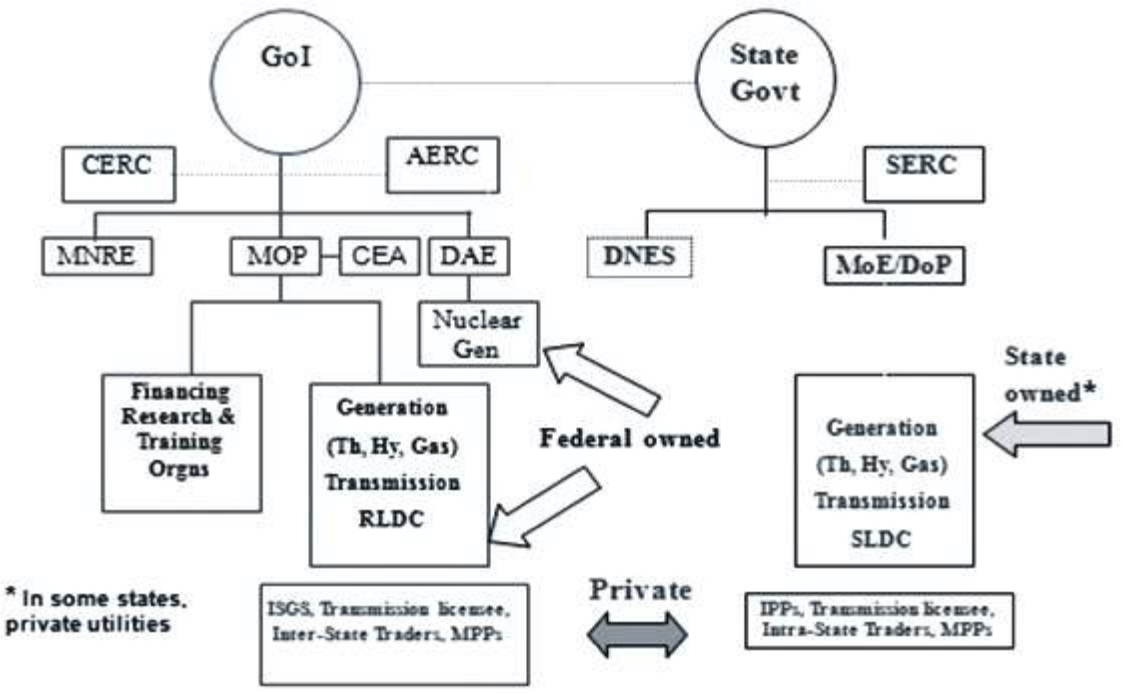
Apart from this, there exists 34.5 GW of Captive Power generation dedicated to many important manufacturing industries across the length and breadth of the country.

There is a federal structure in the power sector where both Centre and the States play a key role. At the Centre level, the Ministry of Power shoulders the responsibility of perspective planning, policy formulation, processing of projects for investment decision, monitoring of the implementation of power projects, training and manpower development and the administration and enactment of legislation in regard to thermal, hydro power generation, transmission and distribution.

The Central Electricity Regulatory Commission (CERC) acts as the apex regulatory authority and Central Electricity Authority (CEA) as the primary planning body for the power sector.

The power sector in the country is dominated by state utilities - state-run power generation, transmission and distribution companies. Traditionally, the states have operated integrated electricity boards. With the advent of reforms in early 1990s, these boards were unbundled to incorporate separate functional entities handling generation, transmission and distribution businesses.

India's Power framework



At the central level, there are generation utilities (CPSUs) including NTPC Limited, NHPC Limited, Damodar Valley Corporation, Tehri Hydro Development, Satluj Jal Vidyut Nigam, Bhakra Beas Management Board etc. The power generated by these CPSUs is shared by various states in an agreed proportion. Power Grid Corporation (PGCIL), the central transmission utility, is planning and implementing the national power grid connecting various regions for streamlined power transmission across the nation. Power System Operation Corporation Limited (POSOCO), a 100% subsidiary of PGCIL, has been successfully managing the national and regional grids through deployment of latest technologies. It functions through effective coordination with load despatch centres at regional as well as state levels.

Growth Story

Over the years, the reforms have helped the sector to move from a single buyer model to multi-buyer model attracting new players and fresh capital. The entry of independent power producers (IPPs) and merchant power plants (MPPs) gave a boost to power generation segment. Power traders and power exchanges added another dimension to the evolution of the market. Unbundling of distribution businesses and introduction of distribution franchisees brought in greater efficiency in operations. More recently, forays of private transmission companies has begun to redefine the supply networks segment as well.

POWER REFORMS

SNAPSHOT: POWER REFORMS IN INDIA

BEGINNING OF REFORMS
Early 1990s
- Generation reforms; Fast-track projects announced
- Foreign & domestic investors line up to add capacities

1998-2000
- Theft, free power, low tariffs plagued distribution
- Cumulative losses of states over INR 40,000 crores
- Cash-strapped SEBs, no reserves for network expansion or up-gradation
- Generation Projects stalled in public & private sectors

ONSET OF FIRST CRISIS IN INDIAN POWER SECTOR

ACTUAL REFORMS IN POWER SECTOR (2001-03)
- Government bailed out state utilities; Tripartite Agreements signed
- Electricity Act 2003 enacted
  - Delincensing of generation
  - Opening of short-term power markets
  - Open access
  - Procurement through competitive bidding
- Electricity regulatory commissions established
- Reforms largely skewed towards generation

EUPHORIA (2004-09)
- Power deficits (10.4% in FY07) – huge potential for capacity addition
- Sky-rocketing electricity prices
- Capacity Building takes off - UMPPs, mega projects, merchant plants attracting private investments
- APDRP introduced for distribution reforms; losses show a decline for first time in FY06

REEMERGENCE OF CRISIS (2010-11)
- Main plant equipment, clearances, fuel & land issues arrest the growth
- Fuel shortages - Coal-based PLF at 75% in FY11 (from 77% in FY09); Coal stocks in most plants less than 7 days
- SEBs losses mount, banks restrict lending, demand shows downward trend (4.3% in FY11)

NEED FOR CORRECTIONS AND REDISCOVERY (2012 onwards)
- Concrete steps needed for revival and accelerated growth of power sector – collective effort of all stakeholders with more responsive role of states is the way forward

Source: FICCI compilation

Power Generation

As per Section 7 of the Act, ***"Any generating company may establish, operate and maintain a generating station without obtaining a license under this Act if it complies with the technical standards relating to connectivity with the grid".***

The above provision makes Generation a de-licensed activity except hydro based generation, primarily to encourage investment from private sector in the generation sector. In the last decade, the electricity sector in India has witnessed rapid and unprecedented growth across the value chain. Much of this growth can be attributed to the impact of the Act, which has opened up new growth avenues and service delivery models. The 11th five year plan (2007-12) witnessed the highest ever capacity addition at 54,000 MW; this included 20,502 MW added in the FY2012 which roughly equals to the entire capacity addition in the whole of 10th Plan period.

Ultra Mega Power Projects

For meeting the growing needs of the economy, we need accelerated growth in country's generation capacity. As such, a need was felt to develop large capacity projects at the national level to meet the requirement of different States. Development of Ultra Mega Power Projects (UMPPs) promoted under a public-private partnership model, aims at delivering power at competitive cost to consumers by achieving economies of scale. Facilitated by the Central Government, the UMPPs are very large sized projects, approximately 4000 MW each, to be given out under tariff based competitive bidding route using super critical technology on build, own and operate basis. As many as four UMPPs have already been awarded and Request for Proposals (RFP) for two more UMPPs is under development.

Competitive bidding framework

With the introduction of competitive bidding, the criteria for selection of projects have moved to a more transparent and efficient bidding process. New market opportunities have ushered a new wave of private investments with an addition of ~ 42000 MW in capacity. The share of the private sector investment has been increasing substantially. The private sector at 72.9 GW constitutes for a third of the installed power generation capacity in India. From about 17 GW in 2007, to 62 GW in 2012-13 and by 2022 it is expected that private power generation would account for 45% of the total generation capacity in the country. The 12th five year plan, encouraged by achievements in the 11th plan period, has set an equally ambitious targeted capacity installation of 88 GW.

The competitive bidding framework has evolved a lot in past 7-8 years. The infirmities in the original standard bidding documents have been addressed and due consideration was given to changing fuel dynamics (domestic as well as imports). Today, there is a much better understanding and preparation among the project developers as well as regulators of the competitive bidding framework.

Fuel concerns

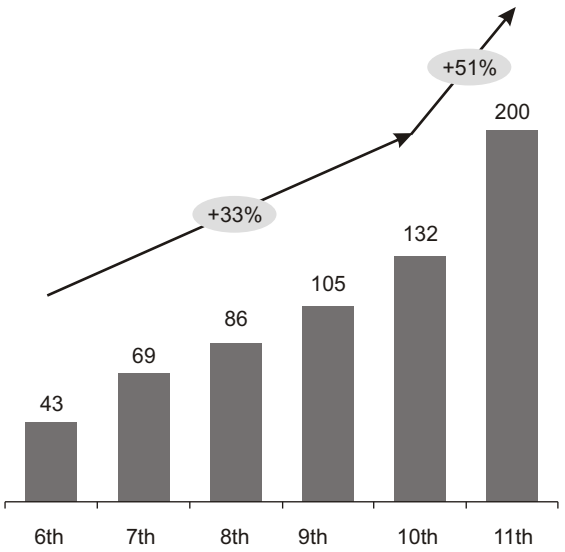
The biggest threat to future growth of generation capacity in the country comes from the feedstock sector. Coal is the mainstay of India's power sector. In past few years, the coal production has failed to keep pace with its demand. An accelerated rate of production is pivotal for meeting the current and future coal demand and for this, some serious reforms have to be introduced in the Indian coal sector. It is essential that the coal exploration and mining is opened up to private sector and new players with specialized skills enter the sector. This will also bring in infusion of technology, expertise and capital in the sector.

The power sector, which consumes almost 70% of the total coal generated in the country, has suffered a lot on account of poor productivity, and the nation is losing valuable foreign exchange for importing coal from overseas. Also, Indian boilers are not designed to absorb more than 15-20% of imported coal. In light of these technical and financial considerations, opening up of the coal sector is imperative. Fortunately, the government is considering bringing in private sector in coal mining through PPP route and also looking at incentivising surplus coal generated at captive coal mines. These measures, if implemented, could redefine the dynamics for Indian power generation.

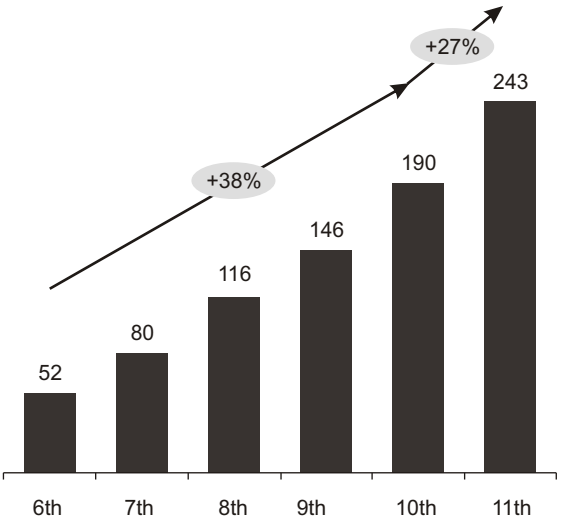
Power Transmission

Likewise, the Transmission Sector, with a current installed capacity of 243,000 cKm, has witnessed a tremendous growth over the past two five year plans as is signified by the graph below

Installed Power Generation Capacity
In CW, As per 5 year Plans



Transmission Line Network Strength
In 000 ckm, As per 5 year plans



Source: FICCI Report on Power Transmission

At present, National Grid with inter-regional power transfer capacity of about 31,850 MW has been established, which is planned to be enhanced to 66,000 MW by end of 12th Plan. Presently, four major regional power system grids, namely Northern, Eastern, North-Eastern & Western are operating at same frequency in synchronus mode. Southern Region Grid is operated in asynchronous mode with the National Grid through a number of HVDC & HVDC links and is likely to be connected synchronously (i.e operating at the same frequency) to the rest of the National Grid by 1st quarter of 2014.

Power Distribution

Distribution is possibly the weakest link in India's power sector. Due to lack of adequate investment on transmission & distribution (T&D) works, the T&D losses have been consistently on higher side, and reached to the level of 32.86 % in the year 2000-01. The viability of distribution segment is the key to viability of the entire value chain. As such, the reduction of T&D losses was essential to bring economic viability to the State Utilities.

As the T&D loss was not able to capture all the losses in the network, concept of Aggregate Technical and Commercial (AT&C) loss was introduced. AT&C loss captures technical as well as commercial losses in the network and is a true indicator of total losses in the system. High technical losses in the system are primarily due to inadequate investments over the years for system improvement works, which has resulted in unplanned extensions of the distribution lines, overloading of the system elements like transformers and conductors, and lack of adequate reactive power support. The commercial losses are mainly due to low metering efficiency, theft & pilferages.

Government Initiatives

" In 2001, the Government of India launched the Accelerated Power Development & Reform Programme (APDRP) for the strengthening of sub-transmission and distribution network and reduction in AT&C losses. The main objective of the programme was to bring AT&C losses below 15 % in five years in urban and in high-density areas. The programme, along with other initiatives of the Government of India and of the States, has led to reduction in the overall AT&C loss from 38.86 % in 2001-02 to 34.54 % in 2005-06. The commercial loss of the State Power Utilities reduced significantly during this period from INR 29331 Crore to INR 19546 Crore. The loss as %age of turnover was reduced from 33 % in 2000-01 to 16.60 % in 2005-06.

" In June 2003, the Electricity Act (the Act) was enacted. The Act was a path breaking legislation in the Indian power sector as it set out to modernize the existing legal framework and replaced three laws viz. the Indian Electricity Act 1910, the Electricity (Supply) Act 1948 and the Electricity Regulatory Commission Act 1998. It is also recognized as one of the most comprehensive legislations, whose impact spread over generation, transmission, distribution, trading and usage of electricity. What is remarkable about the Act is its clear intent to create an environment conducive to development of the power sector, promote competition, protect interest of consumers, rationalize electricity tariff and subsidies etc. Under the Act, the National Electricity Policy and National Tariff Policy have also been evolved to guide the growth of India's power sector.

" In April 2005, the Ministry of Power introduced the Rajiv Gandhi Grameen Vidhyutikaran Yojana (RGGVY) for achieving the National Common Minimum Programme objective of providing access to electricity to all Rural Households over a period of four years. Rural Electrification Corporation (REC) is the nodal agency for the programme. This programme has been brought under the ambit of Bharat Nirman.

  Under this scheme 90 % capital subsidy will be provided for rural-electrification infrastructure through:-

  (I) creation of Rural Electricity Distribution Backbone (REDB) with one 33/11 kV (or 66/11 kV) substation in every block where it does not exist.

  (ii) Creation of Village Electricity Infrastructure (VEI) for electrification of all un-electrified villages/habitations and provision of distribution transformer (s) of appropriate capacity in every village/habitation.

(iii) Decentralized Distributed Generation (DDG) and Supply System from conventional sources for Villages/Habitations where grid supply is not cost effective and where Ministry of Non-Conventional Energy Sources would not be providing electricity through their programmer(s).

Balance 10 % will be loan assistance on soft terms by REC. The scheme, inter-alia, provides for funding of electrification of all un-electrified Below Poverty Line (BPL) households with 100 % capital subsidy.

More recently, the Financial Restructuring Package for Electricity distribution companies (DISCOMs) announced in 2013, has been announced to revitalize the fiscal health of these utilities, and mandates certain key reforms to avail the benefits of this package.

Open Access, which is a fundamental building block of the competitive market framework, in practice is facing significant challenges. The onus of this key enabler lies with the state governments. The states have to work towards allowing non-discretionary open access and state electricity regulators have to ensure that state power utilities do not create hurdles through unjustified open access and/or cross-subsidy charges.

Recently, the Ministry of Power sought stakeholders' inputs on amendments to the Act. In view of present market dynamics, the following needs to be ensured:

- Segregation of distribution (network) and retail supply businesses
- Development of competitive wholesale power market is a pre-requisite to real competition in the retail businesses
- It is pivotal to de-license and de-regulate the retail supply business to bring in more competition in power supply sector
- Market forces should eventually be allowed to determine the retail supply tariffs

These market reforms will take time to evolve and the power sector has to gear up for the necessary changes. In view of the current state of the power distribution segment, it is essential that the Ministry of Power designs a Road Map with clear milestones and phase-wise schedule to ensure that the timelines are achieved for roll-out and implementation of such a reform process.

Investment Opportunities

India's power market is fundamentally attractive for investment, given the country's growing demand for electricity. Our per capita electricity consumption is much lower than that of developed countries-only about 917 kilowatt hours (kWh) per capita, compared with 7,000 kWh per capita in Europe and 14,000 kWh in the US. As per industry projections, the electricity generation capacity will grow from about 225 gigawatts (GW) in 2013-to 700 GW by 2032-to meet the rising demand. That will require more than US$ 500 billion of investment in power generation over the next 20 years, plus up to another US$ 300 billion to US$ 500 billion to upgrade the transmission and distribution grid.

Thermal generation

Coal generation represents the greatest opportunity in India. Maximum growth in country's installed capacity is expected to come from coal-based generation. The investment required to meet such a huge demand cannot

be supplied by the government or domestic independent power producers alone, making the role of international producers critical. UMPPs and Case 2 projects can be an attractive investment opportunity for international investors.

India has a vast (30 GWs) captive power industry. This installation has a huge market potential because of sizable increase in the manufacturing industry expected in coming years. Another segment expected to grow is the peaking power demand. Government of India is currently framing the policy for peaking power. Both captive and peaking power have the wherewithal to absorb imported coal as well as LNG for power generation. Moreover, these segments are exploring state-of-the-art power generating equipments, which augurs for a very attractive investment market.

Power Transmission

As per 12th plan, investment required in power transmission segment is US$ 35 billion. Out of this, US$ 16 billion is earmarked to come from the private sector. This investment will entail high end transmission equipment and solutions. In the current plan period, 40000 ckt kms of additional power transmission capacity is envisaged. With the tariff-based competitive bidding framework introduced in power transmission, this segment holds significant promise for international investors.

Renewables

The renewable energy sector is high on India's priority as it offers tremendous potential for investing companies based on the sheer size of the market and the returns available on investment capital. India stands among the top five countries of the world in terms of renewable energy installed capacity with over 26 GW installed capacity, representing about 12.5% of the total installed power generation capacity in India. Jawaharlal Nehru National Solar Mission - Phase II, has set the target of deploying 10,000 MW of grid connected solar power, 1,000 MW of Off-Grid Solar and 15 mn sq meters of Solar Thermal Collectors by 2017. Wind Energy is estimated to contribute 15,000 MW, Small Hydro Power 2100 MW and Bio Mass Power 2700 MW during the on-going five year plan (2012-2017). The sector has grown at an annual rate of 23% to achieve 27,541 MW by June 2013. The statistics mentioned point out to the opportunities present for investment in this sector and the market is conducive for foreign investors with 100% FDIs allowed in renewable energy. Also, clean energy sector has the potential to generate 10 million jobs in India by 2025.

Given the demand potential, the power sector is turning a corner in its attractiveness. The government's recent decisions on financial restructuring, fast-tracking stuck projects due to land and fuel issues, domestic gas price increases and coal blocks for the private sector, signal its intent to move quickly to revive the sector. International utilities have an opportunity to participate and benefit from the growth story of India's power sector.

The IT and ITeS Sector

Sector Overview

The Information Technology and Information Technology Enables Services (IT/ITeS) industry in India has today become a remarkable growth catalyst for the economy, contributing immensely to the country's GDP and public welfare. The IT-BPO segment's revenue as a percentage of India's GDP has expanded from 1.2% in FY1998 to an estimated 7.5% in FY2012. The sector successfully touched the US$ 100 billion mark during FY2012. As a percentage of total Indian exports, the industry's share increased from less than 4% in FY1998 to about 25% in Fy2012.

The Indian IT industry's (including hardware) share in the global market stands at 7% currently. Between April 2000 and June 2013, the computer software and hardware sector attracted cumulative FDI of Rs 55,709 crore (US$ 12,179 million), according to the latest data released by the Department of Industrial Policy and Promotion (DIPP) in October 2013.

Owing to significant contribution by the private sector and futuristic policies by the central as well as state governments, the Indian IT industry flourished to an unimaginable extent, as witnessed today. Over the years, India has been able to capture a sizeable portion of the global technology sourcing business. Besides, India has a rapidly growing urban infrastructure fostering several IT centers in the country.

The industry is positively influencing the lives of the country's people through an active direct and indirect contribution to the various socio-economic parameters such as employment and standard of living among others. Growth of internet has made revolutionary changes with possibilities from e-filing Income Tax returns to applying for passports online or railway e-ticketing.

India has been benefiting from the fact that its workforce is relatively young - with half of the population below 25 years and quick to adopt new technologies. The IT industry added 2, 30,000 jobs in 2012, providing direct employment to about 2.8 million, and indirectly employing 8.9 million people.

Government Initiatives

- FDI upto 100% under the automatic route is allowed in data processing, software development and computer consultancy services; software supply services; business and management consultancy services, market research services, technical testing & analysis services.
- A number of initiatives have also been undertaken by the government including establishment of Software Technology Parks of India (STPIs), Special Economy Zones (SEZs) and National Task Force on IT and Software Development, enabling the IT-ITeS industry in India to flourish.
- The National Policy on Information Technology 2012 aims to increase revenues of IT and ITeS industry from US$ 100 billion to US$ 300 billion by 2020 and expand exports from US$ 69 billion to US$ 200 billion by 2020. The policy also seeks to achieve the twin goals of bringing the full power of Information and Communication Technology (ICT) within the reach of the whole of India and harnessing the capability and human resources of the country to enable India to emerge as the Global Hub and Destination for IT and ITeS Services by 2020.

- The Government of India's National e-Governance Plan (NeGP) takes a holistic view of e-Governance initiatives across the country, integrating them into a collective effort-making mechanism.
- Presently, Optical Fibre Cable connectivity is available in all State Capitals, Districts, HQs and upto the Block Level. A National Optical Fibre Network (NOFN) is being laid down in phases to connect all the 2, 50,000 Gram panchayats in the country, thus filling up the gap between Gram Panchayats and Blocks.
- In the 12th Five Year Plan (2012-17), the Department of Electronics & Information Technology has proposed to strengthen and extend the existing core infrastructure projects to provide more horizontal connectivity, build redundancy connectivity, undertake energy audits of State Data Centers (SDCs) etc.
- Government of India plans to set up 15 new laboratories for testing hardware and software products under public-private partnership (PPP) model. The government has also fast tracked the process of setting up of centres of National Institute of Electronics and Information Technology (NIELIT) in Northeast India.
- Government of India launched the National Cyber Security Policy 2013 on 2nd July 2013. This policy, when finally operationalized, has the potential to bring about the necessary change in our approach to cyber preparedness and equip us in a much better way in dealing with the cyber menace together.

Sector Dynamics

The structure of the IT industry is primarily knowledge based and is hugely dependant on skilled manpower. The industry structure in the IT sector has four major categories: IT services, IT enabled services (ITeS), Software products and Hardware.

IT services constitute a major part of the IT industry of India. IT services include client, server and web based services. The major user sectors of IT services are - Government, Banking, Financial services, Retail and distribution, manufacturing amongst others.

The IT enabled services is one of the most important contributor to the growth of the IT industry of India. Some of the important services covered under this segment are: Customer-interaction services including call-centres, Back-office services, Revenue accounting, Data entry and data conversion, HR services, Transcription and translation services, Content development and animation, Remote education, Data search, GIS, Market research and Network consultancy.

Originated in the 1970s and growing at a significant pace over the last decade, software products are the prime component of Indian exports.

The hardware sector of the IT industry focuses on the manufacturing and assembling of computer hardware. The consumption of computer hardware is high in the domestic market. Many domestic and multi-national companies have invested in the computer hardware market in India.

IT/ITeS industries are highly localized and clustered in seven cities as of today. These are: Bangalore, Hyderabad, Chennai, Gurgaon/Noida/New Delhi, Kolkata, Mumbai and Pune. Infrastructure limits and scarcity of land has recently led to expansion to newer places like Ahmedabad, Bhubaneshwar, Chandigarh, Coimbatore, Jaipur, Kochi, Madurai, Mangalore, Mysore and Trivandrum.

The industry is largely dominated by integrated players consisting of both Indian and international service providers. Some of the top IT firms in India are TCS, Tech Mahindra Limited, Infosys Technologies Limited, I-Gate Patni, Wipro Technologies Limited, Oracle Financial (I-Flex Solutions Ltd), Mahindra Satyam Computer Services Limited, HCL Technologies Limited and Larsen & Toubro Infotech Limited. Global companies such as Accenture, HP Enterprise Services, IBM, Microsoft, Intel, Cognizant, Capgemini and many others have a strong presence in India.

Key Trends & Developments

Globalization has had a profound impact in shaping the Indian IT industry over the years with India capturing a sizeable chunk of the global market for technology sourcing and business services. Over the years, Indian IT service offerings have evolved from application development and maintenance, to emerge as full service players providing testing services, infrastructure services, consulting and system integration. It has been constantly gaining exposure in broader geographies by tapping new markets.

The Indian IT-BPO sector has built a strong reputation for its high standards of service quality and information security - which has been acknowledged globally and has helped enhance buyer confidence. An increasing number of IT-BPO companies continue to adopt global standards such as ISO 9001 (for Quality Management) and ISO 27000 (for Information Security).

IT-enabled services such as back-office operations, remote maintenance, accounting, public call centers, medical transcription, insurance claims, and other bulk processing are rapidly expanding. Indian system integrators such as HCL, TCS, Wipro, and Infosys are gaining prominence in the global IT space. India is also emerging as the preferred destination for venture capital investments.

USA & UK continue to be major markets for the IT software and services exports. However, the share of USA has declined whereas that of Europe has increased in the recent past. Markets across Asia Pacific are also witnessing significant year-on-year growth. This trend is important for the industry, not only as de-risking measure but also as a growth-enhancer.

Emerging technologies such as Mobile Technology, Localization, Virtualization, and Cloud Computing provide Indian IT / ITeS industry a major opportunity in value creation and drive domestic transformation.

Indian firms, across all other sectors, largely depend on the IT & ITeS service providers to make their business processes efficient and streamlined. Indian manufacturing sector has the highest IT spending followed by automotive, chemicals and consumer products industries.

The ability of ICT in driving transformation is enormous across various sectors. ICT adoption is being promoted at various levels by both the government and the industry in key economic sectors such as Healthcare, Education, Agriculture, Construction, Textiles, Banking, Finance, Retail, Energy, Automobiles, Transport, etc. to bring about improved efficiency and productivity in these sectors.

Future Prospects and Investment Opportunities

The Indian information technology sector continues to be one of the sunshine sectors of the Indian economy. According to a McKinsey report titled 'Perspective 2020: Transform Business, Transform India,' the exports component of the Indian IT industry is expected to reach US$ 175 billion in revenue by 2020. According to the same report, the domestic consumption of IT will contribute US$ 50 billion in revenue by 2020. The enterprise software market in India is expected to reach US$ 3.92 billion in 2013, registering a growth of 13.9% over 2012 revenue of US$ 3.45 billion, according to Gartner.

Skilled manpower and multi lingual capabilities combined with the advantages of lower costs can help the country to emerge as a frontrunner in KPO-valuation research, investment research, patent filing, insurance claims processing, online teaching and legal process outsourcing globally. Verticals like manufacturing, telecom, insurance, banking, finance and retail have been the growth drivers for this sector. However, looking at the current trends, it is estimated that the future growth of IT and IT enabled services will be driven by verticals like mobile applications, healthcare, energy efficiency, sustainable energy etc.

As Indian IT companies thrive to remain competent and profitable in changing global markets, we will see traditional business strongholds making way for new geographies. Major IT hubs like Bangalore, Chennai, Hyderabad, Mumbai, Pune and NCR which account for nearly 90% of the total IT Industry in India, are near saturation and face infrastructural challenges and human resource constraints for further expansion. The IT industry will gradually expand to Tier-II/III cities to cater to needs of Micro Small and Medium Enterprises (MSMEs) and start-up units.

In the near future, Information Technology will continue enhancing the sustainable socio-economic transformation of societies by bridging the wide digital divide that exists in India even today. Digitization of content and increased connectivity is leading to a rise in IT adoption by media. Cloud represents the largest opportunity under Social, Mobile, Analytics and Cloud (SMAC) services, increasing at a CAGR of approximately 30 % to around US$ 650 billion-US$ 700 billion by 2020. Social media is the second most lucrative segment for IT firms, offering a US$ 250 billion market opportunity by 2020. Emerging technology trends will make it further possible for millions of urban and rural citizens of India to access services electronically using mobile phones and the internet or through assisted service points such as Common Services Centers etc. Technologies, such as telemedicine, m-Health, remote monitoring solutions and clinical information systems, would continue to boost demand for IT service across the globe, including India.

Investment Opportunities

With its considerable size and growth, Indian IT sector offers a range of investment opportunities across the value chain for global and Indian players. Some key areas include:

Rural infrastructure rollout and provisioning of innovative last mile solutions will offer a range of business models to small and large players.

- R&D is expected to attract new entrepreneurs and also large Indian and global corporations
- Verticals like manufacturing, telecom, insurance, banking, finance and lately retail have been the growth drivers for this sector, while verticals like mobile applications, healthcare, energy efficiency, sustainable energy etc. are expected to drive future growth of IT and IT enabled services.
- KPO-valuation research, investment research, patent filing, insurance claims processing, online teaching and legal process outsourcing are other new and potentially lucrative areas of business. The IT sector is also gradually emerging as the preferred space for venture capital investments in India.
- SMB (Server Message Block Protocol) segment has also shown significant potential for investments.

The Infrastructure Sector

Civil Aviation

Sector Overview

Indian Civil Aviation industry is currently the ninth largest aviation market in the world handling 121 million domestic and 41 million international passengers. The estimated market size of the civil aviation industry is US$12 billion with airlines and airport segments together constituting around 80% of the total. More than 85 international airlines operate to India and 5 Indian carriers connect over 40 countries.

In terms of domestic traffic, India is the fourth largest in the world behind USA, China and Japan. Despite these numbers, India is one of the least penetrated air markets in the world (even lower than Sri Lanka, Pakistan and Nigeria) with 0.02 trips per capita as compared to 0.2 of China and 2.2 in the USA. This reflects significant potential for future growth.

Growth Story

Over the last few years, the domestic airline fleet size has increased from 250 to over 430. The passenger handling capacity in India has grown three-fold, from 72 million (FY06) to nearly 233 million passengers (FY11) and cargo handling capacity has risen from half a million tonnes (FY06) to 3.3 million tonnes (Fy11).

Total passengers handled at Indian airports during the 11th Plan period grew at an average annual rate of 11.5%, whereas cargo handled grew at an average annual rate of over 11% during the same period. In the year 2012, scheduled domestic airlines operated more than 11,500 departures per week connecting 77 airports.

Indian airlines lost around US$1.65 billion on revenue of US$9.5 billion in FY13, down from approximately US$ 2.28 billion the previous year. As per estimates, the airline industry debt increased 8-9% in FY13 with an estimated combined debt of approximately US$ 14.5 billion (with additional vendor-related liabilities of around US$ 2 billion).

Some of the key drivers that have fuelled the growth momentum of the Indian aviation sector in the recent years include opening up of the airport infrastructure to private sector participation; increasing levels of disposable incomes; greater integration of businesses globally; increase in inflows of FDI; rise of Low Cost Carriers (LCC) from a level of about 1% in 2003-2004 to more than 70% of the total domestic traffic today; large-scale investments in the airport infrastructure; and growth in the air-cargo industry.

Government Initiatives

Aviation sector in India has transformed radically from an over regulated and under managed sector to a more open, liberal and investment friendly sector since 2004. The government is continuously trying to revive the ailing Indian aviation sector by undertaking various supportive regulatory and policy initiatives, such as introducing domestic "open sky policy" that allowed several new carriers to enter the market; allowing 49% FDI by the foreign carriers in domestic airlines; permitting direct import of fuel by airlines; liberalization of the international routes with Indian private players permitted to operate overseas in addition to Air India; upgradation & development of airports in tier 2 and tier 3 cities to boost regional connectivity, etc.

Similarly, on the international front, India has signed Air Services Agreements with 109 countries and multiple initiatives have been taken, which include revisiting the policy regarding bilateral air service agreements with different countries and rationalisation of bilaterals & traffic entitlements on international routes to Indian carriers.

The air transport in India has attracted FDI worth US$ 474.83 million from April 2000 to September 2013. The closure of Jet-Etihad deal has marked the biggest FDI in the Indian aviation sector to the tune of US$ 900 million. The private sector has invested around INR 30,000 billion for the development of airports by PPP mode during 11th Plan.

Major Industry Players

GMR, GVK, Airbus, Boeing, Air India, Jet Airways, Indigo, Spice Jet, GoAir, Pratt & Whitney, Rolls Royce, GE Aviation, Honeywell Aerospace, Bell Helicopter, Mahindra Aerospace, etc.

Future Prospects and Investment Opportunities

The growth potential of the sector is huge and it is projected that the domestic & international passenger traffic would be growing at an annual average rate of 12% & 8% respectively during the Twelfth Five Year Plan (12th FYP). Whereas the annual average rate of growth of domestic & international cargo would be 12% & 10% respectively during the same period. 17 new airports are planned for construction during the 12th FYP.

Factors that would accelerate the growth of the Indian aviation industry in future would comprise increase in inflows of FDI owing to deals such as Jet-Etihad, Tata-AisAsia and Tata-Singapore Airlines; fast-growing population; increased propensity for air travel; rapidly expanding Indian tourism industry; increasing levels of economic activity & thus disposable income level; massive investments in the airport infrastructure; enhanced Government's focus to boost connectivity in remote and inaccessible regions of the country; and growth in maintenance, repair & overhaul of the industry.

Investment Opportunities

Considering the growth prospects of air traffic, potential for large scale acquisition of aircrafts by the carriers, and substantial investment projections, Indian aerospace market offers tremendous long term opportunities for providing maintenance repair & overhaul services, ground handling services, manpower training, building an efficient airspace & air traffic management system, air cargo services, establishing aircraft designing & manufacturing centres, etc.

- Government has envisaged investment of US$ 12.1 billion in the airports sector during the 12th FYP, of which US$ 9.3 billion is expected to come from the private sector
- Additional 30 airports are required by 2017 to handle the growing passenger & cargo traffic and about 180 functional airports in all would be required over the next 10 years
- Airlines are expected to add around 370 aircrafts (worth US$ 27.5 billion) to their fleet by the year 2017
- Air Navigation Services (ANS) requires investments worth US$ 7 billion for the next five years
- About US$ 5 billion investments required for developing ground handling, cargo, and logistic facilities at major airports
- Estimated investment requirement for General aviation aircrafts alone is of the order of US$ 4 billion
- By 2017, ground handling market is expected to double from present Rs 2000 crore to Rs 3900 crore

Ports

Sector Overview

India has an extensive coastline of around 7,500 km with 12 government-administered major ports and 200 non-major ports. Around 48 ports are currently handling traffic out of 200 non-major ports that are governed by the respective maritime State Governments. The Indian Port sector is governed by two acts Indian Ports Act 1908 and Major Port Trusts Act 1963.

Ports sector play a vital role in the overall economic development of India. This is so because maritime channels account for around 90% by volume (and 70% by value) of the country's international trade. The importance and growth potential is highlighted by the fact that over FY01-12, growth in cargo handled (at an 8.6% CAGR) outpaced GDP growth (at a 7.6% CAGR). Thus, there is a positive correlation between GDP growth and cargo volume growth handled by ports.

Growth Story

The capacity of twelve major ports has increased from 575 million metric tonnes (MMT) to 745 MMT during 2008-09 to 2012-13, whereas the traffic handled rose from 530 MMT to 545 MMT during the same period. The capacity of non-major ports is 505 MMT and they have handled traffic of over 380 MMT as on 31 March 2013. The major share of cargo handled by Indian ports includes Petroleum, Oil, & Lubricants (POL) container, coal and iron ore.

The non-major ports are being developed under the jurisdiction of State Maritime Boards (SMBs). The SMBs serve as agencies to implement decisions and approvals for coastal security, including development and procurement, in a time-bound manner. Currently, India has three SMBs in Gujarat, Tamil Nadu and Maharashtra.

Traffic handled at Major and Non-major Ports during 2008-09 to 2012-13

Traffic Handled at Indian Ports (in thousand tonnes)					
	2008-09	2009-10	2010-11	2011-12	2012-13
Major Ports	530,804	561,090	570,086	560,187	545,790
	(71.3)	(66.0)	(64.4)	(61.3)	(58.4)
Non-Major Ports	213,222	288,937	315,358	353,745	388,225
	(28.7)	(34.0)	(35.6)	(38.7)	(41.6)
All Ports	744,026	850,027	885,444	913,932	934,015
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Source: Ministry of Shipping, GoI
(Figures mentioned in brackets indicate % share)

The share of non-major ports in maritime traffic handled has gradually increased from 25% in FY02 to 42% in FY13. Whereas major ports witnessed a decline in traffic handled during the same period and traffic handled decreased from 75% in FY02 to 58% in Fy13.

With a meagre share of 0.4% in the total cargo handled in the country, Inland Waterways is an under developed mode of transportation in India. India has a potential of 14500 km of navigable waterways but so far only 2716 km have been developed for commercial transportation. The share of Inland Waterways in the transport sector in other countries is far more significant than that of India. For example, the shares of Inland Waterways Transport as proportion of total tone-km in EU, China and the USA for the year 2006 were 5.6%, 8.7% and 8.3% respectively.

Cargo Movement for Inland Waterways during 2008-09 to 2012-13 (in MT)

	2008-09	2009-10	2010-11	2011-2012	2012-13
Cargo Moved	60.02	69.61	74.29	70.28	23.68

Source: IWAI

Government Initiatives

Government has opened up all areas of port operation for private investments

- 100 % FDI allowed under the automatic route
- Maritime Agenda (2010-2020) announced which aims to create port capacity of 3200 MMT for handling expected traffic of around 2500 MMT with an investment of around Rs 3,00,000 crores
- Several policy reforms initiated to streamline the port sector like Land Policy for Major Ports 2010, Draft Captive Policy 2011, New Tariff Guidelines for Tariff setting at Major Ports 2013, etc

The ports sector has attracted US$ 1,635.08 million FDI during April 2000 - September 2013.

Major Industry Players

ABG Infralogistics Ltd, Adani Enterprises Ltd, APM Terminals, DP World, Essar Ports Limited, J M Baxi & Co, Port of Singapore Authority, JSW Infrastructure, MSC Agency, Maersk Line, Gangavaram Port, L&T Ports, Krishnapatnam Port, Jan De Nul Dredging, International Seaport Dredging, Boscalis Dredging, Jindal ITF, etc.

Future Prospects and Investment Opportunities

Government has set a target to award 30 Port Development Projects during 2013-14 that will bring in an additional capacity of 288.48 MTPA at an estimated investment of INR 24,633 crore. Major areas of investments for private players include: leasing out existing assets of the port, construction/creation of additional assets, such as construction and operation of container terminals, construction and operation of bulk, break bulk, multipurpose and specialized cargo berths, warehousing, container freight stations, storage facilities and tank farms, dry docking and ship repair facilities, setting up of captive power plants, etc.

The State Governments have planned to invest INR 1,679.3 billion in non-major ports for an incremental capacity of 1,294 million tonnes. Out of this, the private sector is expected to contribute 96% of the fund requirements (INR 1,613.3 billion), while the rest will be provided by the State governments.

State-wise Projected Investment upto 2019-20

Maritime State	Capacity Addition (MMT)	Estimated Investment (Rs)	Private Investment (Rs)
Gujarat	620.90	74240.59	72571.00
Maharashtra	155.10	20417.55	18448.91
Goa	1.50	202.70	-
Karnataka	51.00	7058.00	6758.00
Andhra Pradesh	195.20	33540.00	33540.00
Tamil Nadu	50.50	6925.00	6925.00
Kerala	20.12	1811.00	1811.00
Orissa	199.24	23736.00	21279.00
Total	1293.56	167930.84	161332.91

Source: Maritime Agenda 2010-2020

Sector Overview

India has one of the largest road networks in the world, consisting of national highways (NHs), state highways (SHs), major district roads (MDRs) and rural roads (RRs) that include other district roads and village roads. The NHs with a length of 76,818 km comprises only 2% of the road network but carry 40% of the road based traffic. It is estimated that more than 70% of freight and 85 % of passenger traffic in the country is being handled by roads.

The Government of India has launched major initiatives to upgrade and strengthen National Highways through various phases of the National Highways Development Project (NHDP). NHDP is one of the largest road development programmes to be undertaken by a single authority in the world and involves widening, upgrading and rehabilitation of about 54,000 km.

Physical Achievements under NHDP during the Eleventh Five Year Plan

NHDP Phase	Total Length completed (km)*
NHDP Phase I	639
NHDP Phase II	5210
NHDP Phase III	3599
NHDP Phase V	913
NHDP Phase VII	13
Other Projects	235
Total	10609

**Up to 31 March 2012 (Provisional)*

Growth Story

Through Five-Year Plans, India has increased the length of national highways from 21,378 kilometres during the late 1940s to 71,772 kilometres by the end of the 11th FYP. The total length of national highways is expected to touch 85,000 kilometres by the end of 12th FYP.

The number of vehicles on roads has been growing at a CAGR of approximately 8% in the last five years. Considering the rapid growth in vehicles, the Government is focusing on strengthening the National Highway and also to improve rural road connectivity. Despite this, the road network remains grossly inadequate in various respects. It is unable to handle high traffic density and high speeds at many places and has poor riding quality. The key factors responsible for driving demand in the sector have been the rise in two-wheeler and four-wheeler vehicles and increasing freight traffic. Rising per-capita incomes and a growing middle class coupled with easier access to finance and a wider price range of vehicles have boosted car sales.

Traditionally, financing for development of National Highways in India was from the budgetary resources of the Government of India. In order to augment the available resources, loans have also been raised from multilateral agencies like World Bank, Asian Development Bank (ADB) and Japan Bank of International Cooperation (JBIC).

With existing limitations in terms of Government resources and its requirements for public spending, a large portion of highway development projects are funded through the PPP mode. With a view to further augment flow of funds to the sector and to encourage private sector participation in the road sector, several initiatives have been taken by the Government which includes:

- Declaration of the road sector as an industry
- Provision of capital grants subsidy (VGF) upto 40% of project cost to enhance viability of the projects on case-to-case basis
- Duty-free import of certain identified high quality construction plants and equipments
- 100% tax exemption in any consecutive 10 years out of 20 years
- Foreign direct investment upto 100% in road sector
- Easier external commercial borrowing norms
- Higher concession period, upto 30 years

Government Initiatives

The government has taken up an ambitious Special Accelerated Road Development Programme (SARDP-NE) for development of road network in the north eastern States of the country. This programme envisages providing road connectivity to all the district headquarters in the north eastern region by minimum 2 lane highway standards apart from providing road connectivity to backward and remote areas, areas of strategic importance and neighbouring countries.

The government has made substantial efforts to tackle the shortcomings of highways sector and to reform its transport institutions. The government has announced setting up a regulatory mechanism on which work is going on besides the issues of debt management/debt refinancing, institutional strengthening, restructuring of projects, revision of MCA, etc. are being examined and being regularity reviewed and revised. Recent measures taken by the government for attracting private investments in the sector are:

1. Delinking Environmental Clearance (EC) from Forest Clearance (FC), which would facilitate expeditious execution of projects
2. Treating, strengthening and widening of National Highway (NH) projects different from new projects and allowing construction of NHs in the Non-Forest areas involving widening so that expenditure does not become in fructuous in such projects
3. Procedural Simplification in approval of projects costing up to Rs 500 crores (both PPP and Public Funded)
4. A three stage dispute resolution process has been evolved by the National Highways Authority of India (NHAI) Board to resolve the pending disputes expeditiously in a time bound manner

The government has also decided to take up certain road development projects on Engineering Procurement and Construction (EPC) mode on 100% Government funding which are not viable on PPP - Built Operated Transfer (BOT) (Toll / Annuity) mode.

During the next five years, investments through PPP are expected to be over US$ 41 billion for national highways and around US$ 10 billion for state highways.

Major Players (involved in various road development projects in India): GMR, GVK, L&T, Jaypee Group, IL&FS, IRB, SIMPLEX, Soma, Gammon, Reliance, NCC, MEP, IVRCL, Punj Llyod, HCC, Afcons, Ramky, Ashoka Buildcon, etc.

Sector Overview

The Indian Railways (IR) runs the fourth-largest railway network in the world. IR has a total route network of about 64,600 km spread across 7,146 stations and operates more than 19,000 trains every day. Over 30 million passengers travel by trains on a daily basis in India and around 1009.73 MT of freight was transported via trains during 2012-13. IR plays a crucial role in the development and operation of infrastructure sectors such as coal, power, steel, cement and other critical sectors. Freight is the major revenue earning segment for the railways, accounting around 70% of the total revenues.

Some of the players operating in the sector include CONCOR, DFCCIL, Rites, IRCON, RVNL, Alstom, GE, Larsen & Toubro, Punj Lloyd, Kalindee Rail Nirman, Gateway Rail Freight Ltd, Hind Terminals, Arshiya Rail, Inlogistics, Container Rail Road Services, Siemens, Patil Rail Infrastructure, etc.

The cumulative FDI inflow into the railways related components sector stood at US$ 368.28 million between April 2000 and September 2013, according to statistics released by the Department of Industrial Policy and Promotion (DIPP).

Future Prospects and Investment Opportunities

Increasing urbanisation coupled with rising incomes (both urban and rural) is driving growth in the passenger segment whereas growing industrialisation across country has increased freight traffic over the last decade. With rapid economic growth and increasing industrialisation, freight traffic is expected to grow at a CAGR of 7.6% during the 12th FYP to touch 1,405 MMT by 2017. The Indian Railways has set a target of having a freight market share of 50% by 2030 from 30 % in 2010. Realising the importance of the rail transport industry, the Government of India is investing heavily in building rail infrastructure in the country and plans to invest US$ 153 billion during the 12th FYP.

The 12th FYP focuses on accelerated capacity creation, induction of technology to enhance asset efficiency, upgrades of freight and passenger terminals, policy initiatives for last mile connectivity, infusion of private capital and improvement of passenger safety. To enhance last mile connectivity, the IR expects PPP investment of up to Rs 90 billion, of this, Rs 38 billion for port connectivity, Rs 40 billion for coal mine connectivity and Rs 8 billion for iron ore mines connectivity. The private sector investment in railways is expected to increase by nearly 11 times in 12th FYP.

In the 12th Plan, the Government has projected an investment of Rs 5.2 trillion for the railways, which is approximately 130% over the previous plan. Out of the total investment, around 80% (Rs 4.2 trillion) will be invested by the Government of India and the remaining 20% (Rs 1 trillion) will be raised through the private sector.

Key PPP projects during the 12th Plan period are:

- Western and Eastern Dedicated freight corridors project from Dadri to Jawaharlal Nehru Port (JNPT) and Ludhiana to Dankuni. The total length of corridors is 3,300 kilometres and total estimated cost would be around US$ 16.7 billion; project scheduled for completion in 2017
- IR and BHEL have signed an MOU to set up green field Mainline Electric Multiple Unit (MEMU) coach manufacturing facility at Bhilwara, Rajasthan.
- IR is studying the feasibility of attracting private investment for high-speed trains in India. The Government of India jointly with Japan International Co-operation Agency (JICA) is conducting feasibility study for the Mumbai-Ahmedabad high speed corridor. The estimated cost would be around Rs 60,000 and it will be shared jointly by IR and JICA.
- Hyderabad Metro Rail Project is under construction on PPP mode (DBFOT), with a total cost of INR 164.8 billion. It is the single-largest private investment in a PPP project in Railways with a viability gap funding of INR 14.6 billion

Expected Private Investment in 12th Plan (in INR Crore)

S No	Project	Private Investment Expected	Value of projects to be awarded
1.	High speed corridor (Mumbai-Ahmedabad)	20,000	60,000
2.	Elevated Rail corridor in Mumbai suburban	-	20,000
3.	Redevelopment of stations	5,000	10,000
4.	Private freight terminals, leasing of wagons and other freight-marketing schemes	5,000	5,000
5.	Port connectivity and SPV	5,000	5,000
6.	Dedicated freight corridors	10,000	10,000
7.	Other Projects*		
8.	Loco and coach manufacturing units	5,000	6,000
9.	a) Renewable energy projects (solar, wind, etc.)	1,000	1,000
	b) Energy saving projects	1,000	1,000
	c) Captive power generation	4,000	4,000
	Total	56,000	1,22,000

The Media and Entertainment Sector

Sector Overview

The Indian Media and Entertainment (M&E) sector is the 14th largest M&E market in the world, with the industry contributing about one 1% to India's GDP. The M&E sector comprises several sub-sectors, such as television, radio, print media (including newspapers and magazines), films, music, and animation and visual effects (VFX).

Since 1991, the M&E landscape in the country has undergone a sea change. As compared to 1990s when only a limited number of state-owned channels run by the national broadcaster Prasar Bharti and a few private radio stations were present, today, there are over 800 TV channels and ~240 private FM radio stations (apart from Prasar Bharti) as of December, 2012. This has been possible due to favourable state-owned policies and liberal FDI reforms which are in place across the Indian subcontinent. Over the years, with consumer media consumption patterns gradually shifting toward digital platforms and content, digital media has become an important component of the M&E industry. Consumers have gone beyond traditional TV sets, radio sets, newspapers and magazines for media and are increasingly using modern electronic devices. Digital media is now making its presence felt across all sub-sectors of the M&E industry.

Though the Indian M&E sector's contribution to the GDP is low, it plays a pivotal role in the country's economic growth through its high reach. Further, the sector and its growth have a direct bearing on related industries such as electronic hardware (smartphones, PCs, tablets, TV sets, radio sets and personal media players) and paper.

Sector Dynamics

The M&E industry in India comprises several subsectors. The following figure illustrates the sub-sectors, along with their estimated market sizes in 2012 and their y-o-y growth in 2012 over 2011.

Sub-sector Growth Rates (Y-o-Y, 2012) and Market Size (2012)



Source: "The power of a billion: Realizing the Indian dream," FICCI Frames, 2013

Major players across key M&E sub sectors

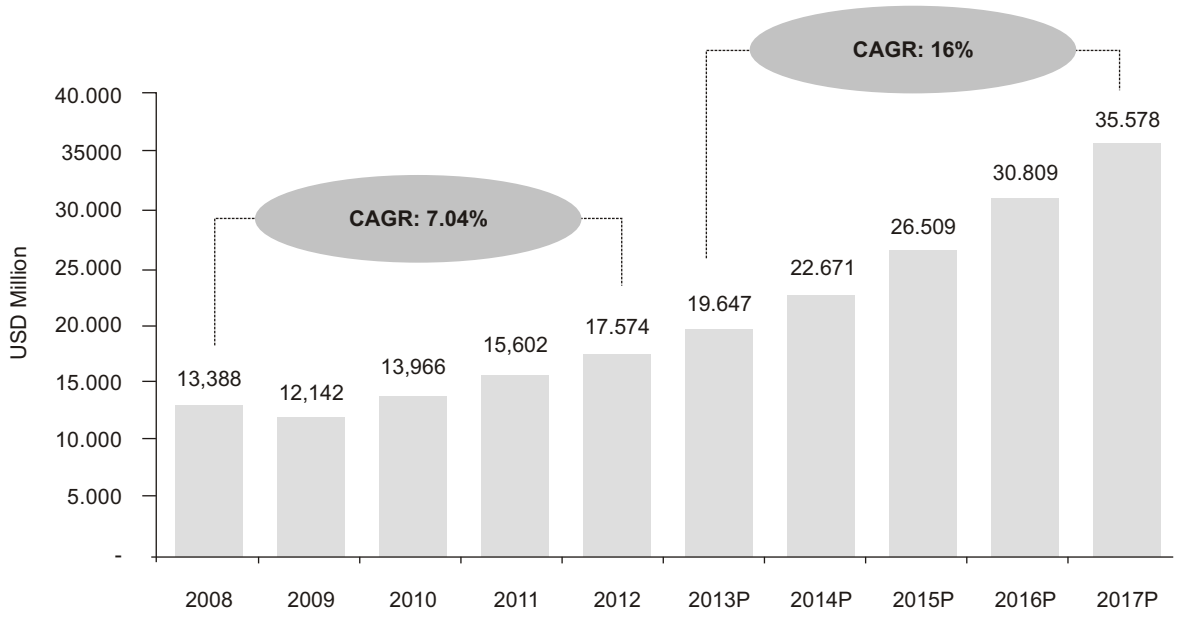
TV	Print	Films	Radio	Music	Animation and VFX	Gaming
Star India Pvt Ltd	ABP Group	UTV Motion Pictures	Radio City	Saregama India Limited	DQ Entertainment	Gameshastra
Zee Entertainment Enterprises Ltd	Times Group	Viacom 18 Media	Radio Mirchi	Times Music	Green Gold	Ibibo Animation
Multi Screen Media Pvt Ltd	HT Media	Fox Star Studios	Red FM	Tips Industries Limited	Indian divisions of international studios like Rhythm and Hues and Technicolor	Trine Games
Viacom 18	Magna Publications	Eros International	Fever FM	Universal Music India	Animation divisions of large Indian houses like Tata Elxsi and Reliance Animation	Digital Chocolate
Reliance Broadcast Network Ltd	Manorama Group	Yash Raj Films	Entertainment Network(ENIL)	Sony Music India	Crest Animation	Dhruva Interactive

The Indian M&E sector has over 730 million TV viewers, over 180 million press AIRs (Average Issue Readership), over 159 million radio listeners and 176 million internet users. The industry is dominated by the television segment which accounted for ~45 % of the total market share in 2012 and is expected to grow to 51 % by 2017. Television, print and films together accounted for ~86 % of the total market share in 2012.

Growth Story

The M&E industry (including the six sub-sectors mentioned above along with gaming, digital advertising and OOH media) grew from US$ 13,388 million in 2008 to US$ 17,574 million in 2012 - a CAGR of 7.04 %. Further the industry is expected to grow at a CAGR of 16 % to reach US$ 35,578 million by 2017.

Growth of the Indian M&E Industry - past and future



Source: "The power of a billion: Realizing the Indian dream," FICCI Frames, 2013

NOTE: 'P' denotes projected. The industry segments include TV, print, radio, films, music, animation and VFX, OOH, games and digital advertising

The industry is expected to grow by 11.8% during the period 2012 - 13 to reach US$ 19,647 million in 2013. Factors such as: increasing digitization; growth in the regional media and films sector; upcoming general elections; and rapidly increasing new media businesses will pave industry growth.

Growth rates of M&E sub-sectors

M&E sub-sector	Historical CAGR (2008-12)	Projected CAGR (2013-17)
TV	11.3%	19.2%
Print	6.8%	9.0%
Films	1.9%	12.1%
Radio	10.9%	18.3%
Animation and VFX	19.2%	16.0%
Music	9.4%	18.0%
Others	17.4%	23.3%

Source: "The power of a billion: Realizing the Indian dream," FICCI Frames, 2013

NOTE: 'P' denotes projected. Others include OOH, games and digital advertising

Rising literacy; continued urbanization; growing level of consumption, especially among the younger sections of the population - are expected to continue to drive traditional media's penetration and growth.

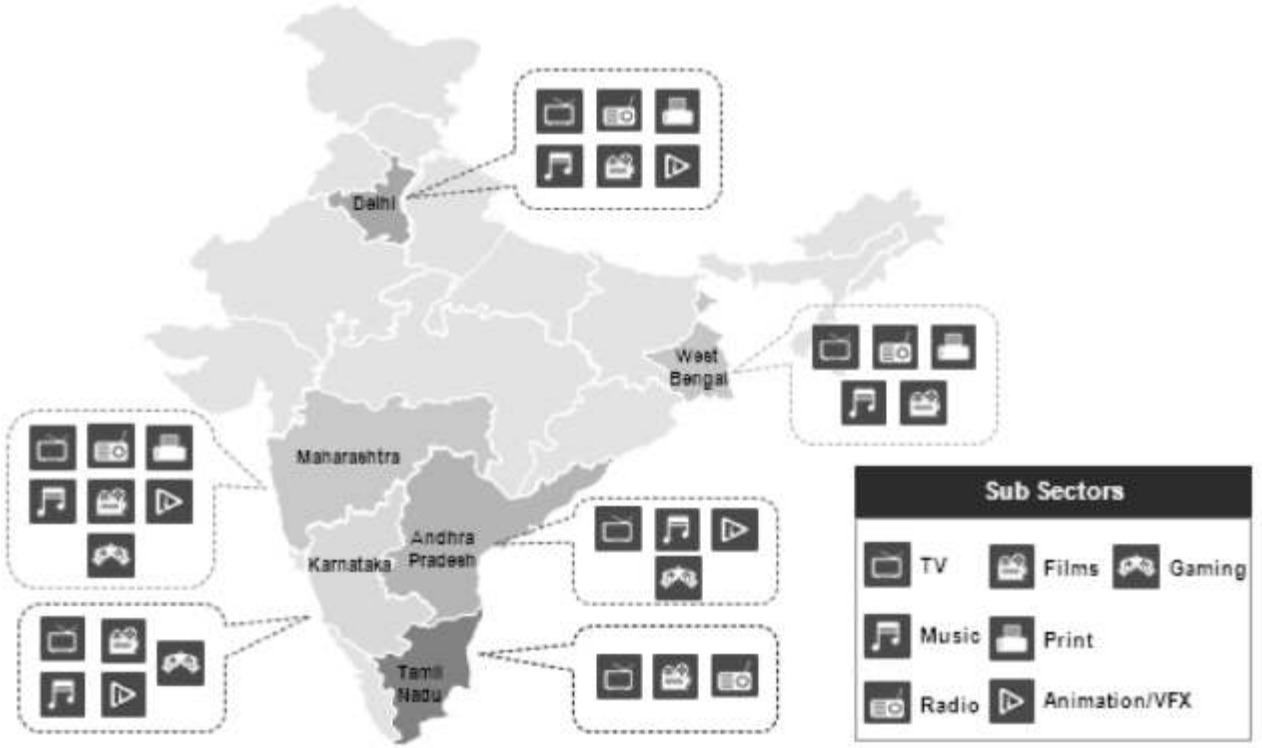
Advertising revenues have also shifted along with the changing media consumption patterns. Digital media growth has outpaced growth in traditional platforms such as print and thereby displacing the market share in its favour at the expense of Print. The overall share of the print segment which stood at 49 % in 2008 contracted to 40 % in 2012; while the share of digital advertising witnessed a remarkable increase from 3 % in 2008 to 14 % in 2012.

- The Indian M&E industry largely depends on advertising revenues, and the growth and performance of this sector plays a significant role in the upliftment of the overall economy.
- The Indian M&E industry is not export-oriented, and most of its output is consumed indigenously. However, imports form a considerable portion of the industry and include imports of newsprints, set-top boxes and antennae.
- The industry is fragmented, with several players chasing the same advertising pie, resulting in high competition.
- The Indian M&E sector primarily relies on inorganic growth to expand its portfolio and reach across other regions. The year 2012 saw overall Mergers and Acquisitions (M&A) and private equity funding in India totalling approximately 1,000 deals with a value exceeding US$ 49 billion. Some of the deals witnessed across the sector are enlisted below

Mergers and Acquisitions (M&A) deals across the Indian M&E sector[7]

Acquirer	Target	Deal Date	Deal Value (US$ million)	Sector
Network 18 Media & Investments Limited	Eenadu Group	Jan 2012	395	TV Broadcasting
Walt Disney	UTV	Feb 2012	300	Film Production
Sony Corporation	Multi Screen Media	Jun 2012	271	TV Broadcasting
PVR Limited	Cinemax India Limited	Nov 2012	119	Film Exhibition

- The Indian M&E industry is specific to cultural and ethnic backgrounds, and is organized around specific hubs that specialize in output for a given population segment. For example, the Mumbai film industry (Bollywood) is a key film hub in the country. A similar hub also exists in south India.



Source: KPMG in India Analysis

- Easy access to the internet has dissolved boundaries between local and global content. Indian consumers now have easy access to global content - especially from the US and the UK which is altering the media consuming behaviour. FDI is allowed in most of the sub-sectors of the M&E industry.
- Digital convergence has facilitated the M&E industry's integration with telecom and IT/ITeS industries. With increasing digitization of content and convergence of distribution platforms, technology is increasingly playing an important role across the M&E value chain

Key Trends & Developments

The M&E industry witnessed several key trends across various sub-sectors which are paving way for future growth. Some of these are mentioned below:

- *Television*
  - ❖ Expanding horizons: Indian channels have been aggressively increasing their presence across international markets. The General Entertainment Channels (GEC) like Zee TV, SET, Star Plus and Colors are available in approximately 169, 77, 70 and 50 countries respectively. ZEEL launched its second Arabic channel, Zee Alwan, in 2012; and has been syndicating Indian dramas dubbed in Mandarin to Chinese television channels since 2006.

❖ Digitization8: The Indian TV market is being digitized in phases. The first phase ended on 31st December, 2012 with the four major metros - Delhi, Mumbai, Kolkata and Chennai - switching to set-top boxes (STBs). The third phase is under implementation and is expected to witness the migration of all urban areas of India to STBs by 30th September, 2014. By 31st December, 2014, the entire country is expected to switch to STBs.

❖ Regionalization8: Regional markets have emerged as a key revenue driver for national broadcasters. In 2012, regional channels accounted for approximately 26.6 % of the total television viewership, of which Tamil and Telugu markets accounted for ~50 %. Zee and Star have launched their respective Bengali movie channels (Zee Cinema Bangla and Jalsha Movies). The Star-owned Asianet Communications has also launched Asianet Movies, the first satellite movie channel in Malayalam.

❖ Proliferation of digital platforms: Television players are moving beyond traditional platforms and increasing their presence on digital platforms in a bid to make TV viewing ubiquitous. This is in response to the changing content consumption pattern of Indian viewers, especially the youth.

Multi-screen platforms launched by major networks		
Network	Online Platform	Availability
MSM India	Sony LIVE	• Online on sonyLIV.com • Free mobile applications
Zee Network	Ditto TV	• Online on dittotv.com • Free mobile application
Star Network	Star Player	• Online on Startv.in • Paid mobile applications
Viacom18	Brand-specific online platforms	• Online platforms: Colors, MTV, Nickindia, Sonicgang
Star TV	In September 2013, Star TV has signed a deal with Spuul, enabling Spuul subscribers in India and Pakistan to access soaps and reality television from Star Plus on their computers and mobile devices. Star Plus shows are available on Spuul 30 minutes after their TV broadcast in India as a part of premium subscription plan.	

❖ Increasing consumption of niche, HD content: After a relatively slow start in the initial 2 - 3 years, the adoption of HD connections witnessed an upswing in 2012. HD subscribers account for approximately 3.5 - 4 % of existing DTH subscribers. Increasing digitization has encouraged a few broadcasters to launch special, advertisement-free and niche channels, particularly in the 'kids' genre. Many of these channels are available only on digital platforms to develop a subscription-driven business model.

- *Radio*

❖ Digitization of FM radio: Phase 3 licensing along with the anticipated provisions that allow multiple frequencies in a city has been announced. This is expected to encourage investments in differentiated content for the radio sector.

❖ Internet radio consumption on a rise: Increasing uptake of online radio stations attributed to the availability of high-speed fibre broadband and 3G network roll outs in the country. Radio Mirchi and Big FM have developed mobile phone apps to enable users to listen to a Mumbai radio station from any city in India. Mirchi Mobile (the VAS application launched by Radio Mirchi) is now offered by most telecom

operators. It has been well-accepted and enjoys 8-10 million subscribers; 50 % of these subscribers are active. New players are also entering the mobile radio space. For example, Vh1, in association with Hungama Mobile, offers 'Radio GAGA' to Airtel 3G subscribers and streams international music throughout the day.

- ❖ Advertisers leveraging radio as part of their marketing strategy: The localized, live and interactive nature of radio drives demand for location-based advertising. Radio also complements TV advertising. TV channels indicate radio as a significant source of increasing the recall value for their content.

- *Music*

  - ❖ Social media enabling digital engagement: Besides providing extended choices to consumers, social media acts as a platform for several independent artists to reach out to audiences and monetize their content. The viral nature of the social media led to phenomenal success of tracks such as Kolaveri Di and PSY's Gangnam Style even in tier 2 and 3 regions across India.

  - ❖ Growing consumption of non-film/independent music: Indian editions of international music festivals as well as indigenous festivals have been witnessing high ticket sales as well as generating additional revenues through merchandise and food and beverage sales. Moreover, special television format shows like the Dewarist, MTV Sound Trippin, MTV Unplugged and Coke Studio@MTV providing independent artists with a platform to showcase their talent.

  - ❖ Regional music fetching demand: The share of wallet of regional music is increasing; it constituted about 30-35 % of the overall market share in 2012. Tamil, Telugu, Bengali, Punjabi and Bhojpuri are emerging regional music markets in India.

  - ❖ Rise in licensed/online music stores: Online music stores such as iTunes, Hungama, Saregama etc. are launching presence in India, driving growth in the demand for digital music.

- *Films*

  - ❖ Video-on-demand driving demand for films: With the net DTH subscriber base growing at 18.8 % in 2012, movie viewing through the pay-per-view model is experiencing robust growth. In January 2013, Yash Raj Films collaborated with Spuul.com to make their movies available on the latter's website.

  - ❖ Increasing share of multiplexes across the country: Multiplexes promise to provide a complete entertainment experience to movie-lovers. The increase in the share of multiplexes in India is expected to drive the demand for movie viewing.

  - ❖ Filmmakers able to recoup investment from cable and satellite rights: The Indian film industry no longer depends on theatrical revenues only. Over the years, new revenue streams - such as in-cinema advertising, cable and satellite rights, audio rights, licensing and merchandising, dubbing and remake rights, home video rights and pay-per-view formats - have emerged for the industry. Producers are now able to recover up to 60-80 % of their entire cost from cable and satellite rights and audio rights, even before a movie is released on theatres, based on star power and large-scale advertising.

  - ❖ Digitization of screens: The digitization of screens is helping distributors broaden their reach and release film across more than 3,500 screens simultaneously. Consequently, most films now garner about 60-80 % of their revenue in the first week of release.

  - ❖ Corporatization attracting new breed of players: After receiving a formal industry status in 2000, the film industry has witnessed the emergence of structured financing models such as venture capital funding, crowd-funding, co-production between studios and actors, co-production treaties between nations and co-production deals between Indian and Hollywood studios. As a result, filmmakers are now experimenting and producing content on a large scale.

- ❖ Rise in Co-production treaties: India has signed co-production treaties with several countries - Italy in 2005, Germany and Brazil in 2007, the UK in 2008, France in 2010, New Zealand in 2011, Poland and Spain in 2012 and Japan in 2013 - enabling filmmakers to leverage tax rebates and relaxed visa norms in those countries. India is also in talks with Australia, Canada, and China for co-production treaties.

- ❖ Demand for international movies on a rise in India: Hollywood films have witnessed impressive demand across the Indian subcontinent and the same is expected to rise over the years.

"Life of Pi" changed the way VFX is used in films. The film managed to fascinate its audience with impressive imagery of oceans, realistic animals etc. It is worth noticing that almost 40 % of all visual effects activities were performed in Asia, primarily India and Malaysia.

Top 5 overseas films in India		
Movie	Production House	Indian Box Office (US$ million)
Amazing Spider Man	Columbia Pictures, Marvel Studios, Marvel Enterprises, Laura Ziskin Productions	14.5
The Avengers	Marvel Studios, Paramount Pictures	12.6
Skyfall	Metro-Goldwyn-Mayer (MGM), Danjaq, Eon Productions	10.7
Life of Pi	Fox 2000 Pictures, Haishang Films, Rhythm and Hues	10.3
The Dark Knight Rises	Warner Bros. Pictures, DC Entertainment, Legendary Pictures, Syncopy	9.2

- ❖ Impressive performance of Indian films in overseas markets: Revenues from the overseas market witnessed a growth of 9 % in 2012. The UK, USA and Middle East together generated about 70% of the international revenues.

- *Animation and VFX (Visual Effects)*

  - ❖ Growing demand for Indian animation facilitated by both outsourcing activities and co-production alliances: Historically, there has been low acceptance of animation by the mainstream audience in India. However, the demand for outsourcing has kept the talented few in the country engaged with almost 60% of the industry's revenues generated via outsourcing. The US$ 200 million worth Indian animation industry has been working for Hollywood for years now and a majority of 3D conversion work for Hollywood films is done in India. *Bangalore-based firm, Technicolor India was the prime visual effects agency for the film "Life of Pi" and its team (comprising of 1,300 visual artists and technicians) contributed about 130 shots out of about 960. In May 2013, the US-based Ethyrea Films signed a visual effects co-production deal worth US$ 9 million with Reliance MediaWorks (RMW). Technicolor manages a dedicated production unit of over 200 artists for DreamWorks in India. Pixion has offered visual effects services to globally acclaimed films such as The King's Speech.*

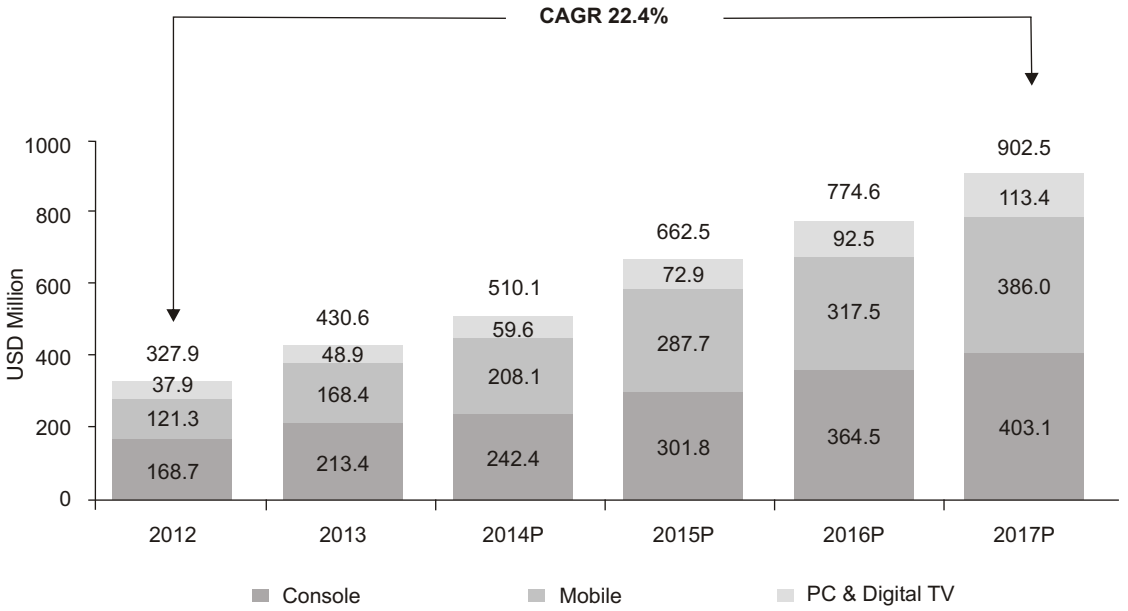
  - ❖ Increased partnerships and collaborations with foreign studios: Owing to a rise in demand and lack of in-house expertise to deliver animated content, Indian studios are collaborating with foreign studios to

create their own intellectual property instead of focusing on outsourced work. In September 2013, India and Japan agreed to enhance co-operation in the films sector, particularly in co-production of animation films. Some recent collaborations include:

Collaborations and partnerships between domestic and international studios		
Indian Studio	Foreign Studio	Film/TV Series
DQ Entertainment	Method Animation (France)	*Charlie Chaplin*
DQ Entertainment	Walt Disney Television Animation, USA	*Mickey Mouse Club House Season 5*
DQ Entertainment	Kodansha and TMS Entertainment (Japan)	*Suraj: The Rising Star*
Crest Animation	Moonscoop	*Octonauts*
Crest Animation	Sony	*Swan Princess – 5*

- *Gaming*
  - Mobile gaming gaining traction: Although console gaming has been the dominating segment of the Indian gaming market, mobile gaming has established a significant foothold in the market over the years. Mobile gaming witnessed the highest y-o-y growth of 32 % in 2012, compared to other gaming platforms.

Gaming Industry Size (US$ Million)



Source: "The power of a billion: Realizing the Indian dream," FICCI Frames, 2013

- Tier 2 and Tier 3 cities exhibiting growth: Although smaller (Tier 2 and 3) cities have shown impressive growth in this segment, a major part of the console gaming habit is still dominated and determined by the population in the top 12 cities (including metros) owing to a relatively high spending capacity.
- Telecom operators collaborating with game publishers: Owing to the high popularity of mobile gaming (IAMAI estimates that nearly 50 % of mobile users regularly access gaming content); telecom operators such as Vodafone are increasingly recognizing the importance of developing a vibrant on-deck gaming

ecosystem. Most operators are offering as high as 70 % revenue shares to several large publishers.

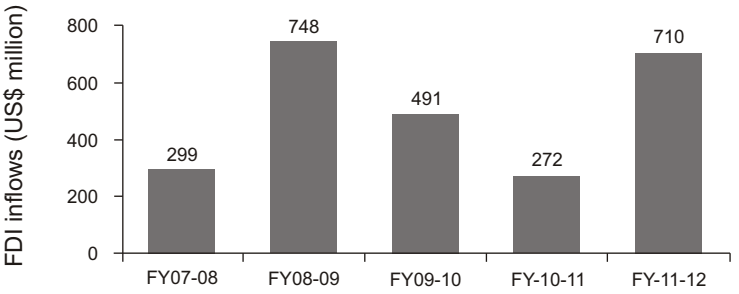
- Ad-funded revenue model dominates: Majority of game downloads are primarily ad-funded.

Government Initiatives

The growth in the Indian M&E industry has continued to be driven by favorable demographics, recent regulatory changes around the digitization of television, consumer acceptance of new media platforms and relaxation of FDI regulations across several sub sectors.

According to the Department of Industrial Policy and Promotion (DIPP), the media and entertainment sector witnessed FDI inflow worth US$ 3.62 billion between April 2000 and September 2013 - approximately 1.8% of the total FDI received during the same period.

FDI inflows in the media and entertainment sector



Earlier in 2012, in an attempt to attract more foreign investments and plug the current account deficit, the government revised FDI limits in the broadcasting sector based on Telecom and Regulatory Authority of India (TRAI) recommendations. These increased FDI limits / liberalization in FDI norms in respect of the broadcasting sector aimed at improving accessibility of broadcasting services, upgrading of networks towards digitization and addressability across the country, and also bringing in international best practices to this key sector.

Particulars	Previous FDI %	Revised FDI %	Means of Entry
Broadcast Content Services			
• Terrestrial broadcasting (FM Radio)	26%	26%	Government approval
• Uplinking of 'news and current affairs' TV channels			
• Uplinking of non 'news and current affairs' TV channels / down linking of TV channels	100%	100%	Government approval
Broadcast Carriage Services			
• Teleports (setting up of uplinking HUBs / teleports)	Upto 49 % – Government approval	74%	Upto 49 % – Automatic route 49 % to 74 % – Government approval
• Direct-to-home (DTH)			
• Cable networks (Multi-System Operators(MSOs) operating at national or state or district level and undertaking upgradation of networks towards digitalization and addressability)			
• Mobile TV	No specific policy		
• Headend-in-the Sky Broadcasting Service (HITS)	74%		
• Cable Networks (MSOs not undertaking upgradation of networks towards digitalization and addressability and local cable operators (LCOs)	Upto 49 % -Government approval	49%	Automatic route

Source: Consolidated FDI Policy - 2013 issued by Department of Industrial Policy and Promotion

In August 2012, a government-appointed panel suggested increasing the current FDI limit for print media from 26% to 49%. The proposal seemed significant since there are over 78,000 registered newspapers in India. Moreover, the industry is expected to touch US$ 6.1 billion by 2015.

However, unlike the broadcasting sector which witnessed a significant increase in FDI limits across various sub-segments, foreign investment limits in the print media have remained unchanged so far.

Particulars	Previous FDI %	Revised FDI %	Means of Entry
Print Media			
• Publishing of Newspaper and periodicals dealing with news and current affairs	26% ((FDI and investment by NRIs/PIOs/FII)	26% ((FDI and investment by NRIs/PIOs/FII)	Government approval
• Publication of Indian editions of foreign magazines dealing with news and current affairs			
• Publishing/printing of Scientific and Technical Magazines/specialty journals/ periodicals, subject to compliance with the legal framework as applicable and guidelines issued in this regard from time to time by Ministry of Information and Broadcasting	100%	100%	Government approval
• Publication of facsimile edition of foreign newspapers			

Source: Consolidated FDI Policy - 2013 issued by Department of Industrial Policy and Promotion

Future Prospects and Investment Opportunities

Experts believe that India's television sector will benefit greatly from the increased FDI norms. India plans to achieve 100% digitization by 2014, and FDI reforms in this sector could pave way for increased foreign participation in this sector. It has been estimated that Indian cable operators require at least US$ 4.3 billion worth of investments to digitize over 100 million households by 2014. FDI reforms in this sector could be a good starting point and provide the desired momentum.

It is also believed that lifting of the FDI cap will have long term benefits for the industry. This will result in technology transfer and inflow of best practices that accompany such investments. FDI reforms will also result in funding all entities of the value chain; thereby achieving healthy business models for all participants a few years down the line.

Regulatory interventions have been a key growth enabler for the M&E sector. Ongoing developments - such as rolling out of the Digital Addressable System (DAS), 4G services and the phase 3 licensing of FM radio services - are expected to spur growth in the medium term.

The Oil & Gas Industry

Sector Overview

India, which was one of the first Oil & Gas producers in the world, with an Oil well being struck in Digboi, Assam as early as 1889, still has a very large unexplored sedimentary basin, (close to 78%), which includes both onshore & offshore reserves.

India liberalized its Oil & Gas exploration regime in the late 90s with the introduction of New Exploration Licensing Policy (NELP) in 1999. India's two upstream National Oil Companies - ONGC & OIL were the two primary players in the pre-NELP period with key assets such as Mumbai offshore and Ankleshwar in Gujarat being some of the still producing assets from this era.

With the introduction of NELP, India witnessed a steady upsurge in private sector participation which was followed by a few noteworthy successes, development of Krishna-Godavari basin Gas reserves and Barmer Oil block being the two prominent ones among them.

Though India constitutes 4.2% of the total World Oil consumption, its domestic production stands barely at 1% of the World's total production. Consequently, India is heavily dependent on Oil imports to fulfill its needs. Of the 3.73 million barrels/day of consumption, the nation imports around 80% (2.98 million barrels/day), primarily from countries in the Middle East and Latin America. The increasing Oil import bill coupled with a depreciating rupee has been a cause for worry for policy makers in India. India's current oil import bill stands around US$ 130 billion, roughly around 7% of India's GDP.

Likewise India's gas consumption has also been increasing at a steady rate, with India now importing around 25% of its gas requirements in the form of LNG. Gas constitutes 10% of India's primary energy basket and this figure is expected to go up owing to its clean fuel and energy efficient credentials.

To alleviate this huge burden on the financial exchequer, various short and long term policy measures have been formulated to provide a fillip to national and private Oil & Gas entities. The Cabinet Committee on Investment (CCI) has recently cleared 30 Oil & Gas projects for development.

India has emerged as one of the World's leading refining hub with a total installed capacity of 235 mtpa, and India is now the world's second largest exporter of petroleum products, (49.2 mmtpa in 2012). India's expertise in manufacturing and engineering, procurement and construction (EPC) over the years has augured well towards ensuring energy security of the country, with the private sector refineries being some of the most competitive units in the world, able to process a wide variety of crudes. These refineries bring out products adhering to global standards and have been successful in bringing down the CO2, SOx and NOx emissions to international standards.

Growth Story

Table: GROWTH OF INDIAN PETROLEUM INDUSTRY AT A GLANCE

Item		Unit	2007-08	2008-09	2009-10	2010-11	2011-12
Reserves (Balance Recoverable)	(I) Crude Oil	Mn.Tonne	770	773	775	757	760
	(ii) Natural Gas	Bn.Cub.Mtr.	1090	1115	1149	1278	1330
Consumption	(i) Crude Oil (in terms of refinery crude throughput)	Mn.Tonne	156.1	160.77	192.77	206	211.42
	(ii) Petroleum Products (excl. RBF)	Mn.Tonne	128.95	133.6	137.81	141.04	148
Production	(i) Crude Oil	Mn.Tonne	34.12	33.51	33.69	37.68	38.09
	(ii) Petroleum Products	Mn.Tonne	144.93	150.52	179.77	190.32	196.71
	(iii) LPG from natural gas	Mn.Tonne	2.06	2.16	2.24	2.17	2.21
Imports & Exports	(i) Gross Imports*	Mn.Tonne	152.45	159.36	182.75	189.88	196.74
	(ii) Exports**	Mn.Tonne	40.78	38.9	50.97	59.13	60.52
Natural Gas	(i) Gross Production	Bn.Cub.Mtr.	32.42	32.85	47.49	52.22	47.56
	(ii) Utilisation	Bn.Cub.Mtr.	31.47	31.74	46.52	51.24	46.48

*Note: *Includes Crude Oil, LNG and Petroleum Products; ** Includes Petroleum Products*

Source: Basic Statistics on Indian Petroleum & Natural Gas: 2011-12; Ministry of Petroleum & Natural Gas

Government Initiatives

Though NELP in 1999 was a significant step forward from government nominated exploration & production, the international interest in the recent years has been dwindling. Primary reasons for these include lack of clarity on Contractual terms, lack of adequate seismic data and the overly stringent E&P clauses.

In light of this, The Government of India is working on an Open Acreage Licensing Policy (OALP), which allows for a year round bidding of Oil & Gas blocks by various players. To facilitate this, a National Data Repository (NDR) will be created to allow for an easy access and further enrichment of data through subsequent explorations.

The government is also looking at moving from a Production Sharing Contract (PSC) to a more fiscally manageable Revenue Sharing Contract (RSC), which would compress the E&P activity timeline by reducing the number of approvals required by private players.

The government allows for a 100% FDI in Exploration & Production (Upstream) Oil & Gas, and Infrastructure investment. Up to 49% of FDI is allowed with prior approval of Foreign Investment Promotion Board, in petroleum refining by PSUs, without divestment or dilution of domestic equity in the existing PSUs.

Over the past few years there has been a phenomenal thrust by National Oil Companies (NOCs), particularly ONGC Videsh Limited (OVL) towards acquiring and developing Oil & Gas acreages outside of India. These

efforts have been partially rewarded in the form of gas blocks in Rovuma area in Mozambique, and Middle East and North Africa. OVL has 11 producing assets across the world including Russia and Latin America. Similarly, the Bharat Petro Resources and private entities such as Videocon have also been active in developing Oil & Gas assets across various geographies.

With the dismantling of Administered Price Mechanism in 2002 and a gradual shift towards a market determined pricing both in case of commodities such as natural gas and petroleum products, the strategic and operational competitiveness of companies will play much larger role than ever before.

To alleviate the Oil supply shocks prevailing due to sharp price movements and geopolitical uncertainties, Government of India has envisaged the creation of a Strategic Crude Reserve under the aegis of SPV called Indian Strategic Petroleum Reserve Ltd. (ISPRL) as a subsidiary of OIDB, which is tasked with setting up of 5 million metric tonnes of crude Oil reserves in three locations in the country namely, Visakhapatnam (1.0 MMT), Mangalore (1.5 MMT) and Padur (2.5 MMT), all three locations are in advanced stages of construction and are expected to be completed by August-September 2014. Taking into account refinery and depot storage, India's current Crude Oil supply reserves are around 70 days. The construction of these caverns will boost it further by an additional 15 days and provide an important cushion against any future supply disruptions.

Sector Dynamics:

Post NELP, the Upstream Oil & Gas sector has witnessed vibrant private sector participation. Apart from the NOCs ONGC and OIL, there are close to 40 private upstream companies in India which are either independently or jointly participating in various acreages across India. Some of the key private players include:

1. Reliance Industries Limited
2. Essar Oil Limited
3. Jubiliant Oil & Gas Private Limited
4. Cairn Energy India Limited
5. Hindustan Oil Exploration Company Limited.
6. Niko Resources Limited.
7. Focus Energy Limited.
8. Pratibha Oil & Natural Gas Pvt. Ltd.

The upstream arm of various PSU which are otherwise known for their operations in refining and retailing sector, have also been active in recent years, particularly Bharat Petro Resources Ltd. (fully owned subsidiary of BPCL) and Prize Petroleum (fully owned subsidiary of HPCL). GSPC a state PSU has also emerged as an important player in upstream Oil & Gas.

The deep water and ultra deep water exploration is being looked into seriously by India's important upstream players including NOCs and private entities. With technology collaboration and expertise of global majors such as BP, Indian entities are looking to tap into this previously formidable geological terrain.

Apart from these players, there are a whole host of Indian oil field service providers, who specialize in various niche equipment such as drilling rigs and Oil field chemicals, logging and other associated services.

India's deep sea Oil & Gas basins present engineering & technological challenge for operators. However, with easy onshore and shallow water Oil reserves being depleted, both the NOCs as well as private players are exploring joint venture opportunities and advanced technology solutions to extend the hydrocarbon exploration & production (E&P) in deep water areas.

India is also keen on strengthening its supply basket by augmenting them with unconventional hydrocarbons, particularly Shale Gas, Shale Oil and CBM. The high population density and lack of freshwater in many areas is expected to pose many challenges for unconventional hydrocarbon E&P. To overcome these, the Director General of Hydrocarbons (DGH) has proposed an Integrated Block Development Plan (IBDP) which aims at increasing the yield of a given block both by conventional and unconventional means. India is expected to begin opening up its acreages in a gradual manner for Shale Gas exploration by next year.

With India being home to world's fourth largest coal reserves, the potential for Coal Bed Methane remains huge, a few players such as Essar Energy and GEECL have already made successful forays into CBM. A total of 33 blocks have been awarded in four rounds of CBM thus far, with four blocks in production. The 5th round of CBM auctioning is expected to commence shortly.

The downstream retailing in India is primarily carried by the three nationally owned Oil Marketing Companies, namely Indian Oil Corporation Limited (IOCL), Bharat Petroleum Corporation Limited (BPCL) and Hindustan Petroleum Corporation Limited (HPCL). Though private players such as RIL, Essar and Shell have at present limited presence in the downstream retail segment, with the deregulation of petrol and expected deregulation of diesel in the coming years, an increased private sector presence in fuel retailing is expected in the near future.

The regulatory framework in Oil & Gas sector is constituted primarily of two bodies, Director General of Hydrocarbons (DGH), is responsible for oversight of upstream operations and Petroleum and Natural Gas Regulatory Board (PNGRB), responsible for regulating the midstream and downstream operations. Apart from these, the following nodal bodies also play an important role in the hydrocarbon sector:

- PCRA - An accredited body for researching and promoting hydrocarbon efficiency across industries and end users. They conduct Oil & Gas energy audits, training programs, sensitize end users on various fuel conservation measures, like efficient driving & LPG cooking techniques.
- PPAC -Serves as Information data bank, under the MoPNG, with regards to consumption and pricing of domestic fuels. Analyzes trends in International prices and provides forecast and evaluation for petroleum product export and Oil import data for planning & Strategy.
- OISD - Standardizing and implementing various Safety procedures, such as fire safety, offshore production, refinery and Retail outlet safety. Conducting Training programs and sensitizing stakeholders on emerging safety challenges, conducting periodic safety audits. Also responsible for Disaster Management and Response.
- CHT - Advises and implements scientific technological programs, specific to Oil industry. Provides technology guidance to various hydrocarbon projects, assesses operational performance of refineries.

Future Prospects and Investment Opportunities

India offers many attractive prospects across all the segments of Oil & Gas value chain. With newly available exploration data, advanced technologies such as horizontal drilling and high resolution seismic mapping, hydrocarbon assets previously ignored are being reconsidered for production again. Likewise deep sea

exploration and drilling has underwent phenomenal change over past few years, many of these technologies are yet to be tried in Indian context, hence many partnership and direct investment opportunities exist in this particular area.

Also, the Oil Field Services (OFS), area in India is still dominated by big International players such as Schlumberger, Baker Hughes etc. Going ahead, a number of smaller private players are expected to venture into OFS areas, whose expertise with smaller, marginal fields would be attractive to players looking to maximize production from low yield blocks. Various services such as Reservoir mapping, advanced 2D/3D seismic technologies, enhanced oil recovery and advanced drilling technologies are shaping up in India which would facilitate a robust Upstream Oil & Gas sector in the country.

The need for creation of a vibrant Oil services cluster, not just in India but including neighboring countries, has been felt at the highest levels, which would leverage the best available technology and provide state-of-the-art services to hydrocarbon operations in India. This would not only strengthen Oil & Gas value chain, but help in adding many high value jobs in India.

Similarly the gas pipeline infrastructure is still in a nascent stage with only two operational cross country pipelines namely Hazira-Vijaypur-Jagdishpur (HVJ) and RIL's East-West Pipeline (EWPL). Three new cross country pipelines are expected to materialize by 2017. These new pipelines serve as enabling infrastructure for various gas based power and City Gas Distribution (CGD) projects which are being planned in the longer run.

Given the emphasis on the increased usage of natural gas, particularly for Power, Fertiliser and CGD industry, India's gas transmission and distribution infrastructure will witness a growth in terms of many multiples vis-a-vis existing infrastructure.

It is also pertinent to note that an estimated increase in demand for natural gas in the coming years has brought in investments in LNG re-gasification terminals and FSRUs across both east and west coasts of India. Currently, India has only two operational LNG import terminals, Petronet LNG run Dahej and Shell-Total Hazira LNG terminal, both located on India's West coast in Gujarat, with a combined capacity of around 15 mmtpa.

In the coming 4-5 years, more than four LNG terminals are expected to materialize on both eastern and western coast of India, including GSPC-Adani Mundra, Gujarat, and FSRU in East coast Andhra Pradesh. It is pertinent to note that India is among the non FTA nations which can enter into LNG import contracts with US LNG suppliers. An increased LNG supply owing to prolific shale gas production in United States and gas discoveries in east coast Africa, particularly Mozambique augur well for future imports at these upcoming terminals. Consequently, it is also expected that a greater investment by domestic and International companies towards building evacuation pipelines from these new sources will be foreseen in the coming years.

With respect to Europe and North America, where Oil & Gas demand has already begun to be tempered, India (along with China) is foreseen to witness a steady growth in hydrocarbon atleast until the next decade. The primary reason for this being a growing middle class, concordant growth in manufacturing and services sectors which imply a heavy energy demand in the coming years. At the same time with the renewed focus on lower carbon emissions and increased energy efficiency, the demand for natural gas is expected to rise multi-fold across various sectors in India.

The Real Estate Industry

Sector Overview

Real estate sector is an important sector of our economy. It is a big driver of economic growth due to its huge multiplier effect on the economy. After agriculture sector, it is the second largest employer. The real estate sector contributes about 6% to India's GDP. It generates not only huge direct employment but also stimulates demand in over 250 ancillary industries such as cement, steel, paint, brick, building materials, consumer durables etc.

Indian real estate sector was opened to 100% FDI in 2005. Since then it experienced a boom in investment and development activities across the country. Many new domestic realty companies entered this space, while international real estate investment companies including private equity funds, pension funds and development companies entered the sector due to high return on investments. The real estate sector has been riding through many highs and lows since then. The industry reached new heights during 2007 and early 2008 characterised by a growth in demand, substantial development and increased foreign investments. However, by mid 2008, it witnessed a decline in growth due to the ripple effect of the global economic slowdown. Indian real estate grew by about 8% between 2009 and 2011 and decelerated to 6.5% in 2012-13. However, the strong fundamentals of the Indian economy, large scale urbanisation and growing number of young workforce in Indian cities make the Indian real estate sector attractive in the long run.

Government Initiatives

- FDI Policy in Real Estate (2005)

  Till early 2005, only Non Resident Indians (NRIs) & Persons of Indian Origin (PIOs) were permitted to invest in real estate in India. Foreign investors other than NRIs were allowed to invest only in integrated township with a minimum size of 100 acres and 2000 dwelling units and hotels and industrial parks. This proved to be major deterrent in attracting FDI proposals in the industry. The Government of India diluted the minimum requirements for FDI, making it extremely attractive for foreign investors. With a view to catalyzing investment in real estate sector, generate economic activity, create new employment opportunities and add to the available housing stock and built-up infrastructure, in 2005, the government permitted FDI up to 100% under automatic route in townships, housing, built-up infrastructure and construction development projects (which includes housing, commercial premises, resorts, educational institutions, recreational facilities, city and regional level infrastructure).

- Jawaharlal Nehru National Urban Renewal Mission (JNNURM) 2005

  JNNURM was launched in December 2005 to ensure planned development of cities with focus on efficiency in planned urban development. The launching of JNNURM has set the blue print for States to undertake urban development reforms. It envisages an investment of Rs. 1 trillion of which Rs 500 billion will be contributed by the Government of India in the form of grants and the rest will come from state governments and urban local bodies. Under the mission, the government has identified 65 large Indian cities for sprucing up the urban infrastructure. It has also envisaged a prominent role for the private sector in service delivery and management. The action taken by states under the mission is expected to strengthen the present infrastructure facilities of the cities and hence improving their attractiveness as potential real estate investment destinations.

- National Urban Housing and Habitat Policy 2007

  The magnitude of housing shortage at the end of 10th five year plan was estimated at 24.7 million units. Economically weaker section and low income group accounted for about 99% of this shortfall. In order to bridge the gap between the supply and demand of housing and infrastructure in the country, the government formulated the National Urban Housing & Habitat Policy 2007. This Policy intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land shelter and services at affordable prices to all sections of society. The core focus of this policy is to provide affordable housing for all with a specific focus on LIG and EWS.

- Real Estate Mutual Funds (REMFs) and Real Estate Investment Trusts (REITs)

  India's demographic dynamics and growing urbanisation have led to a rising demand for residential and commercial real estate space. To be able to meet this increasing demand, the capital intensive real estate sector requires large scale investments, but faces a severe constraint in terms of adequate and structured financing options. Real Estate Investment Trusts (REITs) can help bridge this gap by attracting and effectively managing investments in real estate and enhancing the transparency levels in the sector. SEBI, recognising the crucial role that REITs could play as an investment vehicle, had brought out draft REITs regulations in December 2007 to encourage and facilitate a healthy growth of REITs in India. REITs provide better access to stable, global and more competitively priced capital, as well as stronger and more professional property businesses. Further, they help the real estate business by creating conditions for building integrated property businesses. REITs can become the investment vehicle of choice for institutional and retail investors looking to participate in real estate ownership, management and development. They provide a similar structure for investors buying into real estate as mutual funds provide for investment in stocks. SEBI had also announced the Real Estate Mutual Fund (REMF) guidelines in April 2008. While REMF guidelines were crystallized, regulations relating to Real Estate Investment Trusts (REITs) have still not seen the light of the day. To provide an enabling regulatory environment for allowing REITs and to provide a boost to the Indian real estate sector, in October 2013, SEBI has issued the revised draft guidelines for REITs.

- Real Estate (Regulation & Development) Bill, 2013

  The government has formulated the Real Estate (Regulation & Development) Bill to bring in transparency and efficiency in real estate sector. The Real estate regulation and development bill is a path breaking law that is expected to bring uniform regulatory environment to the sector and protect consumers from unfair practices. It is a pioneering initiative to protect the interest of consumers, promote fair play in real estate transactions and ensure timely execution of projects. The bill has been introduced in Rajya Sabha and thereafter, has been referred to the Parliamentary Standing Committee on Urban Development for review and suggestions.

- Model State Affordable Housing Policy for Urban Areas 2013

  As per the report of the Technical Group on Urban Housing Shortage (2012-17) constituted by the Ministry of Housing and Urban Poverty Alleviation (MoHUPA), government of India there is a shortage of 18.78 million dwelling units out of which nearly 96% belongs to the Economically Weaker Sections (EWS) and Lower Income Group (LIG) Households. The National Urban Housing and Habitat Policy (NUHHP) 2007 of the Government of India had outlined 'Affordable Housing to All' as its mandate. The NUHHP, 2007 had envisaged that the States would prepare a State Urban Housing and Habitat Policy and also a State Urban Housing & Habitat Action Plan. To achieve this mandate, in 2013, the Government of India has prepared a draft "Model State Affordable Housing Policy for Urban Areas" to provide guidance to States in formulation of a State Affordable Housing Policy. The aim of this policy is to create an enabling environment for providing "affordable housing for all" with special emphasis on EWS and LIG and other vulnerable sections of society. The Policy further aims to promote Public Private People Participation (PPPP) for addressing the shortage of adequate and affordable housing.

A. Foreign Direct Investment (FDI) growth witnessed in the past

Since 2005, FDI has been one of the important sources of funding real estate. In FY 08, FY 09 and FY 10, housing and real estate attracted FDI of 8.9%, 10.3% and 11% respectively of the total FDI in India. However, it fell to 6% for FY 11. The sector holds huge potential to attract FDI in various segments of real estate. Indian real estate sector is the fourth largest sector in terms of foreign direct investment (FDI) in the country. During April 2012-September 2013, the sector accounted for 6.2% of total FDI inflows into India. As per research reports, it is estimated that FDI in the sector will grow to US$ 25 billion in the next 10 years. However, this will require efforts both from the industry and the government. Industry should work towards increased transparency, clear land titles, improved delivery and project execution while the government must review the existing FDI guidelines for investment and development in Indian real estate to increase the flow of foreign capital into the sector.

Sector Dynamics

Indian real estate is currently going through a phase of transition in the process of its development. From traditionally being an unorganized sector, Indian real estate is gradually moving towards a more organised one. This has largely been possible due to entry of international real estate players, foreign investors and Indian corporate houses into real estate sector. Indian corporate companies like Tata, Godrej and Mahindra & Mahindra have successfully entered the real estate market and are offering products across all income levels.

Some of the most prominent and established Indian real estate companies include DLF, Unitech, Tata Housing, Godrej Properties, Sobha Developers, Hiranandani Constructions, Raheja Developers, Ansal Properties and Infrastructure, Omaxe, Parsvanath etc. The international players who have set up shops in India include Hines, Tishman Speyer, Emaar Properties, Ascendas, Capitaland, Portman Holdings, Trump Organisation, Homex etc.

Key Trends & Developments

- India has an estimated urban housing shortage of 18.8 million dwelling units in 2012 while the housing shortage in rural India is estimated at 47.4 million as of 2012.
- From 2005-08, the sector grew by about 30% annually before slowing down significantly due to 2008 global financial crisis. It grew by about 8% between 2009-11 and 6.5% in 2012-13.
- Huge opportunities in Indian real estate sector have attracted globally renowned companies, retailers, architects, urban planners and private equity investors.
- The major challenges for real estate sector are lack of adequate funding options and delivering "housing for all" at affordable prices.
- The major real estate asset classes include residential, commercial, retail and hospitality but the new asset classes that are emerging include senior living housing, entertainment real estate; transit oriented real estate, education and healthcare.

Future Prospects and Investment Opportunities

According to industry estimates, the size of the Indian real estate market was estimated to be approximately US$78.5 billion in FY13, which is expected to grow to approximately US$140 billion in FY17. The sector, riding high on the back of rapid urbanization, positive demographics and increasing income levels, has attracted significant investment over the past few years.

India has the potential to attract large foreign investments into real estate. This is primarily because of the fact that real estate in developed countries have saturated and consequently the demand and prices have softened there. Therefore, the global real estate players are looking at emerging economies such as India for tapping opportunities in real estate. The Indian real estate sector will stay attractive due to its strong economic fundamentals and demographic factors, and also because investments in the Indian real estate is expected to fetch higher returns to investors when compared with other global markets. In the coming years, the development opportunities in the real estate sector will attract more global players to India and hence will help the industry attain maturity, transparency and adopt advanced construction techniques.

According to FICCI-EY Real Estate Report 2013, the investments required in the Indian real estate market by the year 2015 is approximately US$ 42 billion (excluding economically weaker section - EWS - housing) and approximately US$ 257 billion (including EWS housing). Residential real estate alone will require an investment of US$ 29 billion.

Some of the real estate segments which have scope for Foreign Partnerships / Investment requirements include:

- Capital investments in real estate - residential, retail, commercial and hospitality sectors
- Technologies and solutions for smart sustainable cities and integrated townships
- Technologies for promotion of low cost and affordable housing
- Green building solutions
- Sustainable and environment friendly building materials
- Training and skill development of construction sector workers

The Indian Retail Industry

Sector Overview

The Indian retail sector is one of the fastest growing sectors in the country, accounting for nearly 14 to 15% of the GDP. The sector is experiencing exponential growth, with retail development taking place in major cities and metros, as well as in Tier 2 and Tier 3 cities. It is estimated to be worth more than US$ 860 billion by 2015 from its current level of US$ 500 billion, and become one of the top five retail markets in the world in terms of value.

The Indian retail sector is broadly divided into Organized and Unorganized Retail:

Organized / Modern Retail: Of the total Indian retail market, approximately 5% constitutes the organized retail segment which is currently at US$ 27 billion and is estimated to grow by about 6 times to US$ 150 billion by 2020 with great potential for growth across categories and segments.

Unorganized / Traditional Retail: The retail sector is still highly unorganized in nature and is mainly dominated by family owned businesses/shops. However, with the emergence of organized retailing, the share of the unorganized market is gradually decreasing.

Over the course of years, various new formats of retailing have emerged, online retail being one of the fastest growing channels. Indian consumers are demonstrating a strong preference towards online shopping. This is evident from the fact that online retail web sites are witnessing nearly 65 % rise in traffic every year. This trend is not only catching up in metros, but online shopping is equally getting popular in smaller towns and cities as well. Sales through digital channels which holds a miniscule percentage of modern retail today, is estimated to increase to 6 - 8% of total modern retail amounting to about US$ 13.3 billion - US$ 17.6 billion by 2020.

Growth Story

Modern retail is today more ready to take off than ever before. This transformation is being driven by three critical enabling factors:

1. Richer and Evolving Customers with favourable demographics: The average consumer income in India has breached the threshold level of US$ 1000 per annum, beyond which, as has been seen internationally, there is a spurt in consumption. Moreover, India has one of the youngest populations in the world with consumers who have high aspirations, and regard shopping as a leisure activity.

2. New Consumption Hubs: New consumption hubs are emerging with economic growth percolating to smaller cities. By the year 2020, there will be around 200 cities in India with a population of more than 0.5 million. Some of these 'small towns' are already buzzing with action and displaying signs of growing consumerism.

3. Supporting Regulation: Although there is still some amount of uncertainty on the Foreign Direct Investment (FDI) front, the government has shown positive intent through proposed favourable regulations such as the opening up of FDI in multi brand and single brand retailing. It is anticipated that, with the government in active consultation with all the stakeholders, more investments in multi-brand retailing will soon become a reality.

Government Initiatives

Indian Government had taken some milestone decisions with regard to FDI in Retail policy in the year 2012. FDI in single brand retailing had been increased to 100% and FDI in multi brand retailing has been allowed upto 51% with prior Government approval. Whilst there are conditions attached with the policy reform, a positive intention of the government has been clearly observed to spurt the growth of the sector as well as of the economy.

Some of the modes of entry already prevalent for the foreign retail companies to invest in India are:

Modes of entry	Explanation	Foreign retailers operating
Cash & Carry	100% allowed	Metro Cash & Carry, Carrefour
License	License for retail to be given to Indian partner	Spar, Arrow, US Polo
Single Brand Retail	100% allowed with prior govt approval	Starbucks, Armani, Marks & Spencer, Pavers England, IKEA (to come very soon)
Franchising	Contract with Indian franchisees	KFC, McDonalds, SubWay
Joint Ventures	JV and tie-ups of international retailer With an Indian partner. Back end investments can be made by the International retailers.	TESCO Star Bazaar
Multi Brand Retail	51% allowed with prior government approval	Expected investments by Wal- mart & TESCO, however a wait & watch approach is being exercised

Although the government has allowed 51% FDI in multi-brand retailing, there are certain preconditions which the new entrants will have to follow. These are with regard to investment, sourcing, store locations, and state government approval. The government has received multiple investment proposals in this segment, but many players are following a "wait-and-see" approach due to apprehensions regarding the actual policy implementation.

Other Initiatives

The government is also undertaking various other reform measures which will have a positive impact on the retail sector across the value chain. For instance, a High Level group has been formed under Ministry of Consumer Affairs for internal trade reforms. This group is expected to do an audit on all the laws that affect the retail trade and provide recommendations for the reforms needed.

Sector Dynamics

India has always been called as the Nation of shopkeepers. Over 14 million outlets operate in the country and only 4% of them being larger than 500 sq ft (46 m2) in size. India has about 11 shop outlets for every 1000 people.

In the organized retail arena, few of the prominent players are Future Group, Shoppers Stop, Aditya Birla Retail, Reliance Retail, Spencer's, D-Mart, Godrej Natures Basket, Tata Trent and Mahindra Retail amongst the multi brand retailers. Few prominent players in Single Brand retailing are Benetton, Fab India, and Bata, to

name a few. Many other foreign players like Nike, Reebok, Puma, Mc Donalds, Subway, Zara etc are present with different modes of partnership like franchisee, joint ventures, license agreement etc.

Key Trends & Developments

Retailers are trying to fully understand and capitalize on the consumption and shopping habits of Indian consumers before deciding on the retailing format to adopt. There are some stark differences in shopping habits between India and more mature markets. In Food & Grocery (F&G), for example, a significant portion (nearly 30%) of shopping is still done on a weekly/daily basis; convenience stores therefore play an important role. Another interesting example is that of the western supermarkets which operate on a self-service format. In India, this format may not be successful if launched in its original form. Hence, retailers tend to experiment on the formats sometimes to suit the needs of the Indian customer.

Though Indian consumers are price sensitive, they are rapidly evolving and are willing to spend more if they can find value. The phenomenon is clearly visible across categories (e.g. consumer durables, fashion etc) where the market leader is not a price warrior. The luxury market is already beginning to attract most of the leading international brands.

Various opportunities are spread across categories and formats. Barring apparel and footwear, the penetration of modern retail in India is less than 10%. While all the categories show exciting potential, F&G is the biggest market and has been least penetrated by modern retail. Another space in which more action is expected in the coming months is the personal and home adornment. While personal adornment has caught the fancy of the Indian consumers, home adornment is now beginning to catch up.

Indian consumers are quickly becoming multichannel shoppers. So, retailers are working rigorously to proactively formulate integrated and seamless multichannel strategies.

Future Prospects and Investment Opportunities

The Indian Retail sector has shown remarkable progress in the past few years. However, slowing down of the economy with GDP growth slipping below 5% mark has brought many challenges for the sector, particularly in the year 2012- 2013. Same-store sales volume growth slowed in 2012 across all retail formats, specially for lifestyle and value-based formats. Some of the factors responsible for this declining sales growth are high operating costs, low bargaining power vis-à-vis vendors, heavy discounts offered to improve sales, high real estate cost and limited space availability.

Despite these challenges, the long-term fundamentals for the sector remain strong. A large, young, increasingly brand conscious population; burgeoning middle class, growth in internet & credit card penetration and emergence of Tier 2 & Tier 3 cities as important retail destinations, together would continue to fuel the retail sector growth. The domestic retail market is projected to be worth US$ 1.3 trillion by 2020. The future prospects present a tremendous growth opportunity for retail players- domestic as well as foreign. The consumer behaviour is also experiencing a transition due to upcoming western concepts like online shopping and direct selling.

However, to capitalize on the increasing consumerism in India, the industry will have to address some challenges related to infrastructure bottlenecks especially in case of food retailing with regard to warehouses and cold storage facilities; skill gap, multiple rules and laws affecting the entire retail chain (many of which are now archaic); real estate availability, etc.

Further, with the opening up of the sector, huge investment is expected to flow into the sector in the coming years. However, the policy related ambiguities have to be removed first, and once this clarity is achieved, the lucrative Indian retail market is certain to woo many more foreign players in the future.

The Telecommunications Industry

Sector Overview

The Indian telecom sector has grown rapidly during the last decade to emerge as world's second largest telecom market in terms of subscribers. Growth in India's subscriber base from 45 million in December 2001 to 903 million in September 2013 reflects the enormity of this growth. Increasing demand for telecom services in the country, various policy initiatives undertaken by the government and the efforts taken by the industry players to enhance service offerings to suit consumer preferences have played an important role towards this rapid transformation of the sector.

Tariffs in India, which are amongst the lowest in the world, have ensured wide scale mobile penetration across the country. The three key agencies namely - the Department of Telecommunications (DoT), the Telecom Regulatory Authority of India (TRAI) and the Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT) - together have played a critical role towards this envious growth of the industry by formulating a conducive policy and regulatory environment for the industry players.

The importance of telecommunications sector for the Indian economy can be judged by its contribution to GDP and employment generation capacity. The sector employs close to 2.8 million people directly and almost another 7 million indirectly, making it one of the largest employment generating sectors in the country. The sector contributes around 3% of the Indian GDP.

The sector has played a crucial role in attracting FDI in India. An attractive trade and investment policy and lucrative incentives for foreign collaborations have made India one of the world's most attractive markets for the telecom equipment suppliers and service providers. The telecommunications industry attracted FDI worth INR 58,929 crore (US$ 12,889 million) during April 2000 to October 2013. The cellular mobile segment has received the highest proportion of the total FDI received by the sector.

Sector Dynamics

Currently, both public and private sector players actively cater to the rapidly growing telecommunication needs in India. Private sector participation is allowed in all segments of the Indian telecom industry.

After the privatization of VSNL in 2002, only two premier public sector units are operating in the country namely MTNL and BSNL. While MTNL provides services in two major metros - Delhi and Mumbai, BSNL provides services to the rest of the country.

The private operators have played a crucial role in the growth of the industry, primarily in the mobile services segment. Though they provide both fixed as well as wireless telecom services, they are more active in the wireless segment. Some private players have a pan-India presence. Also, there are players who operate at regional levels and cater to only certain service areas.

Majority of the investment over the decade has originated from the private sector. According to TRAI, today, the total market share of private operators in India stands at around 85%, while the PSUs contribute the remaining. During the April-June 2013 quarter, the three GSM incumbents - Bharti Airtel, Vodafone and Idea Cellular - jointly secured more than 70% in revenue market share and 99.6% share of the incremental revenues.

Government Initiatives

National Telecom Policy 2012 envisions providing secure, reliable, affordable and high quality converged telecommunication services anytime, anywhere for an accelerated inclusive socio-economic development. The main thrust of the policy is on the multiplier effect and transformational impact of such services on the overall economy.

The trend towards enhanced digitization of the Indian economy is also being accelerated by the rollout of various world-class initiatives by the government, most notably the National e-Governance Plan (NeGP), Aadhar (UID) programme and distribution of Aakash tablets. Especially, Aadhar and Aakash projects have been ideal examples of successful public-private-partnership (PPP) projects.

Various Indian government agencies, such as the Ministry of Finance, Ministry of Personnel, Public Grievances and Pensions, etc offer online services to the citizens. The e?filing of taxes and e-Passport Seva, in particular, are immensely successful examples.

The Government of India's decision to increase FDI limits in telecom upto 100% is a positive sign for the sector towards improving the current investment climate in the telecom sector in India.

The much anticipated merger and acquisition (M&A) norms were announced by the government in December 2013, raising the cap on the market share of a merged entity in a circle from 35% to 50%. Changes made in the sector's M&A policy has an immense potential of consolidation of the services providers and consequent improvements in the industry economics.

The government has initiated the setting up of an Open Technology Center through National Informatics Centre (NIC), aimed at giving effective direction to the country on Open Technology in the areas of Open Source Solutions, (OSS), Open Standard, Open Processes, Open Hardware specifications and Open Course-ware. The 12th FYP envisages significant increase in outlay on telecom R&D expenditure from current levels of 0.9% of GDP to 2.0% of GDP.

Key Trends & Developments

- Voice Telephony: India has emerged as the second largest telecom market in the world, with total subscribers reaching 904.56 million in October 2013, with total teledensity (wireless + wireline) of 73.32%. Out of the total subscribers, wireless accounts for 875.48 million.

- Wireless Telephony: The increase in teledensity has mainly been driven by the increase in the availability of mobile phones in the country. In fact, revenues generated from the telecom services are higher as compared to that from the production of telecom equipment. Wireless telephony has proved to be the biggest factor in the sector's growth. This is evident from the sharp increase in the total number of wireless connections which stood at 35.61 million in 2004 to 875.48 million at the end of October, 2013. The revenue contribution of mobile operators has reached approximately 2.4% of GDP in FY'12, which is the biggest proportion of the sector's total contribution to the economy.

- Internet Services: While Indian consumers are adopting internet services at a faster pace, yet about 90% of the population is yet to be connected through internet. The total number of broadband subscribers is still low in the country at 15.20 million. The National Telecom Policy (NTP) 2012 has laid out a clear roadmap for growth of ubiquitous high speed broadband networks in India, with a target of 175 million connections by 2017.

- Rural Connectivity: National Optical Fiber Network (NOFN) which is underway, once completed, will connect 2, 50,000 village panchayats and address their backhaul needs. Further, in November 2013, the Telecom Commission under DoT has approved in-principle a proposal to set-up high-speed wireless internet (Wi-fi) hotspots across all 2.5 lakh gram panchayats.

- The focus of leading telecom players is shifting towards the rural markets of India, which are being touted as the next key growth drivers for the Indian telecom industry. The industry has already contributed INR 44,000 crore till FY12 towards the Universal Service Obligation Fund, which is the primary source of funding for this project. While the penetration of mobile phones in rural India is increasing steadily, there still exists a large gap in this segment, representing a potential market for the key players.

- Mobile Solutions: The Indian telecom service providers are shifting from pure voice connectivity to offering a large number of data services. With lower voice tariffs and low average revenue per user (ARPU) in India, emergence of new technologies and advancements towards 3G and 4G amongst others reasons are motivating operators to shift their focus on value added services (VAS) and mobile applications.

  Today, mobility services are gradually being used for banking transactions, making payments, acting as an educational and multimedia tool, etc. Initiatives to connect the rural masses are already visible with service providers tying-up with content providers to make available numerous services like agriculture, weather and livelihood to cater to the rural population.

  Major surveys suggest that a majority of youth population prefer watching videos through mobile devices. This in turn indicates that a major part of wireless data growth will be driven by video services.

- Telecom Device Manufacturing: According to Gartner, the IT research and advisory firm, the Indian device market is highly competitive with more than 150 device manufacturers. Most of these producers are focusing their efforts on the low-cost feature phone market, offering a huge scope for growth. A total of 9.4 million smartphones were shipped into the country, registering a growth of 167.3 % on an annual basis.

- Emergence of Cloud Services: Another major development in the Indian ICT sector is the emergence of cloud services. Although the cloud market is in a nascent stage, it has already started opening up opportunities in both consumer and enterprise businesses. The Government of India's announcement of its ambitious GI Cloud project (Meghraj) is an important "lead-by-example" step in this direction.

- M2M/ Internet of Things: Another driver of next generation of growth in telecom is Machine-to-Machine Communications (M2M). Already several telecom service providers have tied up with cross-vertical players to bring this technology to the market. Energy and utilities, healthcare, manufacturing, retail, wholesale and transport (including logistics) will be the prime beneficiaries early on.

  Indian M2M market is at an early growth stage and the basic building blocks such as connectivity, adoption of the new internet protocol - IPv6 and standardization are yet to take shape.

- R&D: The importance of research and development (R&D) is being increasingly viewed as crucial to boost internal knowledge and skill level. R&D in telecom has been given a lot of importance by the Indian Government. To beef up R&D infrastructure in the telecom sector and bridge the digital divide, cellular operators, top academic institutes and the Government of India together had set up the Telecom Centres of Excellence (TCOEs).

Future Prospects and Investment Opportunities

According to the report "India Telecom Services Market Forecast & Opportunities, 2018" produced by the leading global market research firm, Research & Markets, the market for India's telecom service is expected to get doubled by 2018.

Wireless broadband is expected to be the key driver of broadband growth in India as it helps overcome the fixed infrastructure deficit and also offers ease of access and convenience. Exponential growth in penetration of smart devices like tablets and smartphones is further expected to accelerate data uptake.

Mobility services are expected to play a significant role in bridging the digital divide between the rich and poor, the rural and urban, thus in connecting the nation.

With the National Telecom Policy 2012, putting a lot of emphasis on developing the telecom manufacturing ecosystem in India, there is a grand opportunity to enhance the share of local manufacturing for telecom equipment and devices.

Another driver of next generation of growth in telecom is Machine-to-Machine Communications (M2M). Already several telecom service providers have tied up with cross-vertical players to bring this technology to the market. Energy and utilities, healthcare, manufacturing, retail and wholesale & transport are expected be the prime beneficiaries from M2M implementation early on, driven by reduction in operational cost and management hassles.

Availability of high quality content, most importantly "local content" in multiple key areas of the economy such as education, information, entertainment, banking, etc, will be an important aspect.

There is a need to address issues impacting the economic viability of rural operations e.g. high cost of network roll out and operations, and service costs per subscriber, etc. It is important to ensure that the Indian telecom operators grow profitably, and rural and broadband expansion targets are achieved.

While India's large skilled workforce has been a matter of strength in India's growth story, realizing the demographic dividend would call for skill development and upliftment at a rapid pace. Setting up a digital infrastructure across the nation which reaches out to the large young population, will be a pre-requisite to enable this skill development.

India offers an unprecedented opportunity for telecom service operators, infrastructure vendors, manufacturers and associated services companies, thanks to an expanding Indian economy with increased focus on the services sector. The decision taken by the government this year, to allow foreign investors to own 100 % of telecom subsidiaries, is a positive sign for the sector towards improving the current investment climate in the telecom sector in India.

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